AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)		RATING	PAGE 1 OF PAGES 16
2. CONTRACT (Proc. Inst. Ident.) NO. HDTRA1-14-1-0029	3. EFFECTIVE DATE 28 May 2014	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.	

5. ISSUED BY CODE HDTRA1 DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	6. ADMINISTERED BY (If other than Item 5) CODE **See Item 5**
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) ECOHEALTH ALLIANCE INC. MR ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2320	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below) 9. DISCOUNT FOR PROMPT PAYMENT 10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: ITEM
CODE 3MMU3 FACILITY CODE	
11. SHIP TO/MARK FOR CODE HDTRA1 DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	12. PAYMENT WILL BE MADE BY CODE HQ0337 DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182266 COLUMBUS OH 43218-2266
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	14. ACCOUNTING AND APPROPRIATION DATA **See Schedule**

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				
				15G. TOTAL AMOUNT OF CONTRACT	**$992,699.00**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 4			**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	5 - 10	X	J	LIST OF ATTACHMENTS	16
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	11		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	12				
X	G	CONTRACT ADMINISTRATION DATA	13 - 15		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [X] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ REF: HDTRA-09-14-FRCWD BAA including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER (b)(6) / CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
19B. NAME OF CONTRACTOR BY _____ (Signature of person authorized to sign)	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA (b)(6) BY _____ (Signature of Contracting Officer)
		20C. DATE SIGNED 28-May-2014

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		992,699	Lot	$1.00	$992,699.00
	Understanding Rift Valley Fever FFP Base Year: Grantee shall perform all work IAW the SOW in Section C of this document. FOB: Destination				
				NET AMT	$992,699.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101			Lot		$0.00
	Base Year Funding only FFP Base Year Funding only FOB: Destination				
				NET AMT	$0.00
	ACRN AA CIN: CTB12254000101				$992,699.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		978,784	Lot	$1.00	$978,784.00
OPTION	Understanding Rift Valley Fever FFP Option Year 1: Grantee shall perform all work IAW the SOW in Section C of this document. FOB: Destination				
				NET AMT	$978,784.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		970,536	Lot	$1.00	$970,536.00
OPTION	Understanding Rift Valley Fever FFP Option Year 2: Grantee shall preform all work IAW the SOW in Section C of this document. FOB: Destination				
				NET AMT	$970,536.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004		996,147	Lot	$1.00	$996,147.00
OPTION	Understanding Rift Valley Fever FFP Option Year 3: Grantee shall perform all work IAW the SOW in Section C of this document. FOB: Destination				
				NET AMT	$996,147.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005		998,193	Lot	$1.00	$998,193.00
OPTION	Understanding Rift Valley Fever FFP Option Year 4: Grantee shall perform all work IAW the SOW in Section C of this document. FOB: Destination				
				NET AMT	$998,193.00

Section C - Descriptions and Specifications

STATEMENT OF WORK

Project Title: Understanding Rift Valley Fever in Republic of South Africa

Document Date: July 1, 2013

Objective: The objective of this grant is to build a collaborative partnership with South African scientists and managers to study important aspects of Rift Valley fever virus (RVFV) epidemiology and ecology that have been neglected by previous research on the continent. The project is designed to strengthen South Africa's leadership role within the African continent for the study and control of RVFV and other vector-borne diseases. This work is vital to understanding how to manage animal populations, protect people, when and how to use vaccination protocols, and ways to reduce the risk of the virus spreading outside of Africa. It also provides the baseline data needed to better predict the spread of the virus should it ever be introduced into the United States and strengthens scientific partnerships in the region, thereby fulfilling DTRA's mandate of reducing the threat of the introduction and maintenance of a select agent into the United States.

Scope: The grantee proposes the first comprehensive study of the implications of vertebrate immunity at multiple scales, including the effect of vaccination, vector transmission dynamics and climate-ecology on RVFV ecology between and during epizootics. Grantee shall investigate RVFV life cycle, transmission by mosquitos, and immunity in domestic and wild ruminants, and humans, paired with vegetation and climate data, to increase our understanding of these integrated aspects through a One Health approach. The grantee team shall focus on the following major goals and milestones:

1. Improve the capacity for South Africa to be a regional leader in vector-borne diseases and Rift Valley fever virus epidemiology.
    - Establish collaborations of stakeholders, training of local technical personnel, training of graduate students and post-doctoral fellows, and improve official disease reporting to local and international authorities, publishing and sharing of project findings.
2. Determine how immunity against RVFV may change over time in domestic and wild ruminants (vaccinated and non-vaccinated) and be altered by animal management approaches.
    - Establish study protocols, implement and maintain field studies at individual and population scales, including the use of vaccines to simulate exposure and conduct laboratory analyses.
3. Determine the herd immunity status of free-ranging wildlife, wildlife from game farms and domestic animals in a 200Km^2 study region.
    - Establish implement and maintain field studies and conduct laboratory analyses.
4. Determine how mosquito abundance relates to weather in South Africa, the percentage of mosquitoes carrying RVFV and which ruminant species these vectors are biting.
    - Establish study protocols, implement and maintain mosquito field studies, collate weather/climate data, extend vector studies in OY4 and OY5 to examine variability between years.
5. Determine the current seroprevalence of RVFV antibodies in people working on the study farms and detect inter-epidemic transmission to people if it is occurring.
    - Improve the understanding of the widespread effect of previous RVFV outbreaks in people from the study area.

This integrated approach represents the most comprehensive project to date to understand the epidemiology and ecology of RVFV. It is likely that herd immunity within the entire ruminant community (wild and domestic) plays a role in whether an outbreak occurs given the

appropriate climatic conditions. The proposed immunity studies combined with transmission and succession data collected from mosquitoes during this project will demonstrate their relationship with the occurrence of an outbreak. This work in conjunction with a better understanding of current exposure levels and possible inter-epidemic transmission in people will improve the ability of scientists, local stakeholders and policy makers to prevent potential RVFV outbreaks. This research will have a **direct impact** on methods of managing ruminants, mosquitoes and mitigating risks to reduce or prevent future outbreaks and will likely be transferable to other nations in southern or all of Africa. It will also better inform policy makers in the U.S. to develop contingency plans should a RVF outbreak occur on American soil.

Our research will be centered in the Republic of South Africa (RSA), in areas with heightened risk of RVFV outbreaks (based on prior and future potential for occurrence). Collaborators from five RSA governmental and academic institutions (RSA National Institute for Communicable Diseases (NICD), RSA National and State Veterinary Services, RSA National Parks (SANParks), RSA Department of Defense, and University of Pretoria), as well as RSA private and livestock game ranchers, will play active and key roles in all components of the project, including study design, training, sampling, testing, and data analysis and information dissemination. The extensive involvement of South African partners will enable opportunities to advance RSA as a leader in vector-borne disease research. The proposed project duration is three years, with two optional years to allow for further advancement of research.

Background:

Rift Valley fever (RVF) is an emerging infectious disease that presents a formidable challenge for global public health and livestock producers. Its causative agent, RVF virus (RVFV) is listed as a pathogen of significant concern with the potential for international spread by several national and international defense, health and agricultural agencies, including the US DoD and CDC, WHO, and FAO. In addition to the potential risk of spread to the U.S. (intentionally or unintentionally), the virus causes large, devastating epizootics in Africa, inducing high rates of abortions in pregnant domestic ruminants, and over 90% mortality in juveniles. In addition to the economic and nutritional impacts on humans from livestock loss, transmission to humans occurs either through contact with bodily fluids and tissues of infected livestock, or via the bite of an infected mosquito. Though human infection with RVFV may be mild, it can cause hemorrhagic, neurological or hepatic disease. In recent years, RVFV has been demonstrated to cross the Red Sea, resulting in outbreaks in Yemen and Saudi Arabia.

On the basis of our project partners' work, climate has been used as a predictor of RVF outbreak occurrence and control. However, climate prediction models have not been paired with basic research necessary for understanding of the vector life cycle and its role in RVF maintenance, and the transmission pathways and immunological dynamics of RVFV. As a result, prevention and control strategies are insufficient to adequately prepare for current and potential RVF risks. Thus, there is great need to better elucidate the underlying mechanisms of RVF, especially given the potential for transmission between vectors, humans, and animals.

Key references include (Further references can be found in the Project Narrative):

Anyamba A, *et al.* Prediction, Assessment of the Rift Valley Fever Activity in East and Southern Africa 2006-2008 and Possible Vector Control Strategies. Am J Trop Med Hyg. 2010;83(2):43-51.

Kasari TR, *et al*. Evaluation of pathways for release of Rift Valley fever virus into domestic ruminant livestock, ruminant wildlife, and human populations in the continental United States. JAVMA. 2008; 232(4):514-529.

Archer BN, *et al*. Outbreak of Rift Valley fever affecting veterinarians and farmers in South Africa, 2008. S Afr Med J. 2011;101(4):263-6.

The RSA represents an ideal location for this research given the weaknesses in current understanding of RFV epidemiology there, the willingness, interest and capacity of local partners to engage in the project, the impact of RVF outbreaks to agricultural production and risks to people and trade, the abundance of wildlife and presence of game farming to facilitate the research activities needed, and the recertification of the NICD BSL-4 laboratory facilities. The study area has seen multiple RVF outbreaks in the past and hosts a variety of ruminant species – including domestic cattle, goats and sheep as well as wildlife. It hosts 23% of the game farming in RSA. Preliminary data has been obtained for this project through field studies and testing with project partners EcoHealth Alliance, SANParks, DETEA and NICD (Technical Proposal Table 1). The preliminary data has informed the study design by allowing us to target wild ruminant species with highest seroprevalence for RVFV. Furthermore, the success of collaboration with project partners to date ensures the ability to collect adequate samples for analytical statistical significance and the ability to conduct testing of samples in RSA.

Tasks/Scientific Goals: **(Format: Year #(s).Task #.Sub-task#)**

Task Y1.1-OY5.1: Improve the capacity for South Africa to be a leader in vector-borne diseases and Rift Valley fever virus epidemiology (Years 1-OY5).

Our team believes that South Africa can be a leader and model to other African nations regarding public health. Three medical entomology and mosquito identification workshops for regional professionals will be given. This will focus on techniques for trapping adult mosquitoes and larvae and their identification. A post-doctoral fellow from South Africa or southern Africa will split her/his time between EHA (conducting epidemiological and ecological analyses) and working in South Africa (working with the field and laboratory teams). We will also select two Masters' students in epidemiology and one or two (if option years are approved) Masters' students in entomology from the University of Pretoria.

Y1.1.1, Y3.1.1, OY4.1.1 Conduct an entomology workshop for participants from southern Africa.

Y1.1.2-OY5.1.2 Mentor a South African post-doctoral fellow on RVFV epidemiology.

Y1.1.3 -Y2.1.3 Train two Masters' students in epidemiology.

Y1.1.4-OY4.1.4 Train PhD student.

Y2.1.5-OY4.1.5 Train Masters' student(s) in medical entomology.

Task Y1.2-OY5.2: Field mosquito studies and corresponding satellite data (Years 1-OY5).

The grantees shall **1)** monitor rainfall conditions on a daily basis. Additionally, the vegetation conditions using normalized difference vegetation index (NDVI) shall be monitored via satellite every 10 days in our 20,000Km^2 study area; **2)** Identify the mechanistic link between mosquito abundance and succession in RSA with NDVI satellite data technology by conducting a line transect with 40km intervals, with weekly vegetation transects and daily larvae sampling of flooded *dambos* in Y1; **3)** Use a variety of traps to collect mosquitoes at selected sites for one week per site per quarter and after identification, screen pools with RT-PCR and isolate RVFV viral strains, and isolate blood-meals to analyze using PCR of the vertebrate cytochrome b gene of mitochondrial DNA (RNA extraction will occur in a BSL-3 or more secure facility; PCR and RT-PCR will be conducted in a BSL-2 facility). **4)** Grantee shall conduct mosquito abundance and diversity sampling at the 50 ranches randomly chosen from the metapopulation investigation (see Task 6) during Y3 and OY5.

Y1.2.1 Finalize proposed protocols with collaborators and stakeholders in RSA.

Y1.2.2 Implement concurrent vegetation and dambo transects for mosquito larvae.

Y1.2.3-OY5.2.3 Collect and process mosquitoes at ruminant sampling sites.

Y1.2.4-OY5.2.3 Collect satellite derived rainfall, temperature and NDVI data.

Y3.2.5, OY5.2.5 Conduct cross-sectional mosquito study across the 20,000km^2 study site.

Task Y1.3-OY5.3: Ruminant immunological study (Years 1-OY5).

Our target ruminant community for sampling includes domestic livestock, game-ranched wildlife and free-ranging wildlife. The importance of each group and each scale will be analyzed based on the data from Task 3 and Task 5 (below). **1) Sheep flocks – Individual immunity:** We will create experimental flocks of 70 modified-live vaccinated, 70 inactivated vaccinated and 70 non-vaccinated seronegative sheep. Sheep will be maintained in the same manner as domestic stock on farms in Free State. The flocks will be sampled quarterly and tested for anti-RVFV IgG, IgM and interferon gamma (BSL-2). Each treatment group should give us different information regarding the longevity of anti-RVFV antibodies and innate immunity. Aliquots will remain in cryogenic storage at the state veterinary laboratories. **2) Game-Farm springbok – Population immunity:** We will work with commercial game ranches that raised springbok for hunting or meat. We will simulate RVFV exposure by using a modified-live vaccinated group to compare to a control group. In Y1 the 800 springbok will be captured, vaccinated (if needed), sampled, tagged, quarantined and released. Annually, 100 vaccinated and 100 unvaccinated springbok will be culled as part of the ranches' protocol. All sera will be tested by virus neutralization test (BSL-3). Unused serum aliquots will be stored in a secure serum bank at SANParks.

Y1.3.1 Vaccinate sheep for individual and population level immunoepidemiolgical studies.

Y1.3.2-OY5.3.2 Collect quarterly/annual serology in study flocks and/or herds.

Y1.3.3 Vaccinate springbok for individual and population level immunoepidemiolgical studies.

Task Y1.4, Y2.4, Y4.4: Disseminate reports to relevant stakeholders (Years 1, 2, 4).

Synthesize all data collected through the projects described above as well as capacity building activities in South Africa. A database for the extensive amount of data shall be developed and used for epidemiological analyses. Biobank sample repositories will be maintained and corresponding metadata will be available. Scientific and general reports will be generated. A stakeholder meeting will be held annually (Tasks 4 and 7- see Task 7 for Y3 and OY5, for more complete summaries to close the project) to describe the project and the current results.

Y1.4.1, Y2.4.1, OY4.4.1 Submit reports, including sample repository data, to DTRA.

Y1.4.1, Y2.4.1, OY4.4.1 Complete annual report to local stakeholders.

Y1.4.3 Disseminate preliminary serological data in a peer-reviewed publication..

Y1.4.1, Y2.4.1, OY4.4.1 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review.

Y1.4.1, Y2.4.1, OY4.4.1 Submit and maintain samples in biobanks.

Y1.4.1, Y2.4.1, OY4.4.1 Conduct annual stakeholder meetings.

Y2.4.7, OY4.4.7 Prepare to submit publications on data collected in Years 1-4.

Task Y.2.5-OY5.5: Conduct human surveys and serological cross-sectional study (Years 2-OY5).

Grantee shall develop and publish public health information on the prevention of RVFV and vector-borne diseases for the ranchers and employees in the Free State. The information will be

published in English, Afrikaans and Sestho. Grantee shall conduct annual serosurveys and written surveys of the employees (on a voluntary basis) at the ranches where the study sheep and springbok flocks/herds are located to detect possible inter-epidemic human transmission of RVFV. During the meta-population analyses a large cross-sectional study across the ranches and farms throughout our 20,000km^2 study site shall be conducted. Human serum samples shall be screened by ELISA (IgG and IgM; BSL-2) and confirmed with virus neutralization (BSL-3).

Y2.5.1 Develop written information booklet on RVFV and other vector-borne diseases.

Y2.5.2 Develop written questionnaire for risk analyses of RVFV infection.

Y2.5.3-OY5.5.3 Collect serology samples from people at the ranches in domestic and game-farm study.

Y2.5.4-OY5.5.4 Conduct written questionnaire in conjunction with blood collection.

Y2.5.5-OY5.5.5 Conduct serological analyses for human anti-RVFV IgG and IgM.

Y3.5.6, OY5.5.6 Conduct serology and written surveys for people at farms used for metapopulation study.

Task Y3.6, OY5.6: Ruminant metapopulation study (Years 3 and O5).

Grantee shall conduct a large-scale serosurvey of free-ranging and farmed wildlife and livestock herds. We propose two replicate sampling events following each rainy season in Years 3 and OY5. For six species (sheep, goats, cattle, springbok, kudu and blesbok) grantee shall sample a minimum of 400 individuals (the wild species will include samples from game ranches and Mokala National Park). A minimum of 50 individuals from three additional species (buffalo, waterbuck and kudu) and 100 nyala will be sampled. Laboratory tests include ELISA IgG and IgM (BSL-3) and VNT for wildlife (BSL-3). Data on animal movement, including birth and cull rates for ranched animals as well as trade shall be obtained by the ranch owner via a survey.

Y3.6.1, OY5.6.1 Conduct metapopulation level herd immunity survey of domestic and wild ruminants.

Y3.6.2, OY5.6.2 Store wildlife serum in SANParks biobank for future studies.

Task Y3.7, OY5.7: Epidemiological analyses and comprehensive report of project to date (Years 3 and OY5).

Grantee shall prepare the database and complete analyses on mosquito, satellite and ruminant data collected from the project to date, including metapopulation data. Grantee shall synthesize this data and prepare manuscripts for publication. A stakeholder meeting will be held annually to describe the project and the current results.

Y3.7.1, OY5.7.1 Analyze and disseminate mosquito data.

Y3.7.2, OY5.7.2 Analyze and disseminate ruminant data.

Y3.7.3, OY5.7.3 Analyze and disseminate human data.

Y3.7.4, OY5.7.4 Synthesize and report project's scientific and capacity building success to DTRA.

Y3.7.5, OY5.7.5 Prepare and submit manuscripts for publication in peer-reviewed journals.

Y3.7.6, OY5.7.6 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review.

Task	Year 1	Year 2	Year 3	Year O4	Year O5
Task 1: Improve the capacity for South Africa to be a leader in vector-borne diseases and RVFV epidemiology					
[redacted]					
1.2 Mentor a South African post-doctoral fellow on RVFV epidemiology					
1.3 and 1.5 Train Masters' students	Epidemiology	Epidemiology and Entomology	Entomology		
1.4 Train PhD student					
Task 2: Field mosquito studies and corresponding satellite data.					
[redacted]					
2.2 Concurrent vegetation and mosquito larvae transects					
2.3 Collect and process mosquitoes at ruminant sampling sites					
2.4 Collect satellite weather and NDVI data					
2.5 Cross-sectional mosquito study					
Task 3: Ruminant immunological study					
3.1 Vaccinate sheep					
3.2 Collect quarterly/annual serology in study flocks and/or herds					
3.3 Vaccinate springbok					
Task 4: Disseminate reports to relevant stakeholders					
[redacted]					
4.2 Complete annual report to local stakeholders					
4.3 Disseminate serological data in a peer-reviewed publication					
4.4 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review	ASTMH, IMED, or other	ASTMH, IMED, or other		ASTMH, IMED, or other	
4.5 Submit and maintain samples in biobanks					
4.6 Conduct annual stakeholder meetings					
4.7 Prepare to submit publications					
Task 5: Conduct human surveys and cross sectional serological study					
5.1 Develop booklet on RVFV and other VBDs					
5.2 Develop written questionnaire - risk analyses					
5.3 Serology from people at the ranches					
5.4 Conduct written questionnaire		Survey of ranches		Survey of ranches	
5.5 Serological analyses: IgG and IgM					
5.6 Metapopulation serology & written surveys			Cross-sectional		Cross-sectional
Task 6: Ruminant metapopulation study					
6.1 Metapopulation level herd immunity survey of ruminants					
6.2 Store wildlife serum at SANPark biobank					
[redacted]					
7.1 Analyze and disseminate mosquito data					
7.2 Analyze and disseminate ruminant data					
7.3 Analyze and disseminate human data					
7.4 Report project's scientific and capacity building success to DTRA					
7.5 Prepare and submit manuscripts for peer-reviewed publications					
7.6 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review			ASTMH, IMED etc		ASTMH, IMED etc

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	N/A	Government
000101	N/A	N/A	N/A	Government
0002	N/A	N/A	N/A	Government
0003	N/A	N/A	N/A	Government
0004	N/A	N/A	N/A	Government
0005	N/A	N/A	N/A	Government

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 28-MAY-2014 TO 27-MAY-2015	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A
0002	POP 28-MAY-2015 TO 27-MAY-2016	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
0003	POP 28-MAY-2016 TO 27-MAY-2017	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1
0004	POP 28-MAY-2017 TO 27-MAY-2018	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1
0005	POP 28-MAY-2018 TO 27-MAY-2019	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20142016 D 34HQ 0901515BR-KD-BP 1416-0134-34HQ-SOUCT DTRA 410
AMOUNT: $992,699.00
CIN CTB12254000101: $992,699.00

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Mr. Aleksei Chmure
Title: Chief of Staff.
Phone: 212-380-4473
E-mail: chmure@ecohealthalliance.org.

c. Grantee Principal Investigator (PI):
Name: Dr. William B Karesh.
Title: Principal Investigator.
Phone: 212-380-4463.
E-mail: Karesh@ecohealthalliance.org.

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

e. This grant is awarded as a result of Broad Agency Announcement (BAA) HDTRA1-09-14-FRCWMD-BAA, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

f. **CFDA #:** 12.351

g. **Authority:** Pub. 11376 Cooperative Threat Reduction.

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit _	Terms and Conditions		

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	01-Jun-2015		

6. ISSUED BY CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

7. ADMINISTERED BY (If other than item 6) CODE N62879

OFFICE OF NAVAL RESEARCH-BOSTON
BOSTON REGIONAL OFFICE, 495 SUMMER STREET, RO
BOSTON MA 02110-2109

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

ECOHEALTH ALLIANCE INC.
MR. ALEKSEI CHMURA
460 W 34TH ST 17TH FL
NEW YORK NY 10001-2320

CODE 3MMU3 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
X	10B. DATED (SEE ITEM 13) 28-May-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended. ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
IAW Grant Terms and Conditions Section 10(b)

E. IMPORTANT: Contractor [X] is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Modification Control Number: (b)(4); (b)(6)

The prupose of this modification is to:

1. Exercise and fully fund the option at CLIN 0002, in the amount of 978,784.00, and
2. Update clause 252.601-9000 "Grant Points of Contact"

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) / CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	01-Jun-2015

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $978,784.00 from $992,699.00 to $1,971,483.00.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0002
The option status has changed from Option to Option Exercised.

SUBCLIN 000201 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000201					$0.00
	Funding Information Only FFP Funding for Option Year 1 FOB: Destination				
				NET AMT	$0.00
	ACRN AB CIN: HDTRA1516990000201				$978,784.00

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000201:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $978,784.00 from $992,699.00 to $1,971,483.00.

SUBCLIN 000201:
Funding on SUBCLIN 000201 is initiated as follows:

ACRN: AB

CIN: HDTRA1516990000201

Acctng Data: 044315 097 0134 000 N 20152017 D 34HQ 0901515BR_KD_BP_OT 1517_0134_34HQ_SOUCT DTRA 410

Increase: $978,784.00

Total: $978,784.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4COC
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Mr. Aleksei Chmure
Title: Chief of Staff.
Phone: 212-380-4473
E-mail: chmure@ecohealthalliance.org.

c. Grantee Principal Investigator (PI):
Name: Dr. William B Karesh.
Title: Principal Investigator.
Phone: 212-380-4463.
E-mail: Karesh@ecohealthalliance.org.

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00003	17-May-2016		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4CO 8725 JOHN J. KINGMAN RD. FT. BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2320		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
CODE 3MMU3 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 28-May-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
Terms and Conditions Section 6.

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

This reason for this modification is:
1. To update the Grant Administraiton POC for EcoHealth
2. To update the Statment of Work, dated March 10, 2016.
3. To add funding for year 3 in the amount of $970,536.00 to subCLIN 000301, ACRN AC.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
		(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL (b)(6) EMAIL: (b)(6)
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)
		16C. DATE SIGNED 17-May-2016

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000301 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000301					$0.00
	Funding Information Only FFP CTB-16-203 FY16 EcoHealth Year 3 Rift Valley Fever in South Africa Incremental				
	FOB: Destination				
				NET AMT	$0.00
	ACRN AC CIN: CBEP00016990000301				$970,536.00

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been deleted:
STATEMENT OF WORK

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000301:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $970,536.00 from $1,971,483.00 to $2,942,019.00.

SUBCLIN 000301:
Funding on SUBCLIN 000301 is initiated as follows:

ACRN: AC

CIN: CBEP00016990000301

Acctng Data: 044315 097 0134 000 N 20162018 D 34HQ 0901515BR_KD_BP_OT 1618_0134_34HQ_AFRCT DTRA 410

Increase: $970,536.00

Total: $970,536.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4COC
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. Grantee Business Office:
Name: Ms. Virgina Porter
Title: Administrative Assistant to the Executive Vice President for Health &Policy_
Phone: 212.380.4470 _
E-mail: Porter@EcoHealthAlliance.org .

c. Grantee Principal Investigator (PI):
Name: Dr. William B Karesh.
Title: Principal Investigator.
Phone: 212-380-4463.
E-mail: Karesh@ecohealthalliance.org.

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit _	Terms and Conditions		

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Terms and Conditions		
Attachment 2	Statement of Work (SOW)		10-MAR-2016

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00004	19-May-2017		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
CODE 3MMU3 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 28-May-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended. ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not. ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA15169990

The purpose of this modification is to provide funding in the amount of $996,147 to subCLIN 000401, ACRN AD.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 22-May-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $996,147.00 from $1,971,483.00 to $2,967,630.00.
The standard size code 1,000 has been added.
The NAICS code 541711 has been added.

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000101
The unit of issue Lot has been deleted.
The FOB Destination has been deleted.

SUBCLIN 000201
The FOB Destination has been deleted.

SUBCLIN 000301
The FOB Destination has been deleted.

CLIN 0004
The option status has changed from Option to Option Exercised.

SUBCLIN 000401 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000401					$0.00
	Funding in support of Option Yr 3 FFP				
				NET AMT	$0.00
	ACRN AD CIN: J3CTB16990000401				$996,147.00

SECTION E - INSPECTION AND ACCEPTANCE

The Acceptance/Inspection Schedule for SUBCLIN 000101 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The Acceptance/Inspection Schedule for SUBCLIN 000201 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The Acceptance/Inspection Schedule for SUBCLIN 000301 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The following Acceptance/Inspection Schedule was added for SUBCLIN 000401:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0005 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 28-MAY-2018 TO 27-MAY-2019	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE

POP 28-MAY-2018 TO 27-MAY-2019	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $996,147.00 from $2,942,019.00 to $3,938,166.00.

SUBCLIN 000401:
Funding on SUBCLIN 000401 is initiated as follows:

ACRN: AD

CIN: J3CTB16990000401

Acctng Data: 044315 097 0134 000 N 20172019 D 34HQ 0901515BR_KD_BP2_OT 1719_0134_34HQ_SCNCT DTRA 410

Increase: $996,147.00

Total: $996,147.00

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00005	10-Jul-2017		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
CODE 3MMU3 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 28-May-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended. ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not. ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN:16990A

The purpose of this administrative modification is to:

1.) Make corrections to Mod P00003 by Exercising Option CLIN 0003.
2.) Add Grant Funding Profile clause, 252.632-9000.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 11-Jul-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $970,536.00 from $2,967,630.00 to $3,938,166.00.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0003
The option status has changed from Option to Option Exercised.

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been added by full text:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $3,938,166 is obligated for work to be performed during the period beginning with grant award and continuing through May 27, 2018. Additional incremental funding planned, but not obligated, is:

The Government's liability is limited to the amount obligated

INVOICE SCHEDULE:		
INVOICE NO.	INVOICE DATE	PAYMENT
37	06/30/2017	$83,012.25
38	07/30/2017	$83,012.25
39	08/30/2017	$83,012.25
40	09/30/2017	$83,012.25
41	10/30/2017	$83,012.25
42	11/30/2017	$83,012.25
43	12/30/2017	$83,012.25
44	01/30/2018	$83,012.25
45	02/28/2018	$83,012.25
46	03/30/2018	$83,012.25
47	04/30/2018	$83,012.25
48	05/30/2018	$83,012.25

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 6

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00006	25-May-2018		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J. KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
	X	10B. DATED (SEE ITEM 13) 28-May-2014

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1516990 Amend No 4

The purpose of this modification is to:
1. Exercise option year 4 on CLIN 0005.
2. Provide funding in the amount of $998,193.00 on subCLIN 000501.
3. Updated the Grant Points-of-Contact, Grant Officer's Representative, and invoice schedule.
4. Update the Terms and Conditions.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	25-May-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $998,193.00 from $3,938,166.00 to $4,936,359.00.
The 'issued by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201
to
DEFENSE THREAT REDUCTION AGENCY/AL-ACO
8725 JOHN J.KINGMAN RD
FT BELVOIR VA 22060-6201

The 'administered by' organization has changed from
OFFICE OF NAVAL RESEARCH-BOSTON
BOSTON REGIONAL OFFICE, 495 SUMMER STREET, RO
BOSTON MA 02110-2109
to
OFFICE OF NAVAL RESEARCH-BOSTON
495 SUMMER STREET, ROOM 627
BOSTON MA 02110-2109

The 'Payment will be made by' organization has changed from
DFAS COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATIONS
P.O. BOX 182266
COLUMBUS OH 43218-2266
to
DFAS COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATIONS
P.O. BOX 182317
COLUMBUS OH 43218-2317

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0005
The option status has changed from Option to Option Exercised.

SUBCLIN 000501 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000501					$0.00
	Funding in support of OY 4, CLIN 0005 FFP				
				NET AMT	$0.00
	ACRN AE CIN: HDTRA151699004000501				$998,193.00

SECTION E - INSPECTION AND ACCEPTANCE

The Acceptance/Inspection Schedule for CLIN 0005 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
Destination	Government	Destination	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000501:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $998,193.00 from $3,938,166.00 to $4,936,359.00.

SUBCLIN 000501:
Funding on SUBCLIN 000501 is initiated as follows:

ACRN: AE

CIN: HDTRA151699004000501

Acctng Data: 044315 097 0134 000 N 20182020 D 34HQ 0901515BR KD BP OT 18 1820 0134 34HQ SCNCT DTRA 410

Increase: $998,193.00

Total: $998,193.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/AL-ACO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. Grantee Business Office:
Name: Ms. Virgina Porter
Title: Administrative Assistant to the Executive Vice President for Health &Policy.
Phone: 212.380.4470
E-mail: Porter@EcoHealthAlliance.org .

c. Grantee Principal Investigator (PI):
Name: Dr. William B Karesh.
Title: Principal Investigator.
Phone: 212-380-4463.
E-mail: Karesh@ecohealthalliance.org.

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $4,936,359.00 is obligated for work to be performed during the period beginning with grant award and continuing through May 27, 2019. Additional incremental funding planned, but not obligated, is:

The Government's liability is limited to the amount obligated

INVOICE SCHEDULE:		
INVOICE NO.	INVOICE DATE	PAYMENT
49	06/30/2018	$83,182.75
50	07/30/2018	$83,182.75
51	08/30/2018	$83,182.75
52	09/30/2018	$83,182.75
53	10/30/2018	$83,182.75
54	11/30/2018	$83,182.75

55	12/30/2018	$83,182.75
56	01/30/2019	$83,182.75
57	02/28/2019	$83,182.75
58	03/30/2019	$83,182.75
59	04/30/2019	$83,182.75
50	05/30/2019	$83,182.75

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Terms and Conditions		
Attachment 2	Statement of Work (SOW)		10-MAR-2016

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work (SOW)		10-MAR-2016
Exhibit B	DTRA Terms and Conditions		06-APR-2018

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00001	20-Aug-2014		

6. ISSUED BY CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4CB
8725 JOHN J. KINGMAN ROAD
FT BELVOIR VA 22060-6201

7. ADMINISTERED BY (If other than item 6) CODE N62879

OFFICE OF NAVAL RESEARCH-BOSTON
BOSTON REGIONAL OFFICE, 495 SUMMER STREET
BOSTON MA 02110-2109

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

ECOHEALTH ALLIANCE INC.
MR. ALEKSEI CHMURA
460 W 34TH ST 17TH FL
NEW YORK NY 10001-2320

CODE 3MMU3 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0029
X	10B. DATED (SEE ITEM 13) 28-May-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this administrative modification is to:
1. Add the Office of Naval Research as the contract administrator as shown in block #7.

These changes are at no additinoal cost to the Government. All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 20-Aug-2014

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'administered by' organization has changed from

DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

to

OFFICE OF NAVAL RESEARCH-BOSTON
BOSTON REGIONAL OFFICE, 495 SUMMER STREET
BOSTON MA 02110-2109

(End of Summary of Changes)

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 9

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA11710037	14 Apr 2017	J3CTB23032

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY	
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2320	[ ] FOB ORIGIN [X] OTHER (See below) 9. DISCOUNT FOR PROMPT PAYMENT	
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:	ITEM
CODE 3MMU3	FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/SOUTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2264	HQ0338

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$2,408,373.45**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 3			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
	C	DESCRIPTION/ SPECS./ WORK STATEMENT		X	J	LIST OF ATTACHMENTS	9
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	4		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	5				
X	G	CONTRACT ADMINISTRATION DATA	6 - 8		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.)
Your bid on Solicitation Number _____
including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) CONTRACTS OFCR GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		(b)(6) BY _____ (Signature of Contracting Officer)	13-Apr-2017

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lot		$2,408,373.45

FRBAA14-6-2-0050_R: Base Year
COST
Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.

In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.
FOB: Destination
PURCHASE REQUEST NUMBER: J3CTB23032

ESTIMATED COST $2,408,373.45

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Incremental Funding
COST
Incremental funding in the amount of $565,205.00.

ESTIMATED COST $0.00

ACRN AA $565,205.00
CIN: J3CTB23032000101

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00

Incremental Funding
COST
Incremental funding in the amount of $201,612.00.

ESTIMATED COST $0.00

ACRN AB $201,612.00
CIN: J3CTB23032000102

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		1	Lot		$767,080.93
OPTION	FRBAA14-6-2-0050_R: Option Year 1 COST Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia. In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B. FOB: Destination				
				ESTIMATED COST	$767,080.93

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1	Lot		$735,963.67
OPTION	FRBAA14-6-2-0050_R: Option Year 2 COST Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia. In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B. FOB: Destination				
				ESTIMATED COST	$735,963.67

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	N/A	Government
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A
0002	N/A	N/A	N/A	Government
0003	N/A	N/A	N/A	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 01-MAY-2017 TO 30-APR-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A
0002	POP 01-MAY-2020 TO 30-APR-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
0003	POP 01-MAY-2021 TO 30-APR-2022	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20152017 D 34HQ 0901515BR_KD_BP_OT 1517_0134_34HQ_PRICT DTRA 410
AMOUNT: $565,205.00

AB: 044315 097 0134 000 N 20162018 D 34HQ 0901515BR_KD_BP_OT 1618_0134_34HQ_PRICT DTRA 410
AMOUNT: $201,612.00

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	J3CTB23032000101	$565,205.00
AB	000102	J3CTB23032000102	$201,612.00

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4COC
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Aleksei Chmura
Title: Authorized OrganizationalRepresentative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Jonathan H Epstein
Title: Associate Vice President, Conservation
Phone: (212) 380-4467
E-mail: epstein@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTB
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)

email address: (b)(6)

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

FUNDING PROFILE:

The amount of $766,817.00 is obligated for work to be performed during the period beginning with grant award and continuing through April 30th, 2018. Additional incremental funding planned, but not obligated, is:

FY18 $121,958.02
FY19 $804,315.14
FY20 $715,283.29

The Government's liability is limited to the amount obligated

INVOICE SCHEDULE:

INVOICE NO.	INVOICE DATE	PAYMENT
1	August 01, 2017	$222,193.76
2	December 01, 2017	$222,193.76
3	April 01, 2018	$222,193.75
4	August 01, 2018	$222,193.75

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	8	01-MAY-2016
Exhibit B	DTRA Terms and Conditions	17	31-OCT-2016

Serological Biosurveillance for Spillover of *Henipaviruses* and *Filoviruses* at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia / Epstein
CBEP-Thrust Area 6, CC WMD

Statement of Work

Project Title: Serological Biosurveillance for Spillover of *Henipaviruses* and *Filoviruses* at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia

Document Date: May 2016

Objective: The objective of this project is to enhance capacity within the Malaysia government to characterize the distribution of and detect spillover of novel and known henipaviruses and filoviruses, (both groups include high consequence zoonotic pathogens) in indigenous populations and farms in Peninsular Malaysia. Current surveillance strategies for novel zoonotic viruses rely exclusively on molecular detection tools, but Nipah and Ebola viruses are present at low prevalence in bat species which makes infected individuals difficult to detect. By establishing a multiplexed serological assay developed to detect antibodies against any henipa- and filoviruses, the Government of Malaysia (GoM) will more effectively be able to determine the distribution of these high-impact viruses in wildlife reservoirs and detect evidence of spillover in at-risk human or livestock populations. This enhancement of human and animal surveillance in all three sectors (wildlife, livestock and human health) and training of Malaysian scientists utilizes a One Health approach and will help reduce risk of zoonotic disease emergence and spread by accelerating detection and response. These activities fulfill DTRA CBEP's mandate and are also complementary to and supportive of the aims of the USAID EPT program and the Global Health Security Agenda.

Scope: This research includes transferring state-of-the art serological reagents and Luminex-based microsphere beaded technology that will allow the Government of Malaysia to use a One Health approach to conduct serological surveillance for all known *and unknown* henipaviruses and filoviruses in wildlife, domestic animals, and humans. The study will test archived human and wildlife serum samples which are linked to PCR-tested oral, rectal, or urogenital swab samples (collected and tested under the ongoing USAID Emerging Pandemic Threats: PREDICT program and a University of Malaya study of Orang Asli healthy populations and acutely febrile hospital cases). It will also conduct a new study looking at henipa- and filovirus antibodies in livestock and farm workers and wildlife near the farms, as well as an expanded Orang Asli study focused on hunting communities living in the forest. The grantee will investigate spillover of these pathogens by screening wildlife reservoirs (e.g. bats and nonhuman primates), people, and livestock for IgG antibodies to henipaviruses and filoviruses, while also continuing to develop and transfer additional tests that will detect antibodies against novel viruses in these groups.

Our team will focus on the following major goals and milestones:

1. Improve the Government of Malaysia's capacity to conduct serological surveillance for henipaviruses and filoviruses in human and animal populations, using a One Health approach.
    - Transfer Luminex-based technology into government and university diagnostic labs in three key sectors (wildlife, livestock, and human health); conduct trainings for staff to be able to screen samples, interpret results, and perform confirmatory assays; train local graduate students; and publish and share findings among GoM partners.
2. Determine the host distribution and seroprevalence of henipaviruses and filoviruses in wildlife (e.g. bat) populations in Peninsular Malaysia associated with Orang Asli communities and livestock farms.

- Conduct cross-sectional serological studies of humans and animals for henipa- and filoviruses by testing sera from new samples collected under this project and archived samples from PREDICT. Wildlife sampling will be conducted jointly with the Dept. of Wildlife and National Parks (DWNP); livestock sampling with DVS and UPM; and human sampling with MoH. These activities provide opportunity for One Health-based disease surveillance; threat reduction; and capacity building within the Government of Malaysia.

3. Conduct surveillance for IgG antibodies against filoviruses and henipaviruses in people and domestic animals which may indicate spillover from wildlife reservoirs. Sampling activities will focus on Orang Asli communities and farms in Peninsular Malaysia and will be conducted jointly with the Ministry of Health's National Public Health Laboratory (NPHL), DWNP, and the University Putra Malaysia under the Department of Veterinary Services (DVS). Serological surveillance will allow the GoM to focus limited resources and develop interventions to reduce threat from viral outbreaks in at-risk animal and human populations.

- Qualitative studies (e.g. questionnaires) detailing human-animal contact where sampling occurs will characterize high-risk behaviors and interfaces;
- Sampling human, wildlife, and domestic animal populations in Orang Asli forest communities that practice hunting.
- Sampling domestic animals and farm workers on large and small-scale farms and associated wildlife to identify evidence of spillover.

Our research will be focused on building capacity within the Government of Malaysia to conduct serological surveillance in human and animal populations in Peninsular Malaysia where people and animals are believed to have high levels of contact. Collaborators from the Government of Malaysia (GoM)'s Department of Wildlife and National Parks (DWNP), the Ministry of Health's National Public Health Laboratory (NPHL), the Department of Veterinary Service's University Putra Malaysia (UPM), University of Malaysia (UM), The Uniformed Services University, Maryland (USU), Conservation Medicine, Ltd. (CM), The US Navy Medical Research Center, Asia (NMRC-A), and Duke-NUS Graduate Medical School, Singapore (b)(6) lab) will play active roles in this research. EHA's history of successful collaboration with DWNP, MoH, and DVS under prior research projects and most recently through PREDICT, as well as having a Memorandum of Agreement with the aforementioned institutions, gives us confidence that we will be able to achieve the aims of this proposal (also see letters of collaboration).

The duration of the proposed project is three years, with optional 4th and 5th years containing follow-up Orang Asli studies and farm studies so that we have longitudinal data. These option years will significantly strengthen the overall study by enhancing our ability to detect temporal patterns of infection in bat and other animal populations as well as additional opportunity to detect spillover in humans or livestock. **Through these proposed activities we would create enhanced One Health surveillance for known *and novel* henipaviruses and filoviruses in human and animal populations in Peninsular Malaysia, an emerging disease hotspot**. The proposed activities would significantly support Malaysia's surveillance priorities, DTRA CBEP Thrust Area 6 objectives, the Global Health Security Agenda (GHSA), and the USAID Emerging Pandemic Threats program by allowing the Government of Malaysia to more rapidly detect infections of high impact zoonotic agents and develop effective interventions to prevent viral

outbreaks and reduce human and animal mortality, thereby reducing the threat from these high consequence viral agents.

Background:

Nipah virus (NiV), Ebola virus (EBOV) and Marburg Virus (MARV) are emerging zoonotic viruses belonging to the genera *Henipavirus* (Family *Paramyxoviridae*), *Ebolavirus* and *Marburgvirus* (both Family *Filoviridae*) and they have each caused outbreaks in people with high mortality rate. These viruses are listed as a select agents by HHS and USDA as pathogens of significant threat to both human and animal health. Nipah virus (NiV) is a zoonotic paramyxovirus (genus *Henipavirus*) with pandemic potential that first emerged on a pig farm in Malaysia in 1997 and led to a human outbreak with more than 260 cases and 40% mortality. Old world frugivorous bats, particularly Genus *Pteropus* (Family *Pteropodidae*), are natural reservoirs for a range of henipaviruses, including Nipah virus. Filoviruses circulate both in Africa and Southeast Asia, and have also been linked to bat reservoirs. In Africa, EBOV and Sudan virus (SUDV) have caused multiple human outbreaks with mean mortality rates between 50% and 90%. The current EBOV outbreak in West Africa, by far the largest Ebola epidemic in history, has had more than 28,600 cases, primarily in Sierra Leone, Guinea, and Liberia, with a mortality rate of 40%. The outbreak in West Africa has prompted the Government of Malaysia to determine whether filoviruses are circulating in bat species resident in Peninsular Malaysia. Malaysia's experience with Nipah virus, existing technical expertise, and its current commitment to using a One Health approach to disease surveillance (e.g. surveillance for novel zoonoses under PREDICT in all three sectors: wildlife, livestock, and human health) make it an ideal place to establish an advanced serological platform for detection of henipavirus and filovirus antibodies in wildlife and at-risk livestock and human populations.

Preliminary data: Serological studies of Nipah virus and Ebola virus using the Luminex-based platform. Studies conducted by our group have shown that NiV viral prevalence in pteropid bats is low (~1%-3%) and there is temporal variation to shedding. Mean seroprevalence in *P. vampyrus,* which is found across Peninsular Malaysia was 32% (n=253; range 16.7% - 42.4%). In Bangladesh, we conducted a 6-year longitudinal study of *Pteropus giganteus* using the Luminex-based platform to screen bats for IgG antibodies against both Nipah virus and Ebola virus Zaire. Between 20% and 80% of adult *Pteropus giganteus* were NiV seropositive, while between 20% and 50% were EBOV seropositive (Epstein et al, *in prep*). Nipah virus infections appear to peak in June/July while EBOV appears to peak in December (see also Project Narrative). We found a diversity of genetic strains of Nipah virus in *P. giganteus* (Epstein et al., *in prep*), and viruses which are NiV-like but distinct henipaviruses. Non-neutralizing antibodies against NiV-like viruses found in goats, cattle, and pigs in Bangladesh suggests that spillover from bats to domestic animals occurs and that there is a broad spectrum of henipaviruses circulating in bats. RESTV RNA was recently identified by our group in *Mineopterus schreibersii,* a common insectivorous bat. We also detected RESTV antibodies in two fruit bat species: *Cynopterus brachyotis* and *Pteropus vampyrus:* the latter is a NiV reservoir. In Bangladesh, we found antibodies against EBOV and RESTV in 3.5% of *Rousettus leschenaultii* (n=141). *M. schreibersii*, *R. leschenaultii*, and two *Pteropus* species, including *P. vampyrus* all occur in Malaysia, yet there is no data available regarding filoviruses in wildlife in Malaysia. The possibility that multiple henipaviruses or filoviruses capable of infecting people or livestock

to be circulating in bats in Malaysia makes enhanced surveillance and early detection of these high consequence viruses critically important for reducing their threat to public health.

PREDICT

Between 2009 and 2015, EHA, CM, and the Department of Wildlife and National Parks (DWNP) have collected and archived samples, including serum, from more than 1,400, animals including bats, rodents, and macaques all from areas where people and wildlife come into contact. While oropharyngeal, urogenital, and rectal swab samples have been or will be screened using PCR assays for viral families (including paramyxoviruses and filoviruses), corresponding sera remain archived (and untested) and will be made available for this project to test them using the Luminex-based assay.

University Malaya study of acutely ill Orang Asli patients.

We will also have access to archived and newly collected Orang Asli samples collected from acutely febrile patients at Gombak Hospital that serves the Orang Asli communities, under a separate ongoing disease study at the University of Malaya (Prof. (b)(6) and NMRC-A (Co-PI (b)(6) . This study just received renewed funding to continue sampling febrile patients and expand to sample asymptomatic Orang Asli from communities across a land-use gradient, which will include individuals without animal exposure. Under this proposal we will screen sera collected from well characterized Orang Asli patients and community members using the Luminex-based platform.

Key references (Further references are available in the Project Narrative):

Luby, S.P., The pandemic potential of Nipah virus. *Antiviral Research*, 2013. 100(1): p. 38-43.

Olival, K.J. and D.T.S. Hayman, Filoviruses in Bats: Current Knowledge and Future Directions. *Viruses*-Basel, 2014. 6(4): p. 1759-1788.

Sarah I. Jayme, et al., Molecular evidence of Ebola Reston virus infection in Philippine bats. *Virology Journal*, 2015. 12(107): p. 1-8.

Sohayati A. Rahman, et al. Risk Factors for Nipah Virus Infection among Pteropid Bats, Peninsular Malaysia. *Emer. Infect. Dis.,* 2013. DOI: 10.3201/eid1901.120221.

***Tasks/Scientific Goals:* (Format: Year #(s). Task #. Sub-task#)**

Task 1: (Year 1-OY5). Enhance capacity within Malaysia to conduct serological surveillance for henipa- and filoviruses. The GoM has been engaged in using a One-Health approach to zoonotic disease surveillance since the NiV outbreak in 1998 and most recently via collaborations with EHA under PREDICT. However, current GoM and PREDICT surveillance activities in humans, wildlife and domestic animals are based on broad molecular assays designed to identify novel viruses (including henipaviruses and filoviruses). One of the challenges with this approach is that Nipah, Ebola, and related viruses tend to be acute and asymptomatic infections in bats, making detection of viral RNA challenging. IgG antibodies,

however, persist in bats (as well as people and livestock), reducing the sampling effort necessary to identify exposed or infected individuals in a population and also allowing for detection of asymptomatic carriers. Adding a serological component to existing surveillance will greatly enhance the government's ability to detect both known and unknown henipa- and filoviruses in wildlife, domestic animals and human populations at risk for spillover. To establish this capacity, we will provide a BioRad Bio-Plex 200 machine with computer console to NPHL and DWNP. We will provide all reagents for henipa- and filovirus assays. Following Bio-Plex installation, we will conduct a 10-day training course for lab technicians at DWNP and another at NPHL. UM has a Luminex machine and will receive assay reagents and lab staff will participate in one of the training workshops. 1 PhD student at USU will develop additional assay reagents in Y1-OY5. We will identify *either* 1 PhD or 2 Masters' students at UM and 1 PhD student at UPM to train under this project. We will provide additional training to technical staff from GoM partner labs in viral pseudo-type assay development at USU. The grantee shall:

1.1.1. Transfer BioRad Bio-Plex 200 to NPHL and DWNP labs;

1.1.2-2.1.2. Transfer Luminex-based filovirus and henipavirus reagents to DWNP, NPHL, and UM labs; the grantee will provide a BioRad Bio-Plex 200 to UPM and conduct a 10-day training workshop in Y2.

1.1.3.-2.1.3 Train lab staff to use Luminex-based assays

1.1.4- OY5.1.4 Supervise 1 UM PhD or 2 Masters' students (Y1-3), and 1 UPM PhD student

1.1.5-OY5.1.5 Convene the Science Advisory Group (annually in KL);

1.1.6-2.1.6 Develop a database for serology results and sample metadata; establish sample repository at partner labs.

Task 2. (Y1-OY5) Develop and validate Luminex-based reagents to detect henipa- and filovirus antibodies. At USU, we will engineer soluble and secreted versions of henipa- and filovirus glycoproteins, expressed in mammalian cell culture systems to accurately reflect proper synthesis including their assembly and processing into properly glycosylated higher order complexes. Constructs will be designed and tested in pilot experiments for expression and analysis, and then used to establish stably expressing cell lines. Preparative amounts of the various soluble viral glycoproteins will be made using serum-free culture conditions in suspension culture, and proteins are purified using the appropriate tag protocol (either S-tag or double strep tag (TST)) by affinity chromatography, followed by concentration and size exclusion chromatography. We will test the utility of each individual glycoprotein by Luminex, ELISA and Western blotting then provide all necessary reagents to partner labs to accomplish the testing under this project. The grantee shall:

1.2.1-2.2.1 produce Mojaing virus (MojV) and African GH-M74a G glycoproteins; Bundibugyo virus (BDBV), Tai Forest virus (TAFV), Lloviu virus (LLOV), MARV Ravn, SUDV, SUDV GpΔmucin, RESTV (monkey), and RESTV (porcine) Gp glycoproteins.

1.2.2-3.2.2 use the completed viral glycoprotein preparations and produce polyclonal rabbit serum to each individual glycoprotein; test the utility of each individual glycoprotein by Luminex-based, ELISA and Western blotting assays;

1.2.3 Provide N protein reagents to detect novel henipa- and filoviruses to partner labs.

1.2.4-OY5.2.4: If novel henipa- or filoviruses are detected using molecular assays (under

PREDICT), grantee may develop new reagents for antibodies against these viruses and negative sera will be re-screened.

Task 3. Screen archived serum samples from wildlife and Orang Asli for henipa- and filovirus antibodies using a Luminex-based platform (Y1-Y2). Grantee shall test up to 945 macaque and 175 bat archived serum samples collected under PREDICT and stored at DWNP, and up to 300 archived Orang Asli samples stored at NPHL, and up to 200 Orang Asli samples at UM. The number of samples will depend on available serum volume and quality. Results will be used to inform the Orang Asli and farm studies described in **Tasks 4 and 5**. Positive sera may be sent for confirmatory testing at USU using pseudovirus serum neutralization assays, ELISA, or Western blot. Results shall be entered into a database and shared with GoM partners.

1.3.1 Identify suitable archived animal and human sera;
1.3.2 Screen sera for henipa- and filovirus IgG antibodies at GoM and UM partner labs;
1.3.3 Confirm positive results using western blot or pseudovirus assay;
1.3.4 Enter results into database and analyze;
1.3.5-2.3.5 share results with partners.

Task 4. Serological survey of Orang Asli who hunt, wildlife, and peri-domestic animals. (Y1-OY5). Indigenous communities living in forested areas and that practice subsistence wildlife hunting are at higher risk of exposure to zoonotic viruses due to handling and butchering wildlife and therefore contact with bodily fluids. In **Y1** of this project, we will apply for IRB ethical approval to continue and expand from a pilot study currently underway (expected completion: Oct 2016). Pending IRB and IACUC approval, CM, MoH, and DWNP will work together in **Y1-Y2** to sample 100 individuals from each of 3 Orang Asli communities in Perak State (incl. Kuala Lipis and Gua Musang), **totaling 600 human blood samples over five years**. 100 people sampled per community will allow us to detect a seropositive individual with 95% confidence at a prevalence of 3%, assuming a population of 500 individuals. We will also aim to sample blood from 50 bats per each of 3 species around each study village (e.g. *Miniopterus*, *Pteropus*, and *Rousettus* spp); 30 nonhuman primates; and 30 dogs, if present, in order to be able to detect henipa- or filovirus antibodies in an individual with 95% confidence given a 5% seroprevalence (in bats) and 10% in dogs and nonhuman primates. MOH officers and CM will collect blood from Orang Asli and associated animals, and serum will be separated either in the field or at partner labs and stored at -86C at prior to testing. A sample size of 50 bats would allow us to detect differences between study locations (or time points, should we conduct follow-up studies) of 56% with 95% confidence and 80% precision. The grantee shall conduct repeated sampling of Orang Asli and peri-domestic livestock and wildlife in the same communities in Y3-OY4. If novel henipa or filoviruses identified by PREDICT, new assays will be developed in OY4 and negative samples re-tested. Molecular and serological data from Orang Asli will be co-analyzed in OY4-OY5. In addition, we will test sera collected through an ongoing UM study of Orang Asli. Up to 500 samples per year will be collected Y1-OY5, and these will be tested using the Luminex-based platform at UM. Positive samples will be confirmed at UM or USU.
The grantee shall:

1.4.1.-OY5.4.1 Test Orang Asli, wildlife, and peri-domestic animal samples collected under PREDICT and UM studies
1.4.2-2.4.2, Y3.4.2, OY4.4.2-OY5.4.2. Enter results into database and analyze data;
1.4.3 – 2.4.3, Y3.4.3, OY4.4.3 Confirm sero-positive samples;

1.4.4. Develop follow-up study with GoM partners to be implemented in Y3.
2.4.5 Apply for IRB and permits for follow-up study
3.4.6 Implement repeated sampling in Orang Asli villages
3.4.7 Analyze longitudinal data
OY4.4.1. If new viruses found by PREDICT, develop new sero assay and re-test samples
OY4.4.2.-OY5.4.2 Confirm additional test results and co-analyze molecular and sero data

Task 5. Develop serological study of farm workers, livestock, and wildlife around farms. (Y1-OY5) Grantee shall conduct a serological survey of farm workers and animals living on or around 2 large-scale farms (>5000 ruminants and/or pigs) and 2 small-scale farms (500-1000 ruminants and/or pigs) in Peninsular Malaysia to detect exposure to henipa- or filoviruses. Grantee shall work with DWNP to sample bats, macaques and dogs proximal to farms; and with MoH to conduct qualitative research and collect blood samples from farm workers to screen for henipa- and filovirus antibodies. Grantee will work with UPM to sample and test livestock. In Y1 grantee will select appropriately sized farms. Grantee shall also locate bat caves or roosts proximal to each farm, meet farm owners, and characterize the livestock. Grantee shall apply for all necessary IRB and IACUC approvals. Grantee may commence sampling in Y2, pending approvals, and conduct a follow-up study in OY4 and OY5 (if funded). The grantee shall:

1.5.1 Meet with GoM partners to develop study;
1.5.2 Apply for ethical approvals and permits.
1.5.3. Conduct scoping visits to farms, characterize livestock and local wildlife species.
2.5.1-3.5.1 Collect wildlife, livestock, and human samples
2.5.2-3.5.2 Conduct questionnaires with farm workers
2.5.3-3.5.3 Screen samples using Luminex-based assay; confirm results
2.5.4-3.5.4 Enter data into database and analyze results
OY4.5.1-5.5.1 Repeat human, wildlife and livestock sampling at each farm
OY4.5.2-OY5.5.2 Test samples, enter results into database; analyze complete dataset
OY5.5.3 prepare manuscript based on (Y1-OY5) study

Task 6. Disseminate reports to relevant stakeholders (Y1-OY5). Grantee shall synthesize all data collected through the projects described above as well as capacity building activities in Malaysia. Scientific and general reports will be generated and provided to GoM partners and an annual report to DTRA. PhD or Masters' students will complete thesis and present at annual stakeholders meeting in KL or at scientific meeting in Malaysia. Grantee shall meet with GoM partners and SAG in Kuala Lumpur annually, according to schedule. Grantee shall present findings at scientific meetings (e.g. ASTM, ASM Biodefense, IMED, EcoHealth) to present findings according to the schedule.

1.6.1-OY5.6.1 submit progress reports to DTRA.
1.6.2-OY5.6.2 Complete annual report to local stakeholders.
1.6.3-OY5.6.3 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review.
1.6.4-OY5.6.4 Conduct annual stakeholder meetings.
3.6.5. Prepare comprehensive project report for GoM
3.6.7, OY5.6.7 UM Graduate students present thesis to committee and prepare publication in peer reviewed journal
3.6.6-OY5.6.6 Prepare and submit publications to disseminate study findings.

Project Timeline

Task	Y1	Y2	Y3	OY4	OY5
1. Enhance capacity in Malaysia for serological surveillance for all henipaviruses and filoviruses					
1.1. Transfer BioRad Bio-Plex 200 in NPHL, DWNP, and UPM labs					
1.2 Transfer serological reagents to NPHL, DWNP, UPM, and UM labs					
1.3 Training staff at partner labs					
1.4 Identify graduate students at UM and UPM					
1.5 Convene Science Advisory Group					
1.6 Develop database for serology results and sample metadata					
1.7 Training in pseudovirus development at USU					
2. Develop & validate henipavirus and filovirus reagents.					
2.1 Produce specific henipavirus and filovirus proteins					
2.2 Produce and test monoclonal antibodies against new proteins					
2.3 Transfer henipa and filo N protein assays to partner labs					
2.4. develop/validate proteins and mAbs for novel henipa- & filoviruses					
3.Screen archived wildlife and Orang Asli sera					
3.1 Identify archived wildlife and human sera at NPHL and DWNP					
3.2 Screen sera using Luminex-based platform					
3.3 Confirm positive sera with additional testing					
3.4 Enter results in database / analyze					
4. Sero-survey of Orang Asli and animals					
4.1 apply for IRB/IACUC approval					
4.2 Collect & test serum samples from Orang Asli ~ animals					
4.3 Enter results into database					
4.4 Confirm positive sera with additional testing					
4.5 Conduct follow-up study of Orang Asli and animals					
4.6 Analyze data					
5. Serological study of farm workers, livestock, and wildlife on farms					
5.1 Apply for necessary permits and ethical approval					
5.2 scoping visits to potential study farms; select farms					
5.3 sample farm workers, livestock, and wildlife on farms					
5.4 follow-up study of farm workers, wildlife and livestock (4 farms)					
5.5 Enter results into database / analyse results					
6. Disseminate reports to relevant stakeholders					
6.1 annual report toDTRA					
6.2 annual report to government of Malaysia partners					
6.3 attend DTRA annual technical review					
6.4 partner meeting in Malaysia					
6.5 present results at scientific conference (e.g. ASTMH, IMED, ASM)					
6.6 prepare manuscripts for publication in peer-reviewed journal					

DEFENSE THREAT REDUCTION AGENCY (DTRA)
GENERAL TERMS AND CONDITIONS FOR GRANT AWARDS

Table of Contents

Table of Contents 1
1. Terms and Conditions Incorporated by Reference. 2
2. Acceptance of Grant. 2
3. Recipient Responsibilities. 2
4. Standards for Financial Management Systems. 2
5. Modification of the Grant. 2
6. Payments. 3
7. Funding Increments and/or Options. 3
8. Patent Rights. 4
9. Technical Reporting Requirements. 7
10. Financial Reporting Requirements. 10
11. Delegation of Administration Duties. 10
12. Security. 11
13. Representations and Assurances. 11
14. Data Collection. 16
15. Publications and Acknowledgement of Sponsorship. 16
16. Authorization to Perform Activities Abroad. 17
17. Inconsistency between English Version and Translation of Grant. 17

1. **Terms and Conditions Incorporated by Reference.**

The DoD Research and Development General Terms and Conditions, dated July 2016, are hereby incorporated by reference and are available for download at website http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions.aspx.

2. **Acceptance of Grant.**

The recipient is not required to countersign the Grant document; however, the recipient agrees to the conditions specified in the Research Grant and the Articles contained herein unless notice of disagreement is furnished to the Grants Officer within fifteen (15) calendar days after the date of the Grants Officer's signature. In case of disagreement, the recipient shall not assess the Grant any costs of the research unless and until such disagreement(s) is resolved.

3. **Recipient Responsibilities.**

The recipient will bear primary responsibility for the conduct of the research and will exercise judgment towards attaining the stated research objectives within the limits of the Grant's Terms and Conditions.

The Principal Investigator(s) (PI) specified in the Grant award will be continuously responsible for the conduct of the research project and will be closely involved with the research effort. The PI, operating within the policies of the recipient, is in the best position to determine the means by which the research may be conducted most effectively.

4. **Standards for Financial Management Systems.**

Where the Federal Government guarantees or insures the repayment of money borrowed by the recipient, DTRA, at its discretion, may require adequate bonding and insurance if the bonding and insurance requirements of the recipient are not deemed adequate to protect the interest of the Federal Government.

DTRA may require adequate fidelity bond coverage where the recipient lacks sufficient coverage to protect the Federal Government's interest.

Where bonds are required in the situations described above, the bonds shall be obtained from companies holding certificates of authority as acceptable sureties, as prescribed in 31 CFR Part 223, "Surety Companies Doing Business with the United States."

5. **Modification of the Grant.**

The only method by which this Grant may be modified is by a formal, written modification signed by the Grants Officer. No other communications, whether oral or in writing, are valid.

Prior Approvals are required as follows:

1) Expenditures on equipment costing $5,000 or more not specifically identified in the budget at time of award. (Approval via written notification from the Grants Officer.)
2) Expenditures for foreign travel not specifically identified in the budget at time of award. (Approval via written notification from the Grants Officer.)

3) Prior approval is not required to transfer amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa.
4) Prior approval is not required to carry forward an unobligated balance to a subsequent period of performance under this award.

6. Payments.

The 2 CFR 200 governs responsibilities concerning payments, with the following clarifications:

Recipients shall submit requests for payment using Invoicing, Receipt, Acceptance, and Property Transfer (iRAPT) at https://wawf.eb.mil/. Any request for advance payments must be approved by the Administrative Grants Office shown in Block 6 of the award. The request shall be submitted to the Administrative Office identified in Block 6 of the Research Grant by entering the following routing codes:

1) *Pay Office DoDAAC*: See Block 12 (Code) on the first page of the Grant.
2) *Invoice Type*: Grant and Cooperative Agreement Voucher.
3) *Issue By DoDAAC*: See Block 5 (Code) on the first page of the Grant.
4) *Admin DoDAAC*: See Block 6 (Code) on the first page of the Grant.
5) *Grant Approver*: Same as Admin DoDAAC (Leave Ext. blank).

Payments will be made by the Defense Finance and Accounting Service (DFAS) office specified in the Research Grant (Block 12).

A foreign awardee must have a U.S. bank account and be signed up for electronic payments (electronic funds transfers (EFT)).

7. Funding Increments and/or Options.

The recipient is advised that the Grantor's obligation to provide funding for increments and/or options included in the Grant is contingent upon satisfactory performance in the judgment of the DTRA Scientific Officer/Technical Monitor and the availability of funds. Other factors will be considered before options will be exercised (for example, expenditure rate and current programmatic objectives). Accordingly, no legal liability on the part of the Grantor exists unless or until funds are made available to the Grantor and notice of such availability is confirmed in writing to the recipient. Refer to the Funding Profile in Section G of the Grant for additional incremental funding planned, but not currently obligated for the Grant.

Funding Increments – In no event is the Government obligated to reimburse the recipient for expenditures in excess of the total funds allotted by the Government to this agreement. Recipients should note that low expenditure rates reported on payment requests may be cause for deferral of future increments. The Government anticipates unilateral modifications for funding increments.

Options – If the agreement contains Option(s), the Government reserves the right to exercise the Option(s) unilaterally.

8. Patent Rights.

Patent Rights are governed by 37 CFR 401.14 with the following clarifications: All DTRA-related disclosures, confirmatory licenses to the government, patent applications, and other communications should be submitted as detailed herein.

The 37 CFR Part 401 invention reporting requirements are summarized in the table below. Unless otherwise indicated in the "Submission to DTRA" column, the grantee is required to upload the following types of invention information using iEdison (https://s-edison.info.nih.gov/iEdison/), a single web interface for government grantees to report details of inventions and patents. If the grantee organization is not already an iEdison registrant, then iEdison registration is required prior to submission of the below invention reports. The grant shall not be closed out until all invention reporting requirements are met.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Invention Report: The grantee must submit a report of any "subject" invention. The report must identify inventor(s), federal agency(ies), grant number(s), and date of any public disclosure. Date of submission establishes time frames for all future actions. Must be complete in technical detail. The report should be directed to the lead agency.	Within 2 months of inventor's initial report to the grantee' contractor organization.	There is no single format for disclosing the invention to the government. The communication should include the title of the invention, date of any public disclosure, names of all inventors, source(s) of federal funding (i.e. grant number), a written description of the invention in technical detail. The invention disclosure should be signed by the inventor(s); at the very least signed by a grantee institutional official.	401.14(a)(2) 401.14(c)(1)	Submit electronically by uploading either a PDF, TIFF, or text file through iEdison.
Rights to Inventions on Subcontracts: Subcontractors retain rights to their subject inventions.	Same reporting responsibilities, obligations and time frames as prime grantee organization.	Prime grantee organization cannot require ownership of subcontractor's subject invention(s)	401.14(g)(1) 401.14(g)(2)	Invention disclosure, confirmatory license, and proof of gov't support clause shall be submitted electronically through iEdison.
Election of Title to Invention: Grantee organization must notify the federal agency sponsor that it will retain ownership of invention and take steps to commercialize the invention.	Within 2 years of reporting the invention to the lead federal agency sponsor. (If disclosed publicly, this period is decreased.)		401.14(b) 401.14(f)(1) 401.14(c)(2)	Submit electronically through iEdison.
Confirmatory license The grantee organization must provide a nonexclusive, nontransferable, irrevocable, paid-up license for the government to practice or have the invention practiced on its behalf throughout the world.	Commensurate with report of any initial patent filing, unless the invention is being licensed as an unpatented biological material or research tool.		401.14(f)(1)	Submit electronically by uploading either a PDF or TIFF file through iEdison.
Nonelection of Title to Invention: Grantee organization must notify the federal sponsor that it will not retain ownership of an invention.	Within 2 years of reporting to federal agency sponsor. (If disclosed publicly, this period is decreased.)	Effectively a waiver to the government. After further review the federal agency sponsor may elect title on behalf of the government. Title does not actually vest with the government until government elects to retain title.	401.14(c)(2) 401.14(d)	Submit electronically through iEdison.
Assignment of Invention Rights to the Inventor: The inventor may request assignment of invention rights. Agencies support requests of this type to variously. In all cases, documentation is required when a grantee organization waives rights to the invention and the inventor(s) wishes to retain the invention rights.	At the time the grantee organization elects not to pursue title and the inventor requests rights in the invention.	First, the grantee organization must elect not to retain rights in the invention. Second, the inventor must request the assignment of rights, agree to all terms associated with invention reporting as detailed in 37 CFR 401, and must pursue commercialization of the invention through patent filing or licensing as a research tool. Specific procedures for any agency should be determined prior to initiating the request.	401.14(k)(1); non-profits	This status shall be indicated using iEdison. Submission of all other issues (such as outstanding required documents) should be resolved prior to proceeding further. Submission of the required documents will be done electronically by uploading either a PDF, TIFF, or text file through iEdison.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Initial Patent Application: The grantee must inform the government of the initial patent application that related to any subject invention. The patent application must include a government support clause.	Within 1 year after election of title, unless there is an extension.	Time frame may vary if invention becomes public. The term initial patent application means a nonprovisional U.S. national application for patent as defined in 37 CFR 1.9(a)(3). The notification must include the patent application number and filing date assigned by the USPTO. A copy of the full application is not required.	401.14(c)(3) 401.2(n)	All filing data shall be submitted via iEdison. Evidence of inclusion of government support clause shall be submitted electronically as either a PDF or TIFF file through iEdison.
Assignment to Third Party: Documentation necessary when a grantee contractor wishes to assign invention rights to third party. If the grantee-contractor is a non-profit, the government must approve the assignment. For profit or small business grantee contractors do not need to seek approval. If the rights are assigned, new rights holder assumes the same reporting responsibilities as the grantee contractor organization.		If assignment approved, third party must pursue commercialization of the invention through patent filing or licensing of the invention as a research tool. Specific procedures to request third party assignment may vary between agencies. Consult DTRA prior to initiating request.	401.14(k) for non-profits. Note the distinction between small businesses and non-profit organizations.	Documentation shall be submitted electronically as either a PDF or TIFF file through iEdison.
Issued Patent: Grantee must provide federal agency sponsor with patent issue date, number, title of patent, and evidence of government support clause.	At the time of issue.	Patent must include government support clause.	401.5(f)(2) 401.14(f)(4)	All issued patent information shall be provided using iEdison. Evidence of inclusion of government support clause will be provided electronically as a PDF or TIFF file through iEdison
Request for Extension of Time: An extension of up to two years may be requested for election of title, or one year for filing a patent application.	Prior to any statutory bar.	Extension of 2 years for title election and one year for patent application are preapproved for funded inventions. Additional extensions need written approval from the federal agency sponsor.	401.14(c)(4)	Request electronically using iEdison.
Discontinuance of Patent Application, Payment of Maintenance Fees, or Defense in a Reexamination or Opposition proceeding on a Patent: Grantee must notify federal agency sponsor of changes in patent status.	At any time in the process, but prior to established deadlines	Relevant information and documents (e.g., patent application or patent) must be provided such that a determination to protect government interests can be made. The federal agency sponsor has the option to pursue the patent application or the patent if not being properly pursued or maintained. Any change in status must be reported at least 30 days prior to pending PTO office actions.	401.14(f)(3) 401.6	Indication shall be made via iEdison.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Annual Utilization Report: DTRA requires utilization reporting for all subject inventions that have had title elected or are licensed without a patent. Report includes stage of development, date of first commercial sale or use, number and type of licenses, gross income, licensing to small business, status of U.S. manufacturing and identification of any FDA-approved product names.	Annually	DTRA requires invention utilization reports on a 12 month reporting cycle beginning in the month of grantee choosing and continuing throughout duration of patent. Information requirements defined in iEdison. Note: this reporting requirement, if applicable, extends beyond the grant period.	401 14(h)	Submit electronically using iEdison.
Annual Summary Report of Inventions: Summarize all previously reported subject inventions under this grant.	Annually	Invention reports shall be filed annually due no later than 1 July of each year. Grants effective after 31 January will not require a report until 1 July of the following year. The recipient shall use DD Form 882, Report of Inventions and Subcontracts, to file invention reports. If no inventions occurred during the annual reporting period a negative report must be submitted. --Email Form DD882 to dtrabasicresearch@mail.mil (file size must be less than 10MB). File should be named by the Grant number and "Invention Report" (e.g. HDTRA1-12-1-9999 Invention Report) --The Grant shall not be closed out until all invention reporting requirements are met.	401 5(f)(3)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to: --DTRA Grants Officer, 8725 John J. Kingman Rd., MSC 6201 (#2738), Ft. Belvoir VA 22060-6201 --Administrative Office identified in the Grant --As directed by DTRA, email or portal.
Final Invention Statement and Certification: Report all subject inventions derived or reduced to practice during the performance of the grant.	Due with the Final Technical Report within 90 days after the project ends.	Invention reports shall be filed at the end of the Grant's PoP. If no inventions occurred during the lifetime of the award, a negative report must be submitted. --Email Form DD882 to dtrabasicresearch@mail.mil (file size must be less than 10MB). File should be named by the Grant number and "Invention Report" (e.g. HDTRA1-12-1-9999 Invention Report). --The Grant shall not be closed out until all invention reporting requirements are met.	401 5(f)(1)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to: --DTRA Grants Officer, 8725 John J. Kingman Rd., MSC 6201 (#2738), Ft. Belvoir VA 22060-6201 --Administrative Office identified in the Grant --As directed by DTRA, email or portal

9. Technical Reporting Requirements.

Research Performance Progress Report (RPPR). Except under rare cases, RPPRs are required annually. The RPPR is due no later than 1 July of each year. Grants effective after 31 January will not require a RPPR until 1 July of the following year.

The RPPR is *not* a cumulative report. The first RPPR shall only include actions that occurred from the Period of Performance start date up to submission of the first RPPR. Each subsequent report shall only include actions that occurred during the 12-month period following the previous year's RPPR.

A RPPR is not required in the final year of the award if the period of performance ends within 60 days of the RPPR due date. In this instance the Final Report will satisfy the requirement. Broadly the RPPR shall address the following items:

- Accomplishments
- Products
- Participants and Other Collaborating Organizations
- Impact
- Changes/Problems

Templates and specific instructions will be provided each year in advance of the submission deadline. All files must be submitted via email to dtrabasicresearch@mail.mil (individual file size must be less than 10MB). A copy of the RPPR should also be provided to the Administrative Office identified in the Grant. The file names should be as follows:

- RPPR: Year Annual Report Grant Number, e.g. 2017 Annual Report HDTRA1-12-1-9999.
- Metrics: Year Metrics Grant Number, e.g. 2017 Metrics HDTRA1-12-1-9999.

Quad Chart. An updated quad chart must be submitted annually. A template will be provided each year in advance of the submission deadline. All files must be submitted via email to dtrabasicresearch@mail.mil (individual file size must be less than 10MB). The file name should be as follows:

- Quad Chart: Year Quad Chart Grant Number, e.g. 2017 Quad Chart HDTRA1-12-1-9999.

Annual Technical Review. At least one representative (preferably the PI) for each award is expected to attend and present at an annual technical program review meeting, unless otherwise exempted by DTRA in writing. For planning purposes reviews will typically be for two days in Northern Virginia during the spring or summer months.

Final Technical Report. A comprehensive final technical report is required: the draft document is required forty-five (45) days prior to the end of the Period of Performance and the final document is required ninety (90) days after the expiration or termination of the award.

The purpose of the final report is to document and to transition the results of the effort into the DTRA and DoD applied research community. The final report will always be sent to the Defense Technical Information Center (DTIC) and unclassified reports may be made available to the public through the National Technical Information Service (NTIS).

The final report is more than an extension of previous annual reports. The final report shall be a **comprehensive** technical summary of the significant work accomplished. The final report, where it is not readily accessible in published form should, where applicable:

- Clearly describe and illustrate the experimental equipment, setup, and procedures;
- Characterize and tabulate collected/computed data in an appendix;

- Sufficiently describe computational codes so they can be reproduced. Include a listing of the code in an appendix if possible and appropriate; and
- When the research effort culminates in the production of one or more student theses or dissertations, in these cases, the most significant advancements and conclusions (equations, figures, relationships, etc.) should be included in an executive summary. The theses or dissertations should be attached as appendices only if they are not readily available. If they are, clearly reference them and how they can be obtained. Also include in the executive summary, cumulative lists of people involved in, and publications stemming from, the research effort. Do not include copies of already submitted or published articles in the final report.

Standard Form (SF) 298, Report Documentation Page, must be used. Item 13 of the SF-298 should contain a 100 to 200 word abstract summarizing technical progress during the reporting period. The SF-298 may be found on the Internet at: http://www.gsa.gov/portal/forms/download/116146

All of the report pages should be prepared for acquisition and distribution by DTIC. All of the report pages should be of good quality for copying purposes. No pages should be missing.

The format and standard required by your institution for the preparation of theses and dissertations shall be used for the final report. In the absence of any institutional standards, you may wish to refer to the American National Standards Institute (ANSI) document Z39.18-1987, "Scientific and Technical Reports: Organization, Preparation, and Production," for guidance. The report may be obtained from:

American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

It is anticipated that all final technical reports will be unclassified and that distribution will not be limited. However, for final technical reports that require a limited distribution as deemed necessary by DTRA, a Distribution List will be provided with the comments on the draft final technical report. The Distribution List should be formatted to match the rest of the report, placed at the end of the report, and added to the Table of Contents. The number of pages in the Distribution List should be added to the total page count and included in the total number of pages cited in Block 15 of the SF-298.

The draft of the final technical report will be due not later than forty-five (45) days prior to the end of the period of performance. The draft of the final technical report (including a draft SF-298) must be submitted electronically as follows:

- Email the draft of the final technical report to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be 'Draft Final Report' and the Grant number, e.g. Draft Final Report HDTRA1-12-1-9999.
- Provide a copy of the report to the Administrative Office identified in the Grant.

Within thirty (30) days, this draft will be reviewed by DTRA and comments will be provided to the Grantee to ensure the report complies with DTRA final report requirements. Such review and comment does not restrict the conduct or reporting of the project research

findings/outcomes and, in accordance with Article 35, does not restrict Grantee's ability to publish. Grantee shall incorporate such requested changes so that the report incorporates and complies with agreement final reporting requirements terms. Final Technical Reports are due ninety (90) days after the expiration or termination of the award. The final submission should be made in accordance with the draft final report submission instructions.

Final Metrics. A final metrics table (in MS Excel format) is required. A template and specific instructions will be provided in advance of the submission deadline. The final metrics file should be submitted along with the Final Technical Report. The fields contained in the final metrics file are analogous to those of the annual submissions. The final metrics file shall contain only data from the last annual reporting period until the end of the award's funded Period of Performance.

- Email the final Metrics File to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be 'Final Metrics' and the Grant number, e.g. Final Metrics HDTRA1-12-1-9999.

10. Financial Reporting Requirements.

Federal Financial Reports (SF-425) are due no later than 1 July of each year with data "as of" 30 May of that year. Grants effective after 31 January will not require a Federal Financial Report until 1 July of the following year. All financial reports shall be submitted to the Administration Office identified in Block 6 of the Research Grant. In addition, the Federal Financial Report must be submitted electronically as follows:

- Email the Federal Financial Report to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be the Year, 'Federal Financial Report' and the Grant number, e.g. 2015 Federal Financial Report HDTRA1-12-1-9999.

11. Delegation of Administration Duties.

Certain grant administration duties have been delegated to the Administration Office identified in Block 6 of the Research Grant. These duties are as follows:

1) Provisionally approve all Grant and Cooperative Agreement Vouchers.
2) Perform all property administration services except the approval of recipient's requests to purchase equipment with grant funds. Such approvals must be granted by the DTRA Grants Officer.
3) Perform all plant clearance functions.
4) Approve requests for Registration for Scientific and Technical Information Services (DD Form 1540).
5) Obtain all financial report(s) (see Article 10 of this document).
6) Execute administrative closeout procedures, which include the following:
   a. Obtain the final Report of Inventions and Subcontracts (DD Form 882).
   b. Obtain final payment request, if any.
   c. Obtain final property report and dispose of purchased property and government furnished equipment (GFE) in accordance with the DoDGARs Part 22, Subpart G.
   d. Perform a review of final incurred costs and assist the Grants Officer in resolving exceptions, if any, resulting from questioned costs.
   e. Assure that all refunds due the Government are received by the Grantor.

NOTE: This term and condition is **not applicable** to instrumentation and equipment grant awards.

12. Security.

As a general rule, PI's will not need access to classified security information in the conduct of research supported under this Grant. Should it appear that access to such information is desirable the recipient shall advise the Grantor and request clearance for the investigator. Should information be developed during the course of work under this Grant that, in the judgment of the PI or the recipient, should be classified, the Grants Officer shall be notified immediately.

13. Representations and Assurances.

By accepting funds under this Grant, the recipient assures that it will comply with applicable provisions of the national policies and statutory/regulatory/executive-based requirements detailed below.

LIVE ORGANISMS. By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

1) For human subjects:

   a) Adhere to the requirements for protection of human subjects per the DoD level terms and conditions as well as the following DTRA requirements:
   b) The recipient shall adhere to DTRA local clause 252.223-9002 – Protection of Human Subjects (Aug 2010). The full text of this clause is as follows:

      All research under this grant involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C 980, and DoDD 3216.02, as well as other applicable federal and state regulations. Grantees must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. 980).

      DTRA Directive 3216.01 of June 9, 2010 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research.

      The DTRA directive requires that research using human subjects may not begin or continue until the Defense Threat Reduction Agency's Research Oversight Board (ROB) has reviewed and approved the proposed protocol. Grantees and subcontractors are required to submit a valid federal assurance for their organization

(institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA ROB for its review through the Grants Officer's representative (if assigned) or the Grants Officer. The ROB review is separate from, and in addition to, local IRB review.

A study is considered to involve human research subjects if: 1) there is interaction with the subject (simply talking to the subject qualifies; no needles are required); and 2) if the study involves collection and/or analysis of personal/private information about an individual, or if material used in the study contains links to such information.

Written approval to begin research or subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA ROB, through the Grants Officer. A copy of this approval shall be maintained by both the Grantee and the government. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA ROB for review and approval. Examples of modifications/ amendments to the protocol include but are not limited to:

- a change of the PI;
- changes in duration or intensity of exposure to some stimulus or agent;
- changes in the information requested of volunteers, or changes to the use of specimens or data collected; or
- changes in perceived or measured risks or benefits to volunteers that require changes to the study.

Research pursuant to such modifications or amendments shall not be initiated without IRB and ROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s).

Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. ROB review and approval is required annually. The Grantee or subcontractor must provide documentation of continued IRB review of protocols for ROB review and approval in accordance with these Terms and Conditions. Research must not continue without renewed ROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s).

Non-compliance with any provision of this clause may result in withholding of payments under the grant pursuant to the grant's payments clause(s) and/or grant termination pursuant to the grant's termination clause(s). The government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the ROB.

2) For animals:

   a. Adhere to the requirements for protection of animal subjects per the DoD level terms and conditions as well as the following DTRA requirements:

b. DTRA local clause 252.235-9001 – Prohibition of Use of Laboratory Animals (Jul 2010). The full text of this clause is as follows:

The grant recipient shall obtain approval from the US Army Medical Research and Material Command (MRMC), Animal Care and Use Review Office (ACURO) prior to conducting research on live nonhuman vertebrates. Studies involving non-human primates, dogs, cats, or marine mammals will require a site visit by an ACURO laboratory animal veterinarian as a condition of approval. DoD may also conduct site visits involving research on other animals when deemed appropriate. The animal research facility is responsible for notifying the DoD sponsor if Association for the Assessment and Accreditation of Laboratory Animal Care accreditation is lost or the facility is under USDA inspection. DoD also has the right to a site inspection under these circumstances.

The grant recipient (including subcontractors) is expressly forbidden to use laboratory animals in any manner whatsoever without the express written approval of MRMC ACURO.

The grant recipient shall complete the ACURO Animal Use Appendix for Research Involving Animals found at the following web site: http://mrmc.amedd.army.mil/index.cfm?pageid=research_protections.acuro_animalappendix. Submit the completed ACURO appendix, contact information, the DTRA grant number and a copy of the grant for processing to the email address listed at the ACURO website. Once ACURO approves the effort, the grant recipient will receive written approval to begin animal use from the US Army MRMC ACURO by separate email. The grant recipient shall promptly provide a copy of the approval to the Grants Officer and Grants Officer representative. After approval, changes or protocol amendments must be submitted to and approved by ACURO before implementation.

The grant recipient, or subcontractors as appropriate, shall submit the most recent U.S. Department of Agriculture Animal Care Inspection Report annually in accordance with instructions provided.

Non-compliance with any provision of this clause may result in termination of the grant.

DoD Instruction 3216.01, dated September 13, 2010, provides policy and requirements for the use of animals in DoD-funded research based on Army Regulation 40-33. The DoD definition of animal is any live nonhuman vertebrate. All proposals that involve the use of animals must be in compliance with DoD Instruction 3216.01 and AR 40-33. DTRA requires that research using animals not begin or continue until the ACURO has reviewed and approved the proposed animal use. For animals, the provisions include rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Action of 1966 (U.S.C. 2131-2156); and (ii) the "Guide for the Care and Use of Laboratory Animals," National Institutes of Health Publication No. 86-23

RESEARCH INVOLVING RECOMBINANT DNA MOLECULES. Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses

containing recombinant DNA molecules agrees by acceptance of this award to comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules," July 5, 1994 (59 FR34496) amended August 5, 1994 (59 FR40170) amended April 27, 1995 (60 FR 20726), or such later revision of those guidelines as may be published in the Federal Register.

COMBATING TRAFFICKING IN PERSONS. The recipient agrees to comply with the trafficking in persons requirement in Section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)) as implemented by 2 CFR 175.

1) Provisions applicable to a recipient that is a private entity.

   a. You as the recipient, your employees, sub-recipients under this award, and sub-recipients' employees may not—
      - Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
      - Procure a commercial sex act during the period of time that the award is in effect; or
      - Use forced labor in the performance of the award or subawards under the award.

   b. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a sub-recipient that is a private entity—
      - Is determined to have violated a prohibition in paragraph 1)a. of this award term; or
      - Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph 1)a. of this award term through conduct that is either
        - Associated with performance under this award; or
        - Imputed to you or the sub-recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Non-procurement)," as implemented by our agency at 2 CFR Part 376.

2) Provision applicable to a recipient other than a private entity.

   a. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a sub-recipient that is a private entity—
      - Is determined to have violated an applicable prohibition in paragraph 1)a. of this award term; or
      - Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph 1)a. of this award term through conduct that is either
        - Associated with performance under this award; or
        - Imputed to the sub-recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Government-wide

Debarment and Suspension (Non-procurement)," as implemented by our agency at 2 CFR Part 376.

3) Provisions applicable to any recipient.

   a. You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph 1)a. of this award term.

   b. Our right to terminate unilaterally that is described in paragraph 1)b. or 2)a. of this Article:
      - Implements Section 106(g) of the TVPA, as amended (22 U.S.C. 7104(g)), and
      - Is in addition to all other remedies for noncompliance that are available to us under this award.

   c. You must include the requirements of paragraph 1)a. of this award term in any subaward you make to a private entity.

4) Definitions. For purposes of this award term:

   a. "Employee" means either:
      - An individual employed by you or a sub-recipient who is engaged in the performance of the project or program under this award; or
      - Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

   b. "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

   c. "Private entity":
      - Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.
      - Includes:
        - A non-profit organization, including any non-profit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).
        - A for-profit organization.

   d. "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at Section 103 of the TVPA, as amended (22 U.S.C. 7102).

PROHIBITION ON USING FUNDS UNDER GRANTS AND COOPERATIVE AGREEMENTS WITH ENTITIES THAT REQUIRE CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS. The recipient agrees to comply with the requirements in section 743 of the Financial Services and General Government Appropriations Act, 2015 (Division E of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. 113-235):

1) The recipient may not require its employees, contractors, or sub-recipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting them from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.
2) The recipient must notify its employees, contractors, or sub-recipients that the prohibitions and restrictions of any internal confidentiality agreements inconsistent with paragraph 1) of this award provision are no longer in effect.
3) The prohibition in paragraph 1) of this award provision does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.
4) If the Government determines that the recipient is not in compliance with this award provision, it:
    a. Will prohibit the recipient's use of funds under this award, in accordance with section 743 of Division E of the Consolidated and Further Continuing Resolution Appropriations Act, 2015, (Pub. L. 113-235) or any successor provision of law; and
    b. May pursue other remedies available for the recipient's material failure to comply with award terms and conditions.

14. Data Collection.

Data collection activities, if any, performed under this Grant are the responsibility of the recipient. Awarding agency support of the project does not constitute approval of the survey design, questionnaire content, or data collection procedures. The recipient shall not represent to respondents that such data are being collected for or in association with the awarding agency without the specific written approval of the cognizant awarding agency official. However, this requirement is not intended to preclude mention of the awarding agency support of the project in response to an inquiry or acknowledgment of such support in any publication of this data.

15. Publications and Acknowledgement of Sponsorship.

Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. .

The recipient agrees that in the release of information relating to the grant, such release shall include the following statement, "The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred." For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

When issuing statements, press releases, requests for proposals, bid solicitations, and other documents describing projects or programs funded in whole or in part with federal money, all recipients receiving federal funds, shall clearly state: (i) the percentage of total costs of the

program or project which will be financed with federal money, and (ii) the dollar amount of federal funds for the project or program.

16. Authorization to Perform Activities Abroad.

If the award recipient is a foreign institution, the recipient assures that it has been duly authorized to operate and do business in the country or countries in which the grant is to be performed; that it has obtained all appropriate licenses, permits, and approvals required in connection with the grant's proposed activities; and that it will fully comply with all the laws, decrees, labor standards and regulations of such country or countries during the performance of the grant. U.S. Government funds may not be used in support of a project which is prohibited by law in the country or countries in which it is undertaken. DTRA does not assume responsibility for the recipient's compliance with the laws and regulations of the country or countries in which the activities are to be conducted.

17. Inconsistency between English Version and Translation of Grant.

The foreign recipient shall ensure that all contract correspondence that is addressed to the U.S. Government is submitted in English or with an English translation. In the event of inconsistency between the terms of the grant and any translation thereof into another language, the meaning in the English language shall control.

From: Jon Epstein
To: (b)(6)
Cc: Aleksei Chmura (b)(6) Emma Lane; Armine Arustamyan; Evelyn Luciano
Subject: [Non-DoD Source] Re: FW: HDTRA1-17-1-0037 Inquiry
Date: Wednesday, March 28, 2018 11:56:52 AM

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(6)

We have consulted our implementing partners, and to the best of our knowledge, we do not anticipate incurring the stated level of tax in any upcoming transactions.

Please let me know if you need additional information. Also, please note that the primary administrative contact for this project is Ms. Emma Lane. Future emails should copy her, Dr. Aleksei Chmura and Ms. Evelyn Luciano - all copied here.

Cheers,
Jon

On Tue, Mar 27, 2018 at 7:55 AM, (b)(6) (b)(6) > wrote:

> Good Morning,
>
> I just wanted to follow up to confirm EHA's receipt of the attached letter and e-mail string below. Kindly request EHA's response to the attached letter as soon as possible. Please do not hesitate to reach out with any questions at all.
>
> Thank you and have a wonderful day!
>
> Very Respectfully,
>
> (b)(6) Contractor
> Grant Specialist
> TENICA & Associates LLC
> Defense Threat Reduction Agency
> Office Phone: (b)(6)
> (b)(6)
>
> -----Original Message-----
> From: (b)(6) CTR DTRA ACQ FIN AND LOG (US)
> Sent: Friday, March 23, 2018 10:10 AM
> To: Aleksei Chmura <chmura@ecohealthalliance.org < Caution-mailto:chmura@ecohealthalliance.org > >; 'andre@ecohealthalliance.org < Caution-mailto:andre@ecohealthalliance.org > ' <andre@ecohealthalliance.org < Caution-

mailto:andre@ecohealthalliance.org > >
Cc: (b)(6)
(b)(6)

Subject: FW: HDTRA1-17-1-0037 Inquiry
Importance: High

Greetings,

As a reminder, responses due to the attached letter are requested no later than close of business today, 23 March. Please feel free to contact me with any questions.

Very Respectfully,

(b)(6) Contractor
Grant Specialist
TENICA & Associates LLC
Defense Threat Reduction Agency
Office Phone: (b)(6)
(b)(6)

-----Original Message-----
From: (b)(6) CTR DTRA ACQ FIN AND LOG (US)
Sent: Monday, March 19, 2018 10:52 AM
To: Aleksei Chmura <chmura@ecohealthalliance.org < Caution-mailto:chmura@ecohealthalliance.org > >
Cc: (b)(6)
(b)(6)

Subject: HDTRA1-17-1-0037 Inquiry
Importance: High

Greetings,

At the direction of the Grants Officer, please see the following attachment: Foreign Tax Letter. Please acknowledge receipt of this e-mail and its attachment. Please submit your response no later than Wednesday, March 21, 2018.

Feel free to contact me if you have any questions.

Very Respectfully,

(b)(6) Contractor
Grant Specialist
TENICA & Associates LLC
Defense Threat Reduction Agency
Office Phone: (b)(6)
(b)(6)

--

JonathanH. Epstein DVM, MPH, PhD

Vice President for Science and Outreach

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4467 (direct)
(b)(6) mobile)

web: ecohealthalliance.org < Caution-http://www.ecohealthalliance.org/ >

Twitter:

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00001	24-May-2017	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. (b)(6) 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
CODE 3MMU3 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 14-Apr-2017

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended. ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☒ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not. ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: J3CTB23032A

The purpose of this modification is to correct the payment office by changing it to DFAS-Columbus North HQ0337.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
		(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)
		16C. DATE SIGNED 25-May-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'Payment will be made by' organization has changed from

DFAS COLUMBUS CENTER
DFAS-CO/SOUTH ENTITLEMENT OPERATIONS
P.O. BOX 182317
COLUMBUS OH 43218-2264

to

DFAS COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATIONS
P.O. BOX 182266
COLUMBUS OH 43218-2266

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 5

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	01-Dec-2017	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. DR. JON EPSTEIN 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017
CODE 3MMU3	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
Please see SF 30 Continuation Page

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 27-Nov-2017

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 5

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	01-Dec-2017	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. DR. JON EPSTEIN 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended. ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not. ☒ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
Please see SF 30 Continuation Page

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
Aleksei Chmura, Authorized Organizational Representative	TEL: EMAIL:

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(b)(6) (Signature of person authorized to sign)	**22 Nov 2017**	BY (Signature of Contracting Officer)	

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:
SF 30 CONTINUATION PAGE

RQN: HDTRA1723032 002

The purpose of this modification is to do the following:

1.) Notate and provide acceptance of the EHA's revised budget of $4,065,665.00.
2.) Increase the award amount by $154,246.95 to reflect the budget increasing from $3,911,418.05 to $4,065,665.00.
3.) Provide additional funding to CLIN 0001 in the amount of $156,044.00 to subCLIN 000103, ACRN AC.
4.) Correct and update the Grant Funding Profile and Invoice Schedule.
5.) Update the Grant Points of Contact.
6.) Update the Issuing and Payment Offices.

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $91,758.55 from $2,408,373.45 to $2,500,132.00.
The 'issued by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201
to
DEFENSE THREAT REDUCTION AGENCY/AL-AC
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

The 'Payment will be made by' organization has changed from
DFAS COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATIONS
P.O. BOX 182266
COLUMBUS OH 43218-2266
to
DFAS COLUMBUS CENTER
DFAS-CO/NORTH ENTITLEMENT OPERATIONS
P.O. BOX 182317
COLUMBUS OH 43218-2317

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0001
The CLIN description has changed from FRBAA14-6-2-0050_R: Base Year to FRBAA14-6-2-0050_R: Three Year Base.

The estimated/max cost has increased by $91,758.55 from $2,408,373.45 to $2,500,132.00.
The total cost of this line item has increased by $91,758.55 from $2,408,373.45 to $2,500,132.00.

CLIN 0002

The estimated/max cost has increased by $33,355.07 from $767,080.93 to $800,436.00.
The total cost of this line item has increased by $33,355.07 from $767,080.93 to $800,436.00.

CLIN 0003

The estimated/max cost has increased by $29,134.33 from $735,963.67 to $765,098.00.
The total cost of this line item has increased by $29,134.33 from $735,963.67 to $765,098.00.

SUBCLIN 000103 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000103					$0.00
	Incremental Funding COST Incremental funding in the amount of $156,044.00.				
				ESTIMATED COST	$0.00
	ACRN AC				$156,044.00
	CIN: HDTRA17230320020003				

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000103:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $156,044.00 from $766,817.00 to $922,861.00.

SUBCLIN 000103:
Funding on SUBCLIN 000103 is initiated as follows:

ACRN: AC

CIN: HDTRA17230320020003

Acctng Data: 044315 097 0134 000 N 20162018 D 34HQ 0901515BR_KD_BP_OT 1618_0134_34HQ_SCNCT DTRA 410

Increase: $156,044.00

Total: $156,044.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name (b)(6)
Defense Threat Reduction Agency/J4CO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. Grantee Business Office:
Name: Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Jonathan H Epstein
Title: Associate Vice President, Conservation
Phone: (212) 380-4467
E-mail: epstein@ecohealthalliance.org

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $922,861.00 is obligated for work to be performed during the period beginning with grant award and continuing through April 30th, 2018. Additional incremental funding planned, but not obligated, is:

Year 1 (FY17-18) $0.00
Year 2 (FY18-19) $833,274.00
Year 3 (FY19-20) $743,997.00

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	INVOICE DATE	PAYMENT
1	August 01, 2017	$76,905.08

2	September 01, 2017	$76,905.08
3	October 01, 2017	$76,905.08
4	November 01, 2017	$76,905.08
5	December 01, 2017	$76,905.08
6	January 01, 2018	$76,905.08
7	February 01, 2018	$76,905.08
8	March 01, 2018	$76,905.08
9	April 01, 2018	$76,905.08
10	May 01, 2018	$76,905.08
11	June 01, 2018	$76,905.08
12	July 01, 2018	$76,905.12

**The amounts listed are estimates; invoices should be submitted for actual cost incurred.

The following have been deleted:

252.232-7007
252.232-7007

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 7

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003	25-May-2018	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1723032 03

The purpose of this modification is to:
1. Notate and provide acceptance of the overall revised budget of $4,115,665.00.
2. Increase the award amount by $50,000.00 to reflect the budget increasing from $4,065,665.00 to $4,115,665.00.
3. Provide funding in the amount of $408,006.00 on subCLIN 000103 in support of Year 2 activities on CLIN 0001.
4. Provide funding in the amount of $475,268.00 on subCLIN 000104 in support of Year 2 activities on CLIN 0001.
5. Update the invoice schedule and Grant Officer's Representative (GOR).
6. Update the Terms and Conditions.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
		(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)
		16C. DATE SIGNED 25-May-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $50,000.00 from $2,500,132.00 to $2,550,132.00.
The 'issued by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/AL-AC
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201
to
DEFENSE THREAT REDUCTION AGENCY/AL-ACO
8725 JOHN J.KINGMAN RD
FT BELVOIR VA 22060-6201

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0001
The CLIN extended description has changed from:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.

To:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 6 April 2018 at Exhibit B.

.

The estimated/max cost has increased by $50,000.00 from $2,500,132.00 to $2,550,132.00.
The total cost of this line item has increased by $50,000.00 from $2,500,132.00 to $2,550,132.00.

SUBCLIN 000103
The CLIN extended description has changed from:

Incremental funding in the amount of $156,044.00.

To:

Incremental funding in the amount of $564,050.00.

.

CLIN 0002

The CLIN extended description has changed from:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.

To:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 6 April 2018 at Exhibit B.

.

CLIN 0003

The CLIN extended description has changed from:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.

To:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 6 April 2018 at Exhibit B.

.

SUBCLIN 000104 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000104					$0.00
	Incremental Funding COST Incremental funding in the amount of $883,274.00.				
				ESTIMATED COST	$0.00
	ACRN AD CIN: HDTRA172303203000104				$475,268.00

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000104:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $883,274.00 from $922,861.00 to $1,806,135.00.

SUBCLIN 000103:

AC: 044315 097 0134 000 N 20162018 D 34HQ 0901515BR_KD_BP_OT 1618_0134_34HQ_SCNCT DTRA 410 (CIN HDTRA17230320020003) was increased by $408,006.00 from $156,044.00 to $564,050.00

SUBCLIN 000104:
Funding on SUBCLIN 000104 is initiated as follows:

ACRN: AD

CIN: HDTRA172303203000104

Acctng Data: 044315 097 0134 000 N 20172019 D 34HQ 0901515BR KD BP2 OT 1719 0134 34HQ SCNCT DTRA 410

Increase: $475,268.00

Total: $475,268.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4CO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. Grantee Business Office:
Name: Alekscl Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Jonathan H Epstein
Title: Associate Vice President, Conservation
Phone: (212) 380-4467
E-mail: epstein@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/PI-CTB
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $1,806,135.00 is obligated for work to be performed during the period beginning with grant award and continuing through April 30th, 2019. Additional incremental funding planned, but not obligated, is:

Year 3 (FY19-20) $743,997.00

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	INVOICE DATE	PAYMENT*
1	May 31, 2018	$73,606.17
2	June 30, 2018	$73,606.17
3	July 31, 2018	$73,606.17
4	August 31, 2018	$73,606.17
5	September 30, 2018	$73,606.17
6	October 31, 2018	$73,606.17
7	November 30, 2018	$73,606.17
8	December 31, 2018	$73,606.17
9	January 31, 2019	$73,606.16
10	February 28, 2019	$73,606.16
11	March 31, 2019	$73,606.16
12	April 30, 2019	$73,606.16

*The amounts listed above are estimates; invoices should be submitted for actual costs incurred.

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	8	01-MAY-2016
Exhibit B	DTRA Terms and Conditions	17	31-OCT-2016

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	8	01-MAY-2016
Exhibit B	DTRA Terms and Conditions	18	06-APR-2018

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 6

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00004	04-Apr-2019	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017
CODE 3MMU3	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Grant Terms & Conditions for 10a. All other terms and condition remain unchanged

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(6)

The purpose of this modifiation is to Incrementally fund HDTRA1-17-1-0037 to EcoHealth Alliance grant "Serological Biosurveillance for Spillover of Henipavirusese and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia" in the amount of $743,997.00

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 04-Apr-2019

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000105 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000105					$0.00
	Incremental Funding COST Incremental Funding in the amount of 743,997.00				
				ESTIMATED COST	$0.00
	ACRN AE CIN: HDTRA17230320006				$743,997.00

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000105:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2017 TO 30-APR-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE

POP 01-MAY-2017 TO 30-APR-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-BT (b)(6) 8275 JOHN J. KINGMAN RD #6201 FORT BELVOIR VA 22060 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0002 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2020 TO 30-APR-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2020 TO 30-APR-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-BT (b)(6) 8275 JOHN J. KINGMAN RD #6201 FORT BELVOIR VA 22060 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2021 TO 30-APR-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE

POP 01-MAY-2021 TO 30-APR-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-BT (b)(6) 8725 JOHN J. KINGMAN RD #6201 FORT BELVOIR VA 22060 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $743,997.00 from $1,806,135.00 to $2,550,132.00.

SUBCLIN 000105:
Funding on SUBCLIN 000105 is initiated as follows:

ACRN: AE

CIN: HDTRA17230320006

Acctng Data: 044315 097 0134 000 N 20192021 D 3400 0901515BR_KD_BP_TB_19 1921_0134_3400_SCNCT DTRA 410

Increase: $743,997.00

Total: $743,997.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name (b)(6)
Defense Threat Reduction Agency/J4CO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Jonathan H Epstein
Title: Associate Vice President, Conservation
Phone: (212) 380-4467
E-mail: epstein@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/PI-CTB
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $2,550,132.00 is obligated for work to be performed during the period beginning with grant award and continuing through April 30th, 2020.

We are currently incrementally funding CLIN 1 in the amount of $743,997.00.

CLIN 1 is now fully funded.

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	INVOICE DATE	PAYMENT*
1	May 31, 2019	$61,999.75
2	June 30, 2019	$61,999.75
3	July 31, 2019	$61,999.75
4	August 31, 2019	$61,999.75
5	September 30, 2019	$61,999.75
6	October 31, 2019	$61,999.75
7	November 30, 2019	$61,999.75
8	December 31, 2019	$61,999.75
9	January 31, 2020	$61,999.75
10	February 28, 2020	$61,999.75
11	March 31, 2020	$61,999.75
12	April 30, 2020	$61,999.75

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00005	11-Apr-2019	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017
CODE 3MMU3	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
Change Task 5 in the SOW.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 11-Apr-2019

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	8	01-MAY-2016
Exhibit B	DTRA Terms and Conditions	18	06-APR-2018

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	8	11-APR-2019
Exhibit B	DTRA Terms and Conditions	18	06-APR-2018

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 6

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00006	23-Mar-2020	J3CTB23032	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710037
	X	10B. DATED (SEE ITEM 13) 14-Apr-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
DTRA Terms and Conditions for Grants Awards, Section 5

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(6)

The purpose of this modification is to:

1. Combine the scope and value from Option CLINs 0002 and 0003 into base CLIN 0001.
2. Extend the POP of CLIN 0001 from 4/30/20 to 4/30/22 at no additional cost to the Government.
3. Update the Grant POC.
4. Update the grant funding profile and invoice schedule.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	23-Mar-2020

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $1,565,534.00 from $2,550,132.00 to $4,115,666.00.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0001

The estimated/max cost has increased by $1,565,534.00 from $2,550,132.00 to $4,115,666.00.
The total cost of this line item has increased by $1,565,534.00 from $2,550,132.00 to $4,115,666.00.

CLIN 0002

The CLIN extended description has changed from:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 6 April 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0002 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

.

The estimated/max cost has decreased by $800,436.00 from $800,436.00 to $0.00.
The total cost of this line item has decreased by $800,436.00 from $800,436.00 to $0.00.

CLIN 0003

The CLIN extended description has changed from:

Serological Biosurveillance for Spillover of Henipaviruses and Filoviruses at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia.In accordance with the following attachments: SOW at Exhibit A and DTRA Terms and Conditions for Grant Awards dated 6 April 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0003 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

.

The estimated/max cost has decreased by $765,098.00 from $765,098.00 to $0.00.
The total cost of this line item has decreased by $765,098.00 from $765,098.00 to $0.00.

SUBCLIN 000106 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000106					$0.00
	Funding in support of CLIN 0001 COST				
				ESTIMATED COST	
	ACRN AF CIN: HDTRA10342010001				$1,565,534.00

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000106:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2017 TO 30-APR-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-BT (b)(6) 8275 JOHN J. KINGMAN RD #6201 FORT BELVOIR VA 22060 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 01-MAY-2017 TO 30-APR-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-BT (b)(6) 8275 JOHN J. KINGMAN RD #6201 FORT BELVOIR VA 22060 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $1,565,534.00 from $2,550,132.00 to $4,115,666.00.

SUBCLIN 000106:
Funding on SUBCLIN 000106 is initiated as follows:

ACRN: AF

CIN: HDTRA10342010001

Acctng Data: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410

Increase: $1,565,534.00

Total: $1,565,534.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4CO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. Grantee Business Office:
Name: Alekscl Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Jonathan H Epstein
Title: Associate Vice President, Conservation
Phone: (212) 380-4467
E-mail: epstein@ecohealthalliance.org

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $4,115,666.00 is obligated for work to be performed during the period beginning with grant award and continuing through April 30th, 2022.

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	INVOICE DATE	PAYMENT
1	May 31, 2019	$61,999.75
2	June 30, 2019	$61,999.75
3	July 31, 2019	$61,999.75
4	August 31, 2019	$61,999.75
5	September 30, 2019	$61,999.75
6	October 31, 2019	$61,999.75
7	November 30, 2019	$61,999.75
8	December 31, 2019	$61,999.75
9	January 31, 2020	$61,999.75
10	February 28, 2020	$61,999.75
11	March 31, 2020	$61,999.75
12	April 30, 2020	$61,999.75
13	31-May-20	$65,231.66
14	30-Jun-20	$65,230.58
15	31-Jul-20	$65,230.58
16	31-Aug-20	$65,230.58
17	30-Sep-20	$65,230.58
18	31-Oct-20	$65,230.58
19	30-Nov-20	$65,230.58
20	31-Dec-20	$65,230.58
21	31-Jan-21	$65,230.58
22	28-Feb-21	$65,230.58
23	31-Mar-21	$65,230.58
24	30-Apr-21	$65,230.58
25	31-May-21	$65,230.58
26	30-Jun-21	$65,230.58
27	31-Jul-21	$65,230.58
28	31-Aug-21	$65,230.58
29	30-Sep-21	$65,230.58
30	31-Oct-21	$65,230.58
31	30-Nov-21	$65,230.58
32	31-Dec-21	$65,230.58
33	31-Jan-22	$65,230.58
34	28-Feb-22	$65,230.58
35	31-Mar-22	$65,230.58

36	30-Apr-22	$65,230.58

(End of Summary of Changes)

Serological Biosurveillance for Spillover of *Henipaviruses* and *Filoviruses* at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia / Epstein
CBEP-Thrust Area 6, CC WMD

Statement of Work

Project Title: Serological Biosurveillance for Spillover of *Henipaviruses* and *Filoviruses* at Agricultural and Hunting Human-Animal Interfaces in Peninsular Malaysia

Document Date: April 11 2019

Objective: The objective of this project is to enhance capacity within the Malaysia government to characterize the distribution of and detect spillover of novel and known henipaviruses and filoviruses, (both groups include high consequence zoonotic pathogens) in indigenous populations and farms in Peninsular Malaysia. Current surveillance strategies for novel zoonotic viruses rely exclusively on molecular detection tools, but Nipah and Ebola viruses are present at low prevalence in bat species which makes infected individuals difficult to detect. By establishing a multiplexed serological assay developed to detect antibodies against any henipa- and filoviruses, the Government of Malaysia (GoM) will more effectively be able to determine the distribution of these high-impact viruses in wildlife reservoirs and detect evidence of spillover in at-risk human or livestock populations. This enhancement of human and animal surveillance in all three sectors (wildlife, livestock and human health) and training of Malaysian scientists utilizes a One Health approach and will help reduce risk of zoonotic disease emergence and spread by accelerating detection and response. These activities fulfill DTRA CBEP's mandate and are also complementary to and supportive of the aims of the USAID EPT program and the Global Health Security Agenda.

Scope: This research includes transferring state-of-the art serological reagents and Luminex-based microsphere beaded technology that will allow the Government of Malaysia to use a One Health approach to conduct serological surveillance for all known *and unknown* henipaviruses and filoviruses in wildlife, domestic animals, and humans. The study will test archived human and wildlife serum samples which are linked to PCR-tested oral, rectal, or urogenital swab samples (collected and tested under the ongoing USAID Emerging Pandemic Threats: PREDICT program and a University of Malaya study of Orang Asli healthy populations and acutely febrile hospital cases). It will also conduct a new study looking at henipa- and filovirus antibodies in livestock and farm workers and wildlife near the farms, as well as an expanded Orang Asli study focused on hunting communities living in the forest. The grantee will investigate spillover of these pathogens by screening wildlife reservoirs (e.g. bats and nonhuman primates), people, and livestock for IgG antibodies to henipaviruses and filoviruses, while also continuing to develop and transfer additional tests that will detect antibodies against novel viruses in these groups.

Our team will focus on the following major goals and milestones:

1. Improve the Government of Malaysia's capacity to conduct serological surveillance for henipaviruses and filoviruses in human and animal populations, using a One Health approach.
    - Transfer Luminex-based technology into government and university diagnostic labs in three key sectors (wildlife, livestock, and human health); conduct trainings for staff to be able to screen samples, interpret results, and perform confirmatory assays; train local graduate students; and publish and share findings among GoM partners.
2. Determine the host distribution and seroprevalence of henipaviruses and filoviruses in wildlife (e.g. bat) populations in Peninsular Malaysia associated with Orang Asli communities and livestock farms.

- Conduct cross-sectional serological studies of humans and animals for henipa- and filoviruses by testing sera from new samples collected under this project and archived samples from PREDICT. Wildlife sampling will be conducted jointly with the Dept. of Wildlife and National Parks (DWNP); livestock sampling with DVS and UPM; and human sampling with MoH. These activities provide opportunity for One Health-based disease surveillance; threat reduction; and capacity building within the Government of Malaysia.

3. Conduct surveillance for IgG antibodies against filoviruses and henipaviruses in people and domestic animals which may indicate spillover from wildlife reservoirs. Sampling activities will focus on Orang Asli communities and farms in Peninsular Malaysia and will be conducted jointly with the Ministry of Health's National Public Health Laboratory (NPHL), DWNP, and the University Putra Malaysia under the Department of Veterinary Services (DVS). Serological surveillance will allow the GoM to focus limited resources and develop interventions to reduce threat from viral outbreaks in at-risk animal and human populations.

- Qualitative studies (e.g. questionnaires) detailing human-animal contact where sampling occurs will characterize high-risk behaviors and interfaces;
- Sampling human, wildlife, and domestic animal populations in Orang Asli forest communities that practice hunting.
- Sampling domestic animals and farm workers on large and small-scale farms and associated wildlife to identify evidence of spillover.

Our research will be focused on building capacity within the Government of Malaysia to conduct serological surveillance in human and animal populations in Peninsular Malaysia where people and animals are believed to have high levels of contact. Collaborators from the Government of Malaysia (GoM)'s Department of Wildlife and National Parks (DWNP), the Ministry of Health's National Public Health Laboratory (NPHL), the Department of Veterinary Service's University Putra Malaysia (UPM), University of Malaysia (UM), The Uniformed Services University, Maryland (USU), Conservation Medicine, Ltd. (CM), The US Navy Medical Research Center, Asia (NMRC-A), and Duke-NUS Graduate Medical School, Singapore (b)(6) ab) will play active roles in this research. EHA's history of successful collaboration with DWNP, MoH, and DVS under prior research projects and most recently through PREDICT, as well as having a Memorandum of Agreement with the aforementioned institutions, gives us confidence that we will be able to achieve the aims of this proposal (also see letters of collaboration).

The duration of the proposed project is three years, with optional 4th and 5th years containing follow-up Orang Asli studies and farm studies so that we have longitudinal data. These option years will significantly strengthen the overall study by enhancing our ability to detect temporal patterns of infection in bat and other animal populations as well as additional opportunity to detect spillover in humans or livestock. **Through these proposed activities we would create enhanced One Health surveillance for known *and novel* henipaviruses and filoviruses in human and animal populations in Peninsular Malaysia, an emerging disease hotspot.** The proposed activities would significantly support Malaysia's surveillance priorities, DTRA CBEP Thrust Area 6 objectives, the Global Health Security Agenda (GHSA), and the USAID Emerging Pandemic Threats program by allowing the Government of Malaysia to more rapidly detect infections of high impact zoonotic agents and develop effective interventions to prevent viral

outbreaks and reduce human and animal mortality, thereby reducing the threat from these high consequence viral agents.

Background:

Nipah virus (NiV), Ebola virus (EBOV) and Marburg Virus (MARV) are emerging zoonotic viruses belonging to the genera *Henipavirus* (Family *Paramyxoviridae*), *Ebolavirus* and *Marburgvirus* (both Family *Filoviridae*) and they have each caused outbreaks in people with high mortality rate. These viruses are listed as a select agents by HHS and USDA as pathogens of significant threat to both human and animal health. Nipah virus (NiV) is a zoonotic paramyxovirus (genus *Henipavirus*) with pandemic potential that first emerged on a pig farm in Malaysia in 1997 and led to a human outbreak with more than 260 cases and 40% mortality. Old world frugivorous bats, particularly Genus *Pteropus* (Family *Pteropodidae*), are natural reservoirs for a range of henipaviruses, including Nipah virus. Filoviruses circulate both in Africa and Southeast Asia, and have also been linked to bat reservoirs. In Africa, EBOV and Sudan virus (SUDV) have caused multiple human outbreaks with mean mortality rates between 50% and 90%. The current EBOV outbreak in West Africa, by far the largest Ebola epidemic in history, has had more than 28,600 cases, primarily in Sierra Leone, Guinea, and Liberia, with a mortality rate of 40%. The outbreak in West Africa has prompted the Government of Malaysia to determine whether filoviruses are circulating in bat species resident in Peninsular Malaysia. Malaysia's experience with Nipah virus, existing technical expertise, and its current commitment to using a One Health approach to disease surveillance (e.g. surveillance for novel zoonoses under PREDICT in all three sectors: wildlife, livestock, and human health) make it an ideal place to establish an advanced serological platform for detection of henipavirus and filovirus antibodies in wildlife and at-risk livestock and human populations.

Preliminary data: Serological studies of Nipah virus and Ebola virus using the Luminex-based platform. Studies conducted by our group have shown that NiV viral prevalence in pteropid bats is low (~1%-3%) and there is temporal variation to shedding. Mean seroprevalence in *P. vampyrus*, which is found across Peninsular Malaysia was 32% (n=253; range 16.7% - 42.4%). In Bangladesh, we conducted a 6-year longitudinal study of *Pteropus giganteus* using the Luminex-based platform to screen bats for IgG antibodies against both Nipah virus and Ebola virus Zaire. Between 20% and 80% of adult *Pteropus giganteus* were NiV seropositive, while between 20% and 50% were EBOV seropositive (Epstein et al, *in prep*). Nipah virus infections appear to peak in June/July while EBOV appears to peak in December (see also Project Narrative). We found a diversity of genetic strains of Nipah virus in *P. giganteus* (Epstein et al., *in prep*), and viruses which are NiV-like but distinct henipaviruses. Non-neutralizing antibodies against NiV-like viruses found in goats, cattle, and pigs in Bangladesh suggests that spillover from bats to domestic animals occurs and that there is a broad spectrum of henipaviruses circulating in bats. RESTV RNA was recently identified by our group in *Mineopterus schreibersii,* a common insectivorous bat. We also detected RESTV antibodies in two fruit bat species: *Cynopterus brachyotis* and *Pteropus vampyrus:* the latter is a NiV reservoir. In Bangladesh, we found antibodies against EBOV and RESTV in 3.5% of *Rousettus leschenaultii* (n=141). *M. schreibersii*, *R. leschenaultii,* and two *Pteropus* species, including *P. vampyrus* all occur in Malaysia, yet there is no data available regarding filoviruses in wildlife in Malaysia. The possibility that multiple henipaviruses or filoviruses capable of infecting people or livestock

to be circulating in bats in Malaysia makes enhanced surveillance and early detection of these high consequence viruses critically important for reducing their threat to public health.

PREDICT

Between 2009 and 2015, EHA, CM, and the Department of Wildlife and National Parks (DWNP) have collected and archived samples, including serum, from more than 1,400, animals including bats, rodents, and macaques – all from areas where people and wildlife come into contact. While oropharyngeal, urogenital, and rectal swab samples have been or will be screened using PCR assays for viral families (including paramyxoviruses and filoviruses), corresponding sera remain archived (and untested) and will be made available for this project to test them using the Luminex-based assay.

University Malaya study of acutely ill Orang Asli patients.

We will also have access to archived and newly collected Orang Asli samples collected from acutely febrile patients at Gombak Hospital that serves the Orang Asli communities, under a separate ongoing disease study at the University of Malaya (Prof. (b)(6)) and NMRC-A (Co-PI (b)(6)). This study just received renewed funding to continue sampling febrile patients and expand to sample asymptomatic Orang Asli from communities across a land-use gradient, which will include individuals without animal exposure. Under this proposal we will screen sera collected from well characterized Orang Asli patients and community members using the Luminex-based platform.

Key references (Further references are available in the Project Narrative):

Luby, S.P., The pandemic potential of Nipah virus. *Antiviral Research*, 2013. 100(1): p. 38-43.

Olival, K.J. and D.T.S. Hayman, Filoviruses in Bats: Current Knowledge and Future Directions. *Viruses*-Basel, 2014. 6(4): p. 1759-1788.

Sarah I. Jayme, et al., Molecular evidence of Ebola Reston virus infection in Philippine bats. *Virology Journal*, 2015. 12(107): p. 1-8.

Sohayati A. Rahman, et al. Risk Factors for Nipah Virus Infection among Pteropid Bats, Peninsular Malaysia. *Emer. Infect. Dis.*, 2013. DOI: 10.3201/eid1901.120221.

***Tasks/Scientific Goals:* (Format: Year #(s). Task #. Sub-task#)**

Task 1: (Year 1-OY5). Enhance capacity within Malaysia to conduct serological surveillance for henipa- and filoviruses. The GoM has been engaged in using a One-Health approach to zoonotic disease surveillance since the NiV outbreak in 1998 and most recently via collaborations with EHA under PREDICT. However, current GoM and PREDICT surveillance activities in humans, wildlife and domestic animals are based on broad molecular assays designed to identify novel viruses (including henipaviruses and filoviruses). One of the challenges with this approach is that Nipah, Ebola, and related viruses tend to be acute and asymptomatic infections in bats, making detection of viral RNA challenging. IgG antibodies,

however, persist in bats (as well as people and livestock), reducing the sampling effort necessary to identify exposed or infected individuals in a population and also allowing for detection of asymptomatic carriers. Adding a serological component to existing surveillance will greatly enhance the government's ability to detect both known and unknown henipa- and filoviruses in wildlife, domestic animals and human populations at risk for spillover. To establish this capacity, we will provide a BioRad Bio-Plex 200 machine with computer console to NPHL and DWNP. We will provide all reagents for henipa- and filovirus assays. Following Bio-Plex installation, we will conduct a 10-day training course for lab technicians at DWNP and another at NPHL. UM has a Luminex machine and will receive assay reagents and lab staff will participate in one of the training workshops. 1 PhD student at USU will develop additional assay reagents in Y1-OY5. We will identify *either* 1 PhD or 2 Masters' students at UM and 1 PhD student at UPM to train under this project. We will provide additional training to technical staff from GoM partner labs in viral pseudo-type assay development at USU. The grantee shall:

1.1.1. Transfer BioRad Bio-Plex 200 to NPHL and DWNP labs;

1.1.2-2.1.2. Transfer Luminex-based filovirus and henipavirus reagents to DWNP, NPHL, and UM labs; the grantee will provide a BioRad Bio-Plex 200 to UPM and conduct a 10-day training workshop in Y2.

1.1.3.-2.1.3 Train lab staff to use Luminex-based assays

1.1.4- OY5.1.4 Supervise 1 UM PhD or 2 Masters' students (Y1-3), and 1 UPM PhD student

1.1.5-OY5.1.5 Convene the Science Advisory Group (annually in KL);

1.1.6-2.1.6 Develop a database for serology results and sample metadata; establish sample repository at partner labs.

Task 2. (Y1-OY5) Develop and validate Luminex-based reagents to detect henipa- and filovirus antibodies. At USU, we will engineer soluble and secreted versions of henipa- and filovirus glycoproteins, expressed in mammalian cell culture systems to accurately reflect proper synthesis including their assembly and processing into properly glycosylated higher order complexes. Constructs will be designed and tested in pilot experiments for expression and analysis, and then used to establish stably expressing cell lines. Preparative amounts of the various soluble viral glycoproteins will be made using serum-free culture conditions in suspension culture, and proteins are purified using the appropriate tag protocol (either S-tag or double strep tag (TST)) by affinity chromatography, followed by concentration and size exclusion chromatography. We will test the utility of each individual glycoprotein by Luminex, ELISA and Western blotting then provide all necessary reagents to partner labs to accomplish the testing under this project. The grantee shall:

1.2.1-2.2.1 produce Mojaing virus (MojV) and African GH-M74a G glycoproteins; Bundibugyo virus (BDBV), Tai Forest virus (TAFV), Lloviu virus (LLOV), MARV Ravn, SUDV, SUDV GpΔmucin, RESTV (monkey), and RESTV (porcine) Gp glycoproteins.

1.2.2-3.2.2 use the completed viral glycoprotein preparations and produce polyclonal rabbit serum to each individual glycoprotein; test the utility of each individual glycoprotein by Luminex-based, ELISA and Western blotting assays;

1.2.3 Provide N protein reagents to detect novel henipa- and filoviruses to partner labs.

1.2.4-OY5.2.4: If novel henipa- or filoviruses are detected using molecular assays (under

PREDICT), grantee may develop new reagents for antibodies against these viruses and negative sera will be re-screened.

Task 3. Screen archived serum samples from wildlife and Orang Asli for henipa- and filovirus antibodies using a Luminex-based platform (Y1-Y2). Grantee shall test up to 945 macaque and 175 bat archived serum samples collected under PREDICT and stored at DWNP, and up to 300 archived Orang Asli samples stored at NPHL, and up to 200 Orang Asli samples at UM. The number of samples will depend on available serum volume and quality. Results will be used to inform the Orang Asli and farm studies described in **Tasks 4 and 5**. Positive sera may be sent for confirmatory testing at USU using pseudovirus serum neutralization assays, ELISA, or Western blot. Results shall be entered into a database and shared with GoM partners.

1.3.1 Identify suitable archived animal and human sera;
1.3.2 Screen sera for henipa- and filovirus IgG antibodies at GoM and UM partner labs;
1.3.3 Confirm positive results using western blot or pseudovirus assay;
1.3.4 Enter results into database and analyze;
1.3.5-2.3.5 share results with partners.

Task 4. Serological survey of Orang Asli who hunt, wildlife, and peri-domestic animals. (Y1-OY5). Indigenous communities living in forested areas and that practice subsistence wildlife hunting are at higher risk of exposure to zoonotic viruses due to handling and butchering wildlife and therefore contact with bodily fluids. In **Y1** of this project, we will apply for IRB ethical approval to continue and expand from a pilot study currently underway (expected completion: Oct 2016). Pending IRB and IACUC approval, CM, MoH, and DWNP will work together in **Y1-Y2** to sample 100 individuals from each of 3 Orang Asli communities in Perak State (incl. Kuala Lipis and Gua Musang), **totaling 600 human blood samples over five years**. 100 people sampled per community will allow us to detect a seropositive individual with 95% confidence at a prevalence of 3%, assuming a population of 500 individuals. We will also aim to sample blood from 50 bats per each of 3 species around each study village (e.g. *Miniopterus*, *Pteropus*, and *Rousettus* spp); 30 nonhuman primates; and 30 dogs, if present, in order to be able to detect henipa- or filovirus antibodies in an individual with 95% confidence given a 5% seroprevalence (in bats) and 10% in dogs and nonhuman primates. MOH officers and CM will collect blood from Orang Asli and associated animals, and serum will be separated either in the field or at partner labs and stored at -86C at prior to testing. A sample size of 50 bats would allow us to detect differences between study locations (or time points, should we conduct follow-up studies) of 56% with 95% confidence and 80% precision. The grantee shall conduct repeated sampling of Orang Asli and peri-domestic livestock and wildlife in the same communities in Y3-OY4. If novel henipa or filoviruses identified by PREDICT, new assays will be developed in OY4 and negative samples re-tested. Molecular and serological data from Orang Asli will be co-analyzed in OY4-OY5. In addition, we will test sera collected through an ongoing UM study of Orang Asli. Up to 500 samples per year will be collected Y1-OY5, and these will be tested using the Luminex-based platform at UM. Positive samples will be confirmed at UM or USU.

<u>The grantee shall:</u>

1.4.1.-OY5.4.1 Test Orang Asli, wildlife, and peri-domestic animal samples collected under PREDICT and UM studies
1.4.2-2.4.2, Y3.4.2, OY4.4.2-OY5.4.2. Enter results into database and analyze data;
1.4.3 – 2.4.3, Y3.4.3, OY4.4.3 Confirm sero-positive samples;

1.4.4. Develop follow-up study with GoM partners to be implemented in Y3.
2.4.5 Apply for IRB and permits for follow-up study
3.4.6 Implement repeated sampling in Orang Asli villages
3.4.7 Analyze longitudinal data
OY4.4.1. If new viruses found by PREDICT, develop new sero assay and re-test samples
OY4.4.2.-OY5.4.2 Confirm additional test results and co-analyze molecular and sero data

Task 5. Develop serological and molecular virology study of farm workers, livestock, and wildlife around farms. (Y1-OY5) Grantee shall conduct a serological and molecular virology survey of farm workers and animals living on or around 2 large-scale farms (>5000 ruminants and/or pigs) and 2 small-scale farms (500-1000 ruminants and/or pigs) in Peninsular Malaysia to detect exposure to and presence of henipa- or filoviruses. Grantee shall work with DWNP to sample bats, macaques and dogs proximal to farms; and with MoH to conduct qualitative research and collect blood samples from farm workers to screen for henipa- and filovirus antibodies. Sample collection from animals and humans will also include two duplicate nasal or oropharyngeal swabs, fecal samples (animals only), and urine samples (animals only) for PCR analysis, utilizing a pan-henipavirus and panfilovirus assay developed under the PREDICT project. Grantee will work with UPM to sample and test livestock. In Y1 grantee will select appropriately sized farms. Grantee shall also locate bat caves or roosts proximal to each farm, meet farm owners, and characterize the livestock. Grantee shall apply for all necessary IRB and IACUC approvals. Grantee may commence sampling in Y2, pending approvals, and conduct a follow-up study in OY4 and OY5 (if funded). The grantee shall:

1.5.1 Meet with GoM partners to develop study;
1.5.2 Apply for ethical approvals and permits.
1.5.3. Conduct scoping visits to farms, characterize livestock and local wildlife species.
2.5.1-3.5.1 Collect wildlife, livestock, and human samples
2.5.2-3.5.2 Conduct questionnaires with farm workers
2.5.3-3.5.3 Screen samples using Luminex-based assay and PCR; confirm results
2.5.4-3.5.4 Enter data into database and analyze results
OY4.5.1-5.5.1 Repeat human, wildlife and livestock sampling at each farm
OY4.5.2-OY5.5.2 Test samples, enter results into database; analyze complete dataset
OY5.5.3 prepare manuscript based on (Y1-OY5) study

Task 6. Disseminate reports to relevant stakeholders (Y1-OY5). Grantee shall synthesize all data collected through the projects described above as well as capacity building activities in Malaysia. Scientific and general reports will be generated and provided to GoM partners and an annual report to DTRA. PhD or Masters' students will complete thesis and present at annual stakeholders meeting in KL or at scientific meeting in Malaysia. Grantee shall meet with GoM partners and SAG in Kuala Lumpur annually, according to schedule. Grantee shall present findings at scientific meetings (e.g. ASTM, ASM Biodefense, IMED, EcoHealth) to present findings according to the schedule.

1.6.1-OY5.6.1 submit progress reports to DTRA.
1.6.2-OY5.6.2 Complete annual report to local stakeholders.
1.6.3-OY5.6.3 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review.
1.6.4-OY5.6.4 Conduct annual stakeholder meetings.
3.6.5. Prepare comprehensive project report for GoM

3.6.7, OY5.6.7 UM Graduate students present thesis to committee and prepare publication in peer reviewed journal

3.6.6-OY5.6.6 Prepare and submit publications to disseminate study findings.

Project Timeline

Task	Y1	Y2	Y3	OY4	OY5
1. Enhance capacity in Malaysia for serological surveillance for all henipaviruses and filoviruses					
1.1. Transfer BioRad Bio-Plex 200 in NPHL, DWNP, and UPM labs					
1.2 Transfer serological reagents to NPHL, DWNP, UPM, and UM labs					
1.3 Training staff at partner labs					
1.4 Identify graduate students at UM and UPM					
1.5 Convene Science Advisory Group					
1.6 Develop database for serology results and sample metadata					
1.7 Training in pseudovirus development at USU					
2. Develop & validate henipavirus and filovirus reagents.					
2.1 Produce specific henipavirus and filovirus proteins					
2.2 Produce and test monoclonal antibodies against new proteins					
2.3 Transfer henipa and filo N protein assays to partner labs					
2.4. develop/validate proteins and mAbs for novel henipa- & filoviruses					
3.Screen archived wildlife and Orang Asli sera					
3.1 Identify archived wildlife and human sera at NPHL and DWNP					
3.2 Screen sera using Luminex-based platform					
3.3 Confirm positive sera with additional testing					
3.4 Enter results in database / analyze					
4. Sero-survey of Orang Asli and animals					
4.1 apply for IRB/IACUC approval					
4.2 Collect & test serum samples from Orang Asli + animals					
4.3 Enter results into database					
4.4 Confirm positive sera with additional testing					
4.5 Conduct follow-up study of Orang Asli and animals					
4.6 Analyze data					
5. Serological study of farm workers, livestock, and wildlife on farms	■	■	■	■	■
5.1 Apply for necessary permits and ethical approval	■	■			
5.2 scoping visits to potential study farms; select farms	■				
5.3 sample farm workers, livestock, and wildlife on farms		■	■		
5.4 follow-up study of farm workers, wildlife and livestock (4 farms)				■	■
5.5 Enter results into database / analyse results		■	■	■	■
6. Disseminate reports to relevant stakeholders					
6.1 annual report toDTRA					
6.2 annual report to government of Malaysia partners					
6.3 attend DTRA annual technical review					
6.4 partner meeting in Malaysia					
6.5 present results at scientific conference (e.g. ASTMH, IMED, ASM)					
6.6 prepare manuscripts for publication in peer-reviewed journal					

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 10

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA11710064	05 Sep 2017	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DCMA GARDEN CITY 605 STEWART AVENUE GARDEN CITY NY 11530-4761	S3309A

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)
ECOHEALTH ALLIANCE INC. DR. KEVIN OLIVAL 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317	9. DISCOUNT FOR PROMPT PAYMENT
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: — ITEM
CODE 3MMU3 — FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
See Schedule		DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2317	HQ0337

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$2,881,912.56**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 3			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	4	X	J	LIST OF ATTACHMENTS	10
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	5		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	6				
X	G	CONTRACT ADMINISTRATION DATA	7 - 9		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.)
Your bid on Solicitation Number _____
including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) CONTRACTS OFCR GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	05-Sep-2017

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lot		$904,922.38
	Year 1: FRBAA-14-6-2-0063 COST Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B. FOB: Destination				
				ESTIMATED COST	$904,922.38

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00
	Funding in support of CLIN 0001 COST				
				ESTIMATED COST	$0.00
	ACRN AA CIN: HDTRA1724052000001				$782,330.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002		1	Lot		$979,366.52
	Year 2: FRBAA-14-6-2-0063 COST Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B. FOB: Destination				
				ESTIMATED COST	$979,366.52

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1	Lot		$997,623.66

Year 3: FRBAA-14-6-2-0063
COST
Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia
In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.
FOB: Destination

ESTIMATED COST $997,623.66

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004		1	Lot		$840,216.30
OPTION					

Year 4: FRBAA-14-6-2-0063
COST
Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia
In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.
FOB: Destination

ESTIMATED COST $840,216.30

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005		1	Lot		$669,314.80
OPTION					

Year 5: FRBAA-14-6-2-0063
COST
Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia
In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.
FOB: Destination

ESTIMATED COST $669,314.80

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-11-16-BRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C. 2358 as amended.

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
000101	N/A	N/A	N/A	N/A
0002	Destination	Government	Destination	Government
0003	Destination	Government	Destination	Government
0004	Destination	Government	Destination	Government
0005	Destination	Government	Destination	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 02-OCT-2017 TO 01-OCT-2018	N/A	N/A FOB: Destination	
000101	N/A	N/A	N/A	N/A
0002	POP 02-OCT-2018 TO 01-OCT-2019	N/A	N/A FOB: Destination	
0003	POP 02-OCT-2019 TO 01-OCT-2020	N/A	N/A FOB: Destination	
0004	POP 02-OCT-2020 TO 01-OCT-2021	N/A	N/A FOB: Destination	
0005	POP 02-OCT-2021 TO 01-OCT-2022	N/A	N/A FOB: Destination	

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20172019 D 34HQ 0901515BR_KD_BP2_OT 1719_0134_34HQ_SCNCT DTRA 410
AMOUNT: $782,330.00

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	HDTRA1724052000001	$782,330.00

CLAUSES INCORPORATED BY REFERENCE

52.232-19	Availability Of Funds For The Next Fiscal Year	APR 1984
252.204-0001	Line Item Specific: Single Funding	SEP 2009
252.232-7007	Limitation Of Government's Obligation	APR 2014

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

e. Grantee Business Office:
Name: Mr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: 212-380-4473
E-mail: chmura@ecohealthalliance.org

f. Grantee Principal Investigator (PI):
Name: Dr. Kevin Olival
Title: Associate Vice President for Research
Phone: 212-380-4478
E-mail: olival@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/CBEP
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

h. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $782,330.00 is obligated for work to be performed during the period beginning with grant award and continuing through 10/01/2018. Additional incremental funding planned, but not obligated, is:

Year 1 (FY18) $122,592.38
Year 2 (FY19) $979,366.52
Year 3 (FY20) $997,623.66
Year 4 (FY21) $840,216.30
Year 5 (FY22) $669,314.80

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	DATE	AMOUNT
1	November 1, 2017	$122,592.38
2	December 1, 2017	$71,120.90
3	January 1, 2018	$71,120.90
4	February 1, 2018	$71,120.90
5	March 1, 2018	$71,120.90
6	April 1, 2018	$71,120.90
7	May 1, 2018	$71,120.90
8	June 1, 2018	$71,120.90
9	July 1, 2018	$71,120.90
10	August 1, 2018	$71,120.90
11	September 1, 2018	$71,120.90
12	October 1, 2018	$71,121.00

*The invoice amounts listed above are estimates. Submitted invoice amounts will be reflective of actual costs incurred on a monthly basis.

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work-Exhibit A	7	29-JUL-2016
Exhibit B	Terms and Conditions-Exhibit B	17	31-OCT-2016

Statement of Work

Project Title: Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia

Document Date: July 29, 2016

Objective: Our primary objective is to characterize the diversity of coronaviruses (CoVs) and test key hypotheses about bat-borne zoonotic virus emergence risk in Western Asia in order to reduce the threat of infectious diseases. Despite growing recognition of the importance of bat viruses as zoonotic diseases, and the emergence of the Middle East Respiratory Syndrome coronavirus (MERS-CoV), there remains limited scientific knowledge of the distribution and ecology of bats, their pathogen diversity, and potential interfaces for transmission to humans and other species in Western Asia – an area encompassing over 20 countries in the Middle East and Near East. Our project is designed to detect emerging viruses at their source (wildlife populations) through hypothesis-driven research, and to provide a mechanism for improved risk assessment, information sharing and scientific collaboration in an area with fragmented, and often limited, capacity for zoonotic disease investigations. Through partnerships with laboratories within the region and extensive field investigations, we will establish a statistically rigorous research platform to characterize endemic pathogen diversity for coronaviruses, a key viral family with known pandemic potential. Data on pathogen diversity, host distribution, and ecological traits will be curated, exchanged, and used to model zoonotic disease risk and facilitate scientific collaboration in this politically volatile region.

Scope:

The grantee proposes development of a regional zoonotic bat disease research program, including specific hypothesis-driven scientific activities to characterize coronavirus (CoV) diversity and risk of viral spillover to people. Toward advancement of One Health research, the grantee will also establish a network of scientists currently working independently on bat and disease research to more effectively share data aimed at parameterizing risk models and testing regional hypotheses in disease ecology of bat-borne pathogens. Research findings will be disseminated broadly in the scientific community and to relevant government authorities and policy makers in the US and Western Asia. The grantee team shall focus on the following goals and milestones:

1. Conduct disease ecology investigations to more precisely map bat-borne zoonotic disease distribution and spillover risk (Year 1 – Option Year 2).

- Milestones: Establish study protocols; map existing data; implement field surveys to catalogue regional bat diversity, species inventories, and collect specimens for CoV characterization; collate spatial and ecological data into central database; refine species distribution maps and niche models to refine reservoir host distribution in Western Asia; develop and maintain information sharing database and website.

2. Characterize bat CoV diversity in Western Asia to improve understanding of spillover risk. (Year 1 – Option Year 2).

- Milestones: Train personnel and implement field and laboratory studies; collect and transport bat specimens; validate coronavirus assays; screen specimens using PCR; sequence CoV positive specimens; database for viral sequence, host, and spatial data.

3. Improve the One Health scientific capacity for bat and disease ecology research in Western Asia (Year 1 – Option Year 2).

- Milestones: Establish regional network of scientists; implement hypothesis-driven research projects (per below); field, laboratory and analytical training of in-country scientists; research exchanges from 'field to lab'; annual project planning and data sharing workshop; country capacity assessments; coordinated information sharing platform; and publish and disseminate scientific findings.

4. Synthesize data and conduct analyses of bat pathogen spillover risk (Year 3 – Option Year 2)

- Milestones: Develop and apply a range of analytical approaches to model spatial patterns of zoonotic virus distribution and risk, host-viral sharing and evolutionary co-divergence, and identify correlates of viral diversity; develop and parameterize a synthetic model of bat spillover risk for region.

This work will support strengthening One Health research capacity in four high-engagement countries with CBEP determination: Jordan, Georgia, Turkey, and Pakistan, and a broader research coordination network including countries geographically adjacent to core countries in Western Asia. The project will engage one to two lead bat scientist identified as points of contact in each country and establish field and laboratory teams with additional local scientists to conduct surveillance activities. The Center For Excellence In Biosafety, Biosecurity And Biotechnology Royal Scientific Society (Amman, Jordan) and the R. Lugar Center for Public Health Research (Tbilisi, Georgia) will serve as regional hubs for laboratory research and training in pathogen detection. Support for laboratory protocols and transfer of technology and information sharing will additionally be provided by NIH's Rocky Mountain Laboratories and the USAID Emerging Pandemic Threats PREDICT project. A Steering Committee will facilitate communication within and between the country regions and with government ministries, and will define and oversee the strategic aims of the network. The Scientific Advisory Board will provide general oversight to animal welfare and biosecurity issues and scientific validity of proposed research activities, maintain collaborations with researchers from other regions, and will serve as lead experts during capacity building activities and workshops. The proposed project period is three years, with two optional years to augment datasets for more robust hypothesis testing and promote further advancement of scientific capacity in the region.

Background:

Bats are hosts to a wide range of viral zoonoses of concern to DoD, CDC, WHO, and OIE due to their pandemic potential, high mortality rates, and lack of treatment options, including Ebola virus, Marburg virus, Nipah virus, SARS-CoV and MERS-CoV. However, despite the risk that viral zoonoses emerging from bats pose worldwide, compared to Southeast Asia, Europe, the Americas, and Africa, virtually nothing is known about viral pathogens in natural bat populations from Western Asia. Bats are an extremely diverse group (1200+ species globally) of ecologically important animals that have been understudied compared to other taxonomic groups.

Zoonotic disease research in the Middle East and Western Asia is highly fragmented and largely undeveloped – with often only one or two experts per country working in isolation within national boundaries and without access to disease experts or laboratories for diagnostics. As bats are mobile and do not respect political borders, there is a critical need to engage and link ecological researchers through meaningful field-based projects to allow for more comprehensive research and surveillance activities in Western Asia. Bat research coordination networks exist in Southeast Asia (Southeast Asian Bat Conservation Research Unit, SEABCRU); in Europe (Eurobats); and in Africa (Bat Conservation Africa), but Western Asia represents a major geographic gap. Western Asia does not currently have the infrastructure in place to support data sharing for regional understanding of zoonotic disease threats, nor wildlife ecology and distribution more generally. Many health authorities in the region are not aware of bat populations or diversity in their countries. Our proposed research project will additionally serve multiple goals and objectives of the CBEP mission, by: 1) engaging partner country scientists in high-quality, hypothesis-driven research; 2) enhancing understanding of endemic viruses to allow differentiation of natural vs. nefarious emergence events in the future; 3) supporting biosurveillance capacity building by enhancing partner capability to detect, diagnose, and report select agents; 4) employing responsible bio-risk management best practices; 5) training partner country researchers to think critically about ethical research and be competitive in soliciting international funding; and 6) promoting a One Health concept.

Key references include (further references can be found in the Project Narrative): Memish, ZA, N Mishra, KJ Olival, SF Fagbo, V Kapoor, JH Epstein, R AlHakeem, M Al

Asmari, A Islam, A Kapoor, T Briese, P Daszak, AA Al Rabeeah, and WI Lipkin. 2013.

Middle East Respiratory Syndrome Coronavirus in Bats, Saudi Arabia. Emerging Infectious Diseases 19: 1819-1823.

Olival, KJ, CC Weekley, and P Daszak. 2015. Are bats really "special" as viral reservoirs?: What we know and need to know.in L. Wang, editor. Bats and Viruses: From Pathogen Discovery to Host Genomics. John Wiley & Sons, Inc., New Jersey.

Newman, SH, HE Field, JH Epstein, and CE de Jong. 2011. Investigating the role of bats in emerging zoonoses: Balancing ecology, conservation and public health interests. Food and Agricultural Organization of the United Nations, Rome.

Tasks/Scientific Goals: (Format: Year #(s).Task #. Subtask#).

Task Y1.1-OY2.1: Establish robust scientific research platform to understand zoonotic disease risk in Western Asia (Years 1-OY2).

The grantee shall assemble a network of scientific research partners from high and medium-engagement countries via email, conference calls, and formal invitations. Data for risk modeling will be collated across a larger regional footprint than our proposed field sampling sites through annual data-sharing workshops and the creation of the Western Asia Bat Research Network (WAB-Net) – a collaborative, sustainable network of key wildlife researchers and public health representatives from

>12 countries. The process of coordinating and building the network will be ongoing throughout the grant. Participants will be added through networking opportunities,

including at poster sessions, workshops, bat and/or wildlife health meetings, and as in-country contacts grow in ministries and academic and research institutions. 2-4 participants will be selected to participate in research exchanges with regional reference laboratories each year to strengthen their scientific capacity and facilitate testing of specimens collected from collaborating partner countries (e.g. Pakistan, Turkey). A simple core competency assessment tool (piloted in Y1, and then implemented Y2-OY2) will be developed to measure individual competency of project participants in the areas of: best practices for wildlife field investigations, safe animal handling, specimen collection and transport, personal protective equipment and biosafety, cold chain management, specimen tracking, and pathogen testing. A workshop and data-sharing meeting will be held annually. The grantee will build a website for communication and customize an existing CBEP funded cloud-based database to host project ecological and viral data and enable testing of hypotheses related to CoV diversity and spatial modeling.

Y1.1.1-Y3.1.1 Confirm and identify research partners and diagnostic laboratories.

Y1.1.2-Y3.1.2 Develop, pilot and implement core scientific competency assessment.

Y1.1.3-OY2.1.3 Host workshop and data-sharing meeting in a high-engagement partner country.

Y1.1.4-Y2.1.4 Refine hypotheses for CoV study.

Y1.1.5-OY2.1.5 Organize and implement field-to-lab research exchange program.

Y1.1.6-OY2.1.6 Develop and maintain website for project.

Y1.1.7-OY2.1.7 Develop and maintain information sharing database.

Task Y1.2-OY2.2: Bat specimen and disease ecology field data collection (Years 1-OY2).

The grantee will train for and support field investigations for targeted bat specimen collection using standardized ecological methods for capture, species identification, and characterization of bat communities from geographic gaps identified in the first year of the project. All bats will be non-lethally sampled with strict adherence to US IACUC approved protocols. Improving the quality of bat species distribution and abundance data is essential for understanding the risk of zoonotic disease emergence and testing hypotheses relevant to the diversity and distribution of coronaviruses and other endemic bat pathogens. Longitudinal datasets will be additionally identified among WAB-Net scientists, and where possible, trends in population decline or increase will be measured over the duration of the project from field trapping data. Data will be collated and entered into the database with appropriate permission controls for data access, agreed upon by each member. Field survey methods include five nights of bat trapping and echolocation monitoring at each site (0-5 unique sites per participating country over the course of this project), with a minimum target of 30 bats per species per site on each sampling trip, with target 3 species per site (total 90 bats per sampling event). We will conduct 58 sampling events (46 in high-engagement countries, and at least 12 in medium-engagement countries) over the course of the project. Bat echolocation call analyses will be used to identify additional taxa (e.g. genera or families) not sampled using trapping and to quantify nightly bat activity using published algorithms. Data will be analyzed using rank abundance and rarefication curves to compare diversity and abundance in tandem between sites, and we will apply standard statistical comparisons of

bat and CoV diversity and abundance among sites (See Task 5). Specimens for the CoV study (rectal swabs/feces, oral swabs, blood, and tissue/wing) will be collected during field surveys (see Task 3). Tissue biopsies will be collected for genetic barcoding to confirm field species IDs as needed. Supplies for ecological surveys will be provided to the four high- engagement countries and four or more medium-engagement countries, and a recommendedsupply list (plus additional supplies as budget allows) will be provided to the remaining partner countries. At each annual workshop we will collate data from previous and dedicated surveys and provide training in data entry to the WAB-Net database (see Task 1).

Y1.2.1-Y3.2.1 Equip country partners with supplies for study.

Y1.2.2-OY1.2.2 Conduct field-based training for network scientists.

Y1.2.3-OY1.2.3 Assist countries with study design and implementation plan for standardized surveys and implement bat study transects.

Y1.2.4-OY2.2.4 Collect bat specimens for CoV study and species distribution and taxonomic data.

Y1.2.5-OY2.2.5 Transport specimens to approved local or regional laboratory for storage.

Task Y1.3-OY2.3: Regional bat coronavirus characterization (Years 1-OY2).

The grantee shall develop and maintain a collaborative research investigation to characterize bat- CoVs. Local researchers shall be trained to conduct non-lethal bat virus specimen collection, and refine and test hypotheses relevant to geographic and host specific patterns of CoV diversity in bats. We will capture bats and collect fecal, oral, blood, and tissue specimens. 5220 fecal specimens representing individual bats will be collected and prioritized for testing (with testing of additional samples as resources allow), with 522 tissue specimens barcoded for species confirmation. Assuming mean RNA prevalence of 6%, this will give us 95% probability of detecting a positive CoV in each species, and with 30 fecal specimens per species, per site, will yield an average of 3 CoV sequences per target species for analyses. Assuming a conservative average prevalence of ~6% across all bat species and locations, screening an anticipated 5220 bat fecal specimens across the project will yield a minimum of 313 ± 36 positive CoV samples for analysis. Cold chain, viral transport and biosecurity best practices will be standardized and utilized across the project. Demographic and ecological data will be collected with specimens and entered into the central database. Testing will be initially conducted at two regional laboratories (RSS and Lugar), with additional potential laboratory capacity for CoV screening pending funding and DTRA approval. We will validate CoV PCR assays in Year 1, and screen fecal samples with follow-up confirmatory sequencing and analysis on positive specimens in subsequent years.

Y1.3.1-OY1.3.1 Equip country partners with laboratory supplies. Y2.3.2-OY1.3.2 Conduct laboratory-based diagnostic training. Y2.3.3-OY2.3.3 Store and update repository data for bat specimens.

Y2.3.4-OY2.3.4 Screen specimens for CoVs.

Y2.3.5-OY2.3.5 Confirm and sequence positive specimens.

Task Y1.4-OY2.4: Compile and disseminate research results and reports to stakeholders (Years 1-OY2).

The grantee shall synthesize and report on the project's scientific, regional capacity building achievements, and specific data collected/analyzed to DTRA and various stakeholders (country- level,

regional, and international). Biobank sample repository information and associated metadata will be maintained in a DTRA-specified format and all samples and data will be available for at least 12 months past the project end date. Scientific publications will be written and submitted for peer-review and presentation and international conferences.

Y1.4.1-OY2.4.1 Submit annual report, including sample repository data, to DTRA. Y1.4.2-OY2.4.2 Analyze and disseminate study findings to local, regional, and global stakeholders.

Y1.4.3-OY2.4.3 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review.

Y1.4.4-OY2.4.4 Prepare/submit peer-reviewed manuscripts

Task Y3.5-OY2.5: Synthesize data and conduct analyses of bat pathogen spillover risk (Years 3-OY2).

The grantee will analyze data to test primary hypotheses aimed at understanding the risk of CoV viral spillover from bats to humans using a range of analytical approaches. Project data including bat and virus distribution from ecological field surveys, species occurrence and ecological data collated from partners, novel CoV sequence data, and previously published CoV data and existing spatial (environmental and ecological disease drivers) data sets from the region will be synthetically analyzed. Specific analytical tools used will include ecological niche models, geographic profiling analysis, spatial regressions, bat-virus cophylogeny analyses, and epidemiogical analyses and power tests to assess risk of spillover between species and by subregion.

Y3.5.1-OY2.5.1 Clean and refine field and laboratory data from database for analyses.

Y3.5.2-OY2.5.2 Conduct viral phylogeny and co-phylogenetic analyses.

Y3.5.3-OY2.5.3 Conduct epidemiological analysis of CoV prevalence and diversity.

Y3.5.4-OY2.5.4 Refine ecological niche and species distribution analyses. Y3.5.5-OY2.5.5 Develop and refine bat spillover risk assessment model. OY2.5.6 Develop final technical report and policy brief from risk assessment.

Performance Schedule

Task	Year 1	Year 2	Year 3	OY 1	OY 2
Task 1: Establish robust scientific research platform to understand zoonotic disease risk in Western Asia					
1.3 Host workshop and data-sharing meeting in a high-engagement partner country					
1.4 Refine hypotheses for CoV study					
1.5 Organize and implement field-to-lab research exchange program					
1.6 Develop and maintain website for project					
1.7 Develop and maintain information sharing database					
Task 2: Bat specimen and disease ecology field data collection					
2.1 Equip country partners with field supplies					
2.2 Conduct field-based specimen collection training in core countries					
2.3 Assist countries with study design and implementation plan for standardized surveys and implement bat study transects					
2.4 Collect bat specimens for CoV study and species distribution and taxonomic data					
2.5 Transport specimens to approved laboratories for storage					
Task 3: Regional bat Coronavirus characterization					
3.1 Equip country partners with laboratory supplies					
3.2 Conduct laboratory-based diagnostic training					
3.3 Store and update repository data for bat specimens					
3.4 Screen specimens for coronaviruses					
3.5 Confirm and sequence positive specimens					
Task 4: Compile and disseminate research results and reports to stakeholders					
4.1 Submit annual report, including sample repository data, to DTRA					
4.2 Analyze and disseminate study findings to local, regional, and global stakeholders					
4.3 Conduct presentations/meetings at times and places specified in the grant schedule, including DTRA Annual Technical Review					
4.4 Prepare/submit peer-reviewed manuscripts					
Task 5: Synthesize data and conduct analyses of bat pathogen spillover risk					
5.1 Clean and refine field and laboratory data from database for analyses					
5.2 Conduct viral phylogeny and co-phylogenetic analyses					
5.3 Conduct epidemiological analysis of CoV prevalance and diversity					
5.4 Refine ecological niche and species distribution analyses					
5.5 Develop and refine bat spillover risk assessment model					
5.6 Develop final technical report and policy brief from risk assessment					

DEFENSE THREAT REDUCTION AGENCY (DTRA)
GENERAL TERMS AND CONDITIONS FOR GRANT AWARDS

Table of Contents

Table of Contents 1
1. Terms and Conditions Incorporated by Reference. 2
2. Acceptance of Grant. 2
3. Recipient Responsibilities. 2
4. Standards for Financial Management Systems. 2
5. Modification of the Grant. 2
6. Payments. 3
7. Funding Increments and/or Options. 3
8. Patent Rights. 4
9. Technical Reporting Requirements. 7
10. Financial Reporting Requirements. 10
11. Delegation of Administration Duties. 10
12. Security. 11
13. Representations and Assurances. 11
14. Data Collection. 16
15. Publications and Acknowledgement of Sponsorship. 16
16. Authorization to Perform Activities Abroad. 17
17. Inconsistency between English Version and Translation of Grant. 17

1. **Terms and Conditions Incorporated by Reference.**

The DoD Research and Development General Terms and Conditions, dated July 2016, are hereby incorporated by reference and are available for download at website http://www.onr.navy.mil/Contracts-Grants/submit-proposal/grants-proposal/grants-terms-conditions.aspx.

2. **Acceptance of Grant.**

The recipient is not required to countersign the Grant document; however, the recipient agrees to the conditions specified in the Research Grant and the Articles contained herein unless notice of disagreement is furnished to the Grants Officer within fifteen (15) calendar days after the date of the Grants Officer's signature. In case of disagreement, the recipient shall not assess the Grant any costs of the research unless and until such disagreement(s) is resolved.

3. **Recipient Responsibilities.**

The recipient will bear primary responsibility for the conduct of the research and will exercise judgment towards attaining the stated research objectives within the limits of the Grant's Terms and Conditions.

The Principal Investigator(s) (PI) specified in the Grant award will be continuously responsible for the conduct of the research project and will be closely involved with the research effort. The PI, operating within the policies of the recipient, is in the best position to determine the means by which the research may be conducted most effectively.

4. **Standards for Financial Management Systems.**

Where the Federal Government guarantees or insures the repayment of money borrowed by the recipient, DTRA, at its discretion, may require adequate bonding and insurance if the bonding and insurance requirements of the recipient are not deemed adequate to protect the interest of the Federal Government.

DTRA may require adequate fidelity bond coverage where the recipient lacks sufficient coverage to protect the Federal Government's interest.

Where bonds are required in the situations described above, the bonds shall be obtained from companies holding certificates of authority as acceptable sureties, as prescribed in 31 CFR Part 223, "Surety Companies Doing Business with the United States."

5. **Modification of the Grant.**

The only method by which this Grant may be modified is by a formal, written modification signed by the Grants Officer. No other communications, whether oral or in writing, are valid.

Prior Approvals are required as follows:

1) Expenditures on equipment costing $5,000 or more not specifically identified in the budget at time of award. (Approval via written notification from the Grants Officer.)
2) Expenditures for foreign travel not specifically identified in the budget at time of award. (Approval via written notification from the Grants Officer.)

3) Prior approval is not required to transfer amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa.
4) Prior approval is not required to carry forward an unobligated balance to a subsequent period of performance under this award.

6. Payments.

The 2 CFR 200 governs responsibilities concerning payments, with the following clarifications:

Recipients shall submit requests for payment using Invoicing, Receipt, Acceptance, and Property Transfer (iRAPT) at https://wawf.eb.mil/. Any request for advance payments must be approved by the Administrative Grants Office shown in Block 6 of the award. The request shall be submitted to the Administrative Office identified in Block 6 of the Research Grant by entering the following routing codes:

1) *Pay Office DoDAAC*: See Block 12 (Code) on the first page of the Grant.
2) *Invoice Type*: Grant and Cooperative Agreement Voucher.
3) *Issue By DoDAAC*: See Block 5 (Code) on the first page of the Grant.
4) *Admin DoDAAC*: See Block 6 (Code) on the first page of the Grant.
5) *Grant Approver*: Same as Admin DoDAAC (Leave Ext. blank).

Payments will be made by the Defense Finance and Accounting Service (DFAS) office specified in the Research Grant (Block 12).

A foreign awardee must have a U.S. bank account and be signed up for electronic payments (electronic funds transfers (EFT)).

7. Funding Increments and/or Options.

The recipient is advised that the Grantor's obligation to provide funding for increments and/or options included in the Grant is contingent upon satisfactory performance in the judgment of the DTRA Scientific Officer/Technical Monitor and the availability of funds. Other factors will be considered before options will be exercised (for example, expenditure rate and current programmatic objectives). Accordingly, no legal liability on the part of the Grantor exists unless or until funds are made available to the Grantor and notice of such availability is confirmed in writing to the recipient. Refer to the Funding Profile in Section G of the Grant for additional incremental funding planned, but not currently obligated for the Grant.

Funding Increments – In no event is the Government obligated to reimburse the recipient for expenditures in excess of the total funds allotted by the Government to this agreement. Recipients should note that low expenditure rates reported on payment requests may be cause for deferral of future increments. The Government anticipates unilateral modifications for funding increments.

Options – If the agreement contains Option(s), the Government reserves the right to exercise the Option(s) unilaterally.

8. Patent Rights.

Patent Rights are governed by 37 CFR 401.14 with the following clarifications: All DTRA-related disclosures, confirmatory licenses to the government, patent applications, and other communications should be submitted as detailed herein.

The 37 CFR Part 401 invention reporting requirements are summarized in the table below. Unless otherwise indicated in the "Submission to DTRA" column, the grantee is required to upload the following types of invention information using iEdison (https://s-edison.info.nih.gov/iEdison/), a single web interface for government grantees to report details of inventions and patents. If the grantee organization is not already an iEdison registrant, then iEdison registration is required prior to submission of the below invention reports. The grant shall not be closed out until all invention reporting requirements are met.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Invention Report: The grantee must submit a report of any "subject" invention. The report must identify inventor(s), federal agency(ies), grant number(s), and date of any public disclosure. Date of submission establishes time frames for all future actions. Must be complete in technical detail. The report should be directed to the lead agency.	Within 2 months of inventor's initial report to the grantee' contractor organization.	There is no single format for disclosing the invention to the government. The communication should include the title of the invention, date of any public disclosure, names of all inventors, source(s) of federal funding (i.e. grant number), a written description of the invention in technical detail. The invention disclosure should be signed by the inventor(s); at the very least signed by a grantee institutional official.	401.14(a)(2) 401.14(c)(1)	Submit electronically by uploading either a PDF, TIFF, or text file through iEdison.
Rights to Inventions on Subcontracts: Subcontractors retain rights to their subject inventions.	Same reporting responsibilities, obligations and time frames as prime grantee organization.	Prime grantee organization cannot require ownership of subcontractor's subject invention(s)	401.14(g)(1) 401.14(g)(2)	Invention disclosure, confirmatory license, and proof of gov't support clause shall be submitted electronically through iEdison.
Election of Title to Invention: Grantee organization must notify the federal agency sponsor that it will retain ownership of invention and take steps to commercialize the invention.	Within 2 years of reporting the invention to the lead federal agency sponsor. (If disclosed publicly, this period is decreased.)		401.14(b) 401.14(f)(1) 401.14(c)(2)	Submit electronically through iEdison.
Confirmatory license The grantee organization must provide a nonexclusive, nontransferable, irrevocable, paid-up license for the government to practice or have the invention practiced on its behalf throughout the world.	Commensurate with report of any initial patent filing, unless the invention is being licensed as an unpatented biological material or research tool.		401.14(f)(1)	Submit electronically by uploading either a PDF or TIFF file through iEdison.
Nonelection of Title to Invention: Grantee organization must notify the federal sponsor that it will not retain ownership of an invention.	Within 2 years of reporting to federal agency sponsor. (If disclosed publicly, this period is decreased.)	Effectively a waiver to the government. After further review the federal agency sponsor may elect title on behalf of the government. Title does not actually vest with the government until government elects to retain title.	401.14(c)(2) 401.14(d)	Submit electronically through iEdison.
Assignment of Invention Rights to the Inventor: The inventor may request assignment of invention rights. Agencies support requests of this type to variously. In all cases, documentation is required when a grantee organization waives rights to the invention and the inventor(s) wishes to retain the invention rights.	At the time the grantee organization elects not to pursue title and the inventor requests rights in the invention.	First, the grantee organization must elect not to retain rights in the invention. Second, the inventor must request the assignment of rights, agree to all terms associated with invention reporting as detailed in 37 CFR 401, and must pursue commercialization of the invention through patent filing or licensing as a research tool. Specific procedures for any agency should be determined prior to initiating the request.	401.14(k)(1); non-profits	This status shall be indicated using iEdison. Submission of all other issues (such as outstanding required documents) should be resolved prior to proceeding further. Submission of the required documents will be done electronically by uploading either a PDF, TIFF, or text file through iEdison.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Initial Patent Application: The grantee must inform the government of the initial patent application that related to any subject invention. The patent application must include a government support clause.	Within 1 year after election of title, unless there is an extension.	Time frame may vary if invention becomes public. The term initial patent application means a nonprovisional U.S. national application for patent as defined in 37 CFR 1.9(a)(3). The notification must include the patent application number and filing date assigned by the USPTO. A copy of the full application is not required.	401.14(c)(3) 401.2(n)	All filing data shall be submitted via iEdison. Evidence of inclusion of government support clause shall be submitted electronically as either a PDF or TIFF file through iEdison.
Assignment to Third Party: Documentation necessary when a grantee contractor wishes to assign invention rights to third party. If the grantee-contractor is a non-profit, the government must approve the assignment. For profit or small business grantee contractors do not need to seek approval. If the rights are assigned, new rights holder assumes the same reporting responsibilities as the grantee contractor organization.		If assignment approved, third party must pursue commercialization of the invention through patent filing or licensing of the invention as a research tool. Specific procedures to request third party assignment may vary between agencies. Consult DTRA prior to initiating request.	401.14(k) for non-profits. Note the distinction between small businesses and non-profit organizations.	Documentation shall be submitted electronically as either a PDF or TIFF file through iEdison.
Issued Patent: Grantee must provide federal agency sponsor with patent issue date, number, title of patent, and evidence of government support clause.	At the time of issue.	Patent must include government support clause.	401.5(f)(2) 401.14(f)(4)	All issued patent information shall be provided using iEdison. Evidence of inclusion of government support clause will be provided electronically as a PDF or TIFF file through iEdison
Request for Extension of Time: An extension of up to two years may be requested for election of title, or one year for filing a patent application.	Prior to any statutory bar.	Extension of 2 years for title election and one year for patent application are preapproved for funded inventions. Additional extensions need written approval from the federal agency sponsor.	401.14(c)(4)	Request electronically using iEdison.
Discontinuance of Patent Application, Payment of Maintenance Fees, or Defense in a Reexamination or Opposition proceeding on a Patent: Grantee must notify federal agency sponsor of changes in patent status.	At any time in the process, but prior to established deadlines	Relevant information and documents (e.g., patent application or patent) must be provided such that a determination to protect government interests can be made. The federal agency sponsor has the option to pursue the patent application or the patent if not being properly pursued or maintained. Any change in status must be reported at least 30 days prior to pending PTO office actions.	401.14(f)(3) 401.6	Indication shall be made via iEdison.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Annual Utilization Report: DTRA requires utilization reporting for all subject inventions that have had title elected or are licensed without a patent. Report includes stage of development, date of first commercial sale or use, number and type of licenses, gross income, licensing to small business, status of U.S. manufacturing and identification of any FDA-approved product names.	Annually	DTRA requires invention utilization reports on a 12 month reporting cycle beginning in the month of grantee choosing and continuing throughout duration of patent. Information requirements defined in iEdison. Note: this reporting requirement, if applicable, extends beyond the grant period.	401 14(h)	Submit electronically using iEdison.
Annual Summary Report of Inventions: Summarize all previously reported subject inventions under this grant.	Annually	Invention reports shall be filed annually due no later than 1 July of each year. Grants effective after 31 January will not require a report until 1 July of the following year. The recipient shall use DD Form 882, Report of Inventions and Subcontracts, to file invention reports. If no inventions occurred during the annual reporting period a negative report must be submitted. --Email Form DD882 to dtrabasicresearch@mail.mil (file size must be less than 10MB). File should be named by the Grant number and "Invention Report" (e.g. HDTRA1-12-1-9999 Invention Report) --The Grant shall not be closed out until all invention reporting requirements are met.	401 5(f)(3)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to: --DTRA Grants Officer, 8725 John J. Kingman Rd., MSC 6201 (#2738), Ft. Belvoir VA 22060-6201 --Administrative Office identified in the Grant --As directed by DTRA, email or portal.
Final Invention Statement and Certification: Report all subject inventions derived or reduced to practice during the performance of the grant.	Due with the Final Technical Report within 90 days after the project ends.	Invention reports shall be filed at the end of the Grant's PoP. If no inventions occurred during the lifetime of the award, a negative report must be submitted. --Email Form DD882 to dtrabasicresearch@mail.mil (file size must be less than 10MB). File should be named by the Grant number and "Invention Report" (e.g. HDTRA1-12-1-9999 Invention Report). --The Grant shall not be closed out until all invention reporting requirements are met.	401 5(f)(1)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to: --DTRA Grants Officer, 8725 John J. Kingman Rd., MSC 6201 (#2738), Ft. Belvoir VA 22060-6201 --Administrative Office identified in the Grant --As directed by DTRA, email or portal

9. Technical Reporting Requirements.

Research Performance Progress Report (RPPR). Except under rare cases, RPPRs are required annually. The RPPR is due no later than 1 July of each year. Grants effective after 31 January will not require a RPPR until 1 July of the following year.

The RPPR is *not* a cumulative report. The first RPPR shall only include actions that occurred from the Period of Performance start date up to submission of the first RPPR. Each subsequent report shall only include actions that occurred during the 12-month period following the previous year's RPPR.

A RPPR is not required in the final year of the award if the period of performance ends within 60 days of the RPPR due date. In this instance the Final Report will satisfy the requirement. Broadly the RPPR shall address the following items:

- Accomplishments
- Products
- Participants and Other Collaborating Organizations
- Impact
- Changes/Problems

Templates and specific instructions will be provided each year in advance of the submission deadline. All files must be submitted via email to dtrabasicresearch@mail.mil (individual file size must be less than 10MB). A copy of the RPPR should also be provided to the Administrative Office identified in the Grant. The file names should be as follows:

- RPPR: Year Annual Report Grant Number, e.g. 2017 Annual Report HDTRA1-12-1-9999.
- Metrics: Year Metrics Grant Number, e.g. 2017 Metrics HDTRA1-12-1-9999.

Quad Chart. An updated quad chart must be submitted annually. A template will be provided each year in advance of the submission deadline. All files must be submitted via email to dtrabasicresearch@mail.mil (individual file size must be less than 10MB). The file name should be as follows:

- Quad Chart: Year Quad Chart Grant Number, e.g. 2017 Quad Chart HDTRA1-12-1-9999.

Annual Technical Review. At least one representative (preferably the PI) for each award is expected to attend and present at an annual technical program review meeting, unless otherwise exempted by DTRA in writing. For planning purposes reviews will typically be for two days in Northern Virginia during the spring or summer months.

Final Technical Report. A comprehensive final technical report is required: the draft document is required forty-five (45) days prior to the end of the Period of Performance and the final document is required ninety (90) days after the expiration or termination of the award.

The purpose of the final report is to document and to transition the results of the effort into the DTRA and DoD applied research community. The final report will always be sent to the Defense Technical Information Center (DTIC) and unclassified reports may be made available to the public through the National Technical Information Service (NTIS).

The final report is more than an extension of previous annual reports. The final report shall be a **comprehensive** technical summary of the significant work accomplished. The final report, where it is not readily accessible in published form should, where applicable:

- Clearly describe and illustrate the experimental equipment, setup, and procedures;
- Characterize and tabulate collected/computed data in an appendix;

- Sufficiently describe computational codes so they can be reproduced. Include a listing of the code in an appendix if possible and appropriate; and
- When the research effort culminates in the production of one or more student theses or dissertations, in these cases, the most significant advancements and conclusions (equations, figures, relationships, etc.) should be included in an executive summary. The theses or dissertations should be attached as appendices only if they are not readily available. If they are, clearly reference them and how they can be obtained. Also include in the executive summary, cumulative lists of people involved in, and publications stemming from, the research effort. Do not include copies of already submitted or published articles in the final report.

Standard Form (SF) 298, Report Documentation Page, must be used. Item 13 of the SF-298 should contain a 100 to 200 word abstract summarizing technical progress during the reporting period. The SF-298 may be found on the Internet at: http://www.gsa.gov/portal/forms/download/116146

All of the report pages should be prepared for acquisition and distribution by DTIC. All of the report pages should be of good quality for copying purposes. No pages should be missing.

The format and standard required by your institution for the preparation of theses and dissertations shall be used for the final report. In the absence of any institutional standards, you may wish to refer to the American National Standards Institute (ANSI) document Z39.18-1987, "Scientific and Technical Reports: Organization, Preparation, and Production," for guidance. The report may be obtained from:

American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

It is anticipated that all final technical reports will be unclassified and that distribution will not be limited. However, for final technical reports that require a limited distribution as deemed necessary by DTRA, a Distribution List will be provided with the comments on the draft final technical report. The Distribution List should be formatted to match the rest of the report, placed at the end of the report, and added to the Table of Contents. The number of pages in the Distribution List should be added to the total page count and included in the total number of pages cited in Block 15 of the SF-298.

The draft of the final technical report will be due not later than forty-five (45) days prior to the end of the period of performance. The draft of the final technical report (including a draft SF-298) must be submitted electronically as follows:

- Email the draft of the final technical report to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be 'Draft Final Report' and the Grant number, e.g. Draft Final Report HDTRA1-12-1-9999.
- Provide a copy of the report to the Administrative Office identified in the Grant.

Within thirty (30) days, this draft will be reviewed by DTRA and comments will be provided to the Grantee to ensure the report complies with DTRA final report requirements. Such review and comment does not restrict the conduct or reporting of the project research

findings/outcomes and, in accordance with Article 35, does not restrict Grantee's ability to publish. Grantee shall incorporate such requested changes so that the report incorporates and complies with agreement final reporting requirements terms. Final Technical Reports are due ninety (90) days after the expiration or termination of the award. The final submission should be made in accordance with the draft final report submission instructions.

Final Metrics. A final metrics table (in MS Excel format) is required. A template and specific instructions will be provided in advance of the submission deadline. The final metrics file should be submitted along with the Final Technical Report. The fields contained in the final metrics file are analogous to those of the annual submissions. The final metrics file shall contain only data from the last annual reporting period until the end of the award's funded Period of Performance.

- Email the final Metrics File to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be 'Final Metrics' and the Grant number, e.g. Final Metrics HDTRA1-12-1-9999.

10. Financial Reporting Requirements.

Federal Financial Reports (SF-425) are due no later than 1 July of each year with data "as of" 30 May of that year. Grants effective after 31 January will not require a Federal Financial Report until 1 July of the following year. All financial reports shall be submitted to the Administration Office identified in Block 6 of the Research Grant. In addition, the Federal Financial Report must be submitted electronically as follows:

- Email the Federal Financial Report to dtrabasicresearch@mail.mil (file size must be less than 10MB). The file name should be the Year, 'Federal Financial Report' and the Grant number, e.g. 2015 Federal Financial Report HDTRA1-12-1-9999.

11. Delegation of Administration Duties.

Certain grant administration duties have been delegated to the Administration Office identified in Block 6 of the Research Grant. These duties are as follows:

1) Provisionally approve all Grant and Cooperative Agreement Vouchers.
2) Perform all property administration services except the approval of recipient's requests to purchase equipment with grant funds. Such approvals must be granted by the DTRA Grants Officer.
3) Perform all plant clearance functions.
4) Approve requests for Registration for Scientific and Technical Information Services (DD Form 1540).
5) Obtain all financial report(s) (see Article 10 of this document).
6) Execute administrative closeout procedures, which include the following:
   a. Obtain the final Report of Inventions and Subcontracts (DD Form 882).
   b. Obtain final payment request, if any.
   c. Obtain final property report and dispose of purchased property and government furnished equipment (GFE) in accordance with the DoDGARs Part 22, Subpart G.
   d. Perform a review of final incurred costs and assist the Grants Officer in resolving exceptions, if any, resulting from questioned costs.
   e. Assure that all refunds due the Government are received by the Grantor.

NOTE: This term and condition is **not applicable** to instrumentation and equipment grant awards.

12. Security.

As a general rule, PI's will not need access to classified security information in the conduct of research supported under this Grant. Should it appear that access to such information is desirable the recipient shall advise the Grantor and request clearance for the investigator. Should information be developed during the course of work under this Grant that, in the judgment of the PI or the recipient, should be classified, the Grants Officer shall be notified immediately.

13. Representations and Assurances.

By accepting funds under this Grant, the recipient assures that it will comply with applicable provisions of the national policies and statutory/regulatory/executive-based requirements detailed below.

LIVE ORGANISMS. By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

1) For human subjects:

   a) Adhere to the requirements for protection of human subjects per the DoD level terms and conditions as well as the following DTRA requirements:
   b) The recipient shall adhere to DTRA local clause 252.223-9002 – Protection of Human Subjects (Aug 2010). The full text of this clause is as follows:

      All research under this grant involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C 980, and DoDD 3216.02, as well as other applicable federal and state regulations. Grantees must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. 980).

      DTRA Directive 3216.01 of June 9, 2010 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research.

      The DTRA directive requires that research using human subjects may not begin or continue until the Defense Threat Reduction Agency's Research Oversight Board (ROB) has reviewed and approved the proposed protocol. Grantees and subcontractors are required to submit a valid federal assurance for their organization

(institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA ROB for its review through the Grants Officer's representative (if assigned) or the Grants Officer. The ROB review is separate from, and in addition to, local IRB review.

A study is considered to involve human research subjects if: 1) there is interaction with the subject (simply talking to the subject qualifies; no needles are required); and 2) if the study involves collection and/or analysis of personal/private information about an individual, or if material used in the study contains links to such information.

Written approval to begin research or subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA ROB, through the Grants Officer. A copy of this approval shall be maintained by both the Grantee and the government. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA ROB for review and approval. Examples of modifications/ amendments to the protocol include but are not limited to:

- a change of the PI;
- changes in duration or intensity of exposure to some stimulus or agent;
- changes in the information requested of volunteers, or changes to the use of specimens or data collected; or
- changes in perceived or measured risks or benefits to volunteers that require changes to the study.

Research pursuant to such modifications or amendments shall not be initiated without IRB and ROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s).

Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. ROB review and approval is required annually. The Grantee or subcontractor must provide documentation of continued IRB review of protocols for ROB review and approval in accordance with these Terms and Conditions. Research must not continue without renewed ROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s).

Non-compliance with any provision of this clause may result in withholding of payments under the grant pursuant to the grant's payments clause(s) and/or grant termination pursuant to the grant's termination clause(s). The government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the ROB.

2) For animals:

   a. Adhere to the requirements for protection of animal subjects per the DoD level terms and conditions as well as the following DTRA requirements:

b. DTRA local clause 252.235-9001 – Prohibition of Use of Laboratory Animals (Jul 2010). The full text of this clause is as follows:

The grant recipient shall obtain approval from the US Army Medical Research and Material Command (MRMC), Animal Care and Use Review Office (ACURO) prior to conducting research on live nonhuman vertebrates. Studies involving non-human primates, dogs, cats, or marine mammals will require a site visit by an ACURO laboratory animal veterinarian as a condition of approval. DoD may also conduct site visits involving research on other animals when deemed appropriate. The animal research facility is responsible for notifying the DoD sponsor if Association for the Assessment and Accreditation of Laboratory Animal Care accreditation is lost or the facility is under USDA inspection. DoD also has the right to a site inspection under these circumstances.

The grant recipient (including subcontractors) is expressly forbidden to use laboratory animals in any manner whatsoever without the express written approval of MRMC ACURO.

The grant recipient shall complete the ACURO Animal Use Appendix for Research Involving Animals found at the following web site: http://mrmc.amedd.army.mil/index.cfm?pageid=research_protections.acuro_animalappendix. Submit the completed ACURO appendix, contact information, the DTRA grant number and a copy of the grant for processing to the email address listed at the ACURO website. Once ACURO approves the effort, the grant recipient will receive written approval to begin animal use from the US Army MRMC ACURO by separate email. The grant recipient shall promptly provide a copy of the approval to the Grants Officer and Grants Officer representative. After approval, changes or protocol amendments must be submitted to and approved by ACURO before implementation.

The grant recipient, or subcontractors as appropriate, shall submit the most recent U.S. Department of Agriculture Animal Care Inspection Report annually in accordance with instructions provided.

Non-compliance with any provision of this clause may result in termination of the grant.

DoD Instruction 3216.01, dated September 13, 2010, provides policy and requirements for the use of animals in DoD-funded research based on Army Regulation 40-33. The DoD definition of animal is any live nonhuman vertebrate. All proposals that involve the use of animals must be in compliance with DoD Instruction 3216.01 and AR 40-33. DTRA requires that research using animals not begin or continue until the ACURO has reviewed and approved the proposed animal use. For animals, the provisions include rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Action of 1966 (U.S.C. 2131-2156); and (ii) the "Guide for the Care and Use of Laboratory Animals," National Institutes of Health Publication No. 86-23

RESEARCH INVOLVING RECOMBINANT DNA MOLECULES. Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses

containing recombinant DNA molecules agrees by acceptance of this award to comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules," July 5, 1994 (59 FR34496) amended August 5, 1994 (59 FR40170) amended April 27, 1995 (60 FR 20726), or such later revision of those guidelines as may be published in the Federal Register.

COMBATING TRAFFICKING IN PERSONS. The recipient agrees to comply with the trafficking in persons requirement in Section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)) as implemented by 2 CFR 175.

1) Provisions applicable to a recipient that is a private entity.

   a. You as the recipient, your employees, sub-recipients under this award, and sub-recipients' employees may not—
      - Engage in severe forms of trafficking in persons during the period of time that the award is in effect;
      - Procure a commercial sex act during the period of time that the award is in effect; or
      - Use forced labor in the performance of the award or subawards under the award.

   b. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a sub-recipient that is a private entity—
      - Is determined to have violated a prohibition in paragraph 1)a. of this award term; or
      - Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph 1)a. of this award term through conduct that is either
        - Associated with performance under this award; or
        - Imputed to you or the sub-recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Non-procurement)," as implemented by our agency at 2 CFR Part 376.

2) Provision applicable to a recipient other than a private entity.

   a. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a sub-recipient that is a private entity—
      - Is determined to have violated an applicable prohibition in paragraph 1)a. of this award term; or
      - Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph 1)a. of this award term through conduct that is either
        - Associated with performance under this award; or
        - Imputed to the sub-recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Government-wide

Debarment and Suspension (Non-procurement)," as implemented by our agency at 2 CFR Part 376.

3) Provisions applicable to any recipient.

   a. You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph 1)a. of this award term.

   b. Our right to terminate unilaterally that is described in paragraph 1)b. or 2)a. of this Article:
      - Implements Section 106(g) of the TVPA, as amended (22 U.S.C. 7104(g)), and
      - Is in addition to all other remedies for noncompliance that are available to us under this award.

   c. You must include the requirements of paragraph 1)a. of this award term in any subaward you make to a private entity.

4) Definitions. For purposes of this award term:

   a. "Employee" means either:
      - An individual employed by you or a sub-recipient who is engaged in the performance of the project or program under this award; or
      - Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

   b. "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

   c. "Private entity":
      - Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.
      - Includes:
        - A non-profit organization, including any non-profit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).
        - A for-profit organization.

   d. "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at Section 103 of the TVPA, as amended (22 U.S.C. 7102).

PROHIBITION ON USING FUNDS UNDER GRANTS AND COOPERATIVE AGREEMENTS WITH ENTITIES THAT REQUIRE CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS. The recipient agrees to comply with the requirements in section 743 of the Financial Services and General Government Appropriations Act, 2015 (Division E of the Consolidated and Further Continuing Appropriations Act, 2015, Pub. L. 113-235):

1) The recipient may not require its employees, contractors, or sub-recipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting them from lawfully reporting that waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.
2) The recipient must notify its employees, contractors, or sub-recipients that the prohibitions and restrictions of any internal confidentiality agreements inconsistent with paragraph 1) of this award provision are no longer in effect.
3) The prohibition in paragraph 1) of this award provision does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.
4) If the Government determines that the recipient is not in compliance with this award provision, it:
    a. Will prohibit the recipient's use of funds under this award, in accordance with section 743 of Division E of the Consolidated and Further Continuing Resolution Appropriations Act, 2015, (Pub. L. 113-235) or any successor provision of law; and
    b. May pursue other remedies available for the recipient's material failure to comply with award terms and conditions.

14. Data Collection.

Data collection activities, if any, performed under this Grant are the responsibility of the recipient. Awarding agency support of the project does not constitute approval of the survey design, questionnaire content, or data collection procedures. The recipient shall not represent to respondents that such data are being collected for or in association with the awarding agency without the specific written approval of the cognizant awarding agency official. However, this requirement is not intended to preclude mention of the awarding agency support of the project in response to an inquiry or acknowledgment of such support in any publication of this data.

15. Publications and Acknowledgement of Sponsorship.

Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. .

The recipient agrees that in the release of information relating to the grant, such release shall include the following statement, "The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred." For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

When issuing statements, press releases, requests for proposals, bid solicitations, and other documents describing projects or programs funded in whole or in part with federal money, all recipients receiving federal funds, shall clearly state: (i) the percentage of total costs of the

program or project which will be financed with federal money, and (ii) the dollar amount of federal funds for the project or program.

16. Authorization to Perform Activities Abroad.

If the award recipient is a foreign institution, the recipient assures that it has been duly authorized to operate and do business in the country or countries in which the grant is to be performed; that it has obtained all appropriate licenses, permits, and approvals required in connection with the grant's proposed activities; and that it will fully comply with all the laws, decrees, labor standards and regulations of such country or countries during the performance of the grant. U.S. Government funds may not be used in support of a project which is prohibited by law in the country or countries in which it is undertaken. DTRA does not assume responsibility for the recipient's compliance with the laws and regulations of the country or countries in which the activities are to be conducted.

17. Inconsistency between English Version and Translation of Grant.

The foreign recipient shall ensure that all contract correspondence that is addressed to the U.S. Government is submitted in English or with an English translation. In the event of inconsistency between the terms of the grant and any translation thereof into another language, the meaning in the English language shall control.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 6

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003	23-Mar-2020		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DCMA GARDEN CITY 605 STEWART AVENUE GARDEN CITY NY 11530-4761	S3309A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. DR. KEVIN OLIVAL 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710064
	X	10B. DATED (SEE ITEM 13) 05-Sep-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
DTRA Terms and Conditions for Grants Awards, Section 5

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this modification is to:

1. Combine the scope and value from Option CLINs 0004 and 0005 into CLIN 0003.
2. Extend the PoP of CLIN 0003 from 07/29/2020 to 10/01/2022 at no addtional cost to the Government.
3. Update Grant POC.
4. Update grant funding profile and invoice schedule.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 23-Mar-2020

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $1,509,531.10 from $2,881,912.56 to $4,391,443.66.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0003

The estimated/max cost has increased by $1,509,531.10 from $997,623.66 to $2,507,154.76.
The total cost of this line item has increased by $1,509,531.10 from $997,623.66 to $2,507,154.76.

CLIN 0004

The CLIN extended description has changed from:

Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia
In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0004 HAS BEEN COMBINED WITH CLIN 0003. THIS OPTION IS NOT TO BE EXERCISED.

.

The estimated/max cost has decreased by $840,216.30 from $840,216.30 to $0.00.
The total cost of this line item has decreased by $840,216.30 from $840,216.30 to $0.00.

CLIN 0005

The CLIN extended description has changed from:

Understanding the Risk of Bat-Borne Zoonotic Disease Emergence in Western Asia
In accordance with the following attachments: SOW at Exhibit A dated 29 July 2016 and DTRA Terms and Conditions for Grant Awards dated 31 October 2016 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0005 HAS BEEN COMBINED WITH CLIN 0003. THIS OPTION IS NOT TO BE EXERCISED

.

The estimated/max cost has decreased by $669,314.80 from $669,314.80 to $0.00.
The total cost of this line item has decreased by $669,314.80 from $669,314.80 to $0.00.

SUBCLIN 000302 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000302					$0.00
	Funding in suppport of CLIN 0003 COST				
				ESTIMATED COST	
	ACRN AD CIN: HDTRA10343370001				$1,509,531.10

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000302:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 30-JUN-2019 TO 29-JUL-2020	N/A	N/A FOB: Destination	

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 30-JUN-2019 TO 01-OCT-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $1,509,531.10 from $2,881,912.56 to $4,391,443.66.

SUBCLIN 000302:
Funding on SUBCLIN 000302 is initiated as follows:

ACRN: AD

CIN: HDTRA10343370001

Acctng Data: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410

Increase: $1,509,531.10

Total: $1,509,531.10

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Mr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: 212-380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. Kevin Olival
Title: Associate Vice President for Research
Phone: 212-380-4478
E-mail: olival@ecohealthalliance.org

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $2,507,154.76 is obligated for work to be performed during the period beginning with grant award and continuing through 10/01/2022.
The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	DATE	AMOUNT
1	30-Jul-19	$83,135.36
2	30-Aug-19	$83,135.30
3	30-Sep-19	$83,135.30
4	30-Oct-19	$83,135.30
5	30-Nov-19	$83,135.30
6	30-Dec-19	$83,135.30
7	30-Jan-20	$83,135.30
8	29-Feb-20	$83,135.30
9	30-Mar-20	$83,135.30
10	30-Apr-20	$83,135.30
11	30-May-20	$83,135.30
12	3-Jun-20	$83,135.30
13	31-Jul-20	$62,897.34
14	31-Aug-20	$62,897.12
15	30-Sep-20	$62,897.12
16	31-Oct-20	$62,897.12
17	30-Nov-20	$62,897.12
18	31-Dec-20	$62,897.12
19	31-Jan-21	$62,897.12
20	28-Feb-21	$62,897.12
21	31-Mar-21	$62,897.12
22	30-Apr-21	$62,897.12
23	31-May-21	$62,897.12
24	30-Jun-21	$62,897.12
25	31-Jul-21	$62,897.12
26	31-Aug-21	$62,897.12
27	30-Sep-21	$62,897.12
28	31-Oct-21	$62,897.12
29	30-Nov-21	$62,897.12
30	31-Dec-21	$62,897.12
31	31-Jan-22	$62,897.12

32	28-Feb-22	$62,897.12
33	31-Mar-22	$62,897.12
34	30-Apr-22	$62,897.12
35	31-May-22	$62,897.12
36	30-Jun-20	$62,897.12

*The invoice amounts listed above are estimates. Submitted invoice amounts will be reflective of actual costs incurred on a monthly basis.

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00001	25-May-2018		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	DCMA GARDEN CITY 605 STEWART AVENUE GARDEN CITY NY 11530-4761	S3309A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. DR. KEVIN OLIVAL 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710064
	X	10B. DATED (SEE ITEM 13) 05-Sep-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1724052 Amend No. 1

The purpose of this modification is to:
1. Provide funding on subCLIN 000102 in the amount of $122,592.38, in support of CLIN 0001, Yr 1 activities.
2. Provide funding on subCLIN 000201 in the amount of $979,366.52, in support of CLIN 0002, Yr 2 activities.
3. Update the invoice schedule.

All terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) ONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 25-May-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000102 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00
	Funding in support of CLIN 0001 COST				
				ESTIMATED COST	$0.00
	ACRN AB CIN: HDTRA172405201000102				$122,592.38

SUBCLIN 000201 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000201					$0.00
	Funding in support of CLIN 0002 COST				
				ESTIMATED COST	$0.00
	ACRN AB CIN: HDTRA172405201000201				$979,366.52

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000102:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The following Acceptance/Inspection Schedule was added for SUBCLIN 000201:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $1,101,958.90 from $782,330.00 to $1,884,288.90.

SUBCLIN 000102:
Funding on SUBCLIN 000102 is initiated as follows:

ACRN: AB

CIN: HDTRA172405201000102

Acctng Data: 044315 097 0134 000 N 20182020 D 34HQ 0901515BR KD BP OT 18 1820 0134 34HQ SCNCT DTRA 410

Increase: $122,592.38

Total: $122,592.38

SUBCLIN 000201:
Funding on SUBCLIN 000201 is initiated as follows:

ACRN: AB

CIN: HDTRA172405201000201

Acctng Data: 044315 097 0134 000 N 20182020 D 34HQ 0901515BR KD BP OT 18 1820 0134 34HQ SCNCT DTRA 410

Increase: $979,366.52

Total: $979,366.52

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $1,884,288.90 is obligated for work to be performed during the period beginning with grant award and continuing through 10/01/2019. Additional incremental funding planned, but not obligated, is:

Year 3 (FY20) $997,623.66
Year 4 (FY21) $840,216.30
Year 5 (FY22) $669,314.80

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE:

INVOICE NO.	DATE	AMOUNT
1	November 1, 2017	$122,592.38
2	December 1, 2017	$71,120.90
3	January 1, 2018	$71,120.90

4	February 1, 2018	$71,120.90
5	March 1, 2018	$71,120.90
6	April 1, 2018	$71,120.90
7	May 1, 2018	$71,120.90
8	June 1, 2018	$71,120.90
9	July 1, 2018	$71,120.90
10	August 1, 2018	$71,120.90
11	September 1, 2018	$71,120.90
12	October 1, 2018	$71,121.00

*The invoice amounts listed above are estimates. Submitted invoice amounts will be reflective of actual costs incurred on a monthly basis.

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	22-May-2019		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DCMA GARDEN CITY 605 STEWART AVENUE GARDEN CITY NY 11530-4761	S3309A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. DR. KEVIN OLIVAL 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11710064
	X	10B. DATED (SEE ITEM 13) 05-Sep-2017

CODE 3MMU3 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
DTRA Terms and Conditions #7 - Funding Increment and/or Options.

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this Modification is to:

1) To exercise funds for Year 3 (CLIN 0003) activities in the amount of $997,623.66
2) All other terms and conditions of the grant award remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 22-May-2019

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000301 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000301	Funding In support of Clin 0003 FFP				$0.00
				NET AMT	$0.00
	ACRN AC CIN: HDTRA19311280001				$997,623.66

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000301:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 02-OCT-2019 TO 01-OCT-2020	N/A	N/A FOB: Destination	

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 30-JUN-2019 TO 29-JUL-2020	N/A	N/A FOB: Destination	

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $997,623.66 from $1,884,288.90 to $2,881,912.56.

CLIN 0003:

AC: 044315 097 0134 000 N 20192021 D 3400 0901515BR_KD_BP_TB_19 1921_0134_3400_SCNCT DTRA 410 (CIN SUBCLIN) was increased by $0.00 from $0.00 to $0.00
The contract ACRN AC has been added.
The CIN SUBCLIN has been added.

SUBCLIN 000301:
Funding on SUBCLIN 000301 is initiated as follows:

ACRN: AC

CIN: HDTRA19311280001

Acctng Data: 044315 097 0134 000 N 20192021 D 3400 0901515BR_KD_BP_TB_19 1921_0134_3400_SCNCT DTRA 410

Increase: $997,623.66

Total: $997,623.66

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $2,881,912.56 is obligated for work to be performed during the period beginning with grant award and continuing through 07/29/2020. The amount of $997,623.66, is obligated for work to be performed during Year 3. Additional incremental funding planned, but not obligated, is:

Option CLIN 0004 (Year 4) (FY21) $840,216.30
Option CLIN 0005 (Year 5) (FY22) $669,314.80

The Government's liability is limited to the amount obligated..

INVOICE SCHEDULE:

INVOICE NO.	DATE	AMOUNT
1	July 30, 2019	$83,135.36
2	August 30, 2019	$83,135.30
3	September 30, 2019	$83,135.30
4	October 30, 2019	$83,135.30

5	November 30, 2019	$83,135.30
6	December 30, 2019	$83,135.30
7	January 30, 2020	$83,135.30
8	February 29, 2020	$83,135.30
9	March 30, 2020	$83,135.30
10	April 30, 2020	$83,135.30
11	May 30, 2020	$83,135.30
12	June 30, 2020	$83,135.30

*The invoice amounts listed above are estimates. Submitted invoice amounts will be reflective of actual costs incurred on a monthly basis.

(End of Summary of Changes)

EHA Fringe Rate				31.5%				31.5%				31.5%				31.5%				31.5%								
Direct Labor	**Year 1**				**Year 2**				**Year 3**				**O Year 1**				**O Year 2**											
Dr. Billy Kanesh (3m Y2, Y3, Y4, 2m Y1, Y3 VOS)	$291,058	1.0	$24,253	$7,640	$305,589.85	1.9	$48,385	$15,241	$320,869	2.0	$53,478	$16,846	$336,913	2.0	$56,152	$17,688	$353,758	2.0	$59,960	$18,572	$241,228	$75,987	Senior personn	$528,379				
Dr. M Riddel	$152,533	0	$42,722	$13,457	$107,659.13	6.0	$53,830	$16,956	$113,042	3.0	$56,976	$17,946	$118,694	6.3	$64,260	$20,252	$124,629	6.3	$65,430	$20,613	$285,150	$89,822	Other Personne	$685,421	EHA Perso	$395,142		
Catherine Mashekwa	$84,000	2.0	$14,000	$4,410	$88,200.00	2.0	$14,700	$4,631	$92,610	3.0	$23,153	$7,293	$97,241	3.0	$24,310	$7,658	$102,103	1.0	$8,509	$2,680	$84,671	$26,671		Total fringe	$290,279			
Dr. N Ncube (1m Y1, 2m Y2, 3m Y3-OS)	$91,739	0.5	$3,822	$1,204	$96,325.98	0.5	$4,014	$1,264	$101,142	0.5	$4,214	$1,327	$106,199	0.7	$6,190	$1,951	$111,509	2.0	$18,585	$5,854	$116,830	$11,602	Equipment	20000				
Yasha Fellenhotz (1m)	$85,311	0.5	$3,555	$1,120	$89,577.02	0.5	$3,732	$1,176	$94,056	0.5	$3,919	$1,234	$98,759	0.5	$4,115	$1,296	$103,697	0.5	$4,321	$1,361	$19,642	$6,187	International T	$198,501				
Modeler	$85,000	2	$14,167	$4,463	$89,250.00	0.0	$0	$0	$93,713	0.0	$0	$0	$98,399	0.0	$0	$0	$75,000	0.0	$0	$0	$14,167	$4,463	Domestic travel	$20,490				
Research Assistant	$58,500	7.0	$34,125	$10,749	$61,425.00	7.0	$35,831	$11,287	$64,496	7.0	$37,623	$11,851	$67,721	7.0	$39,504	$12,444	$71,107	7.0	$41,479	$13,066	$188,562	$59,397	Trainee suppor	$84,000				
Operations Assistant	$53,174	2.0	$8,862	$2,792	$55,832.25	2.0	$9,305	$2,931	$58,624	2.0	$9,771	$3,078	$61,555	2.0	$10,259	$3,232	$64,633	2.0	$10,772	$3,393	$48,970	$15,425	Direct Costs	$189,609	Materials a	$55,759		
Technical Specialist	$55,219	0.5	$2,300.78	$724.75	$57,979.65	0.0	$0	$0	$60,879	0.0	$0	$0	$63,923	0.0	$0	$0	$67,119	0.0	$0	$0	$2,301	$725			Publicatior	$15,000				
Total Direct Labor			$147,807			20	$199,797			21	$191,054			21	$204,828			21	$209,955						Computer I	$20,000				
Fringe Benefits (323)				$46,559				$63,486				$60,175.56				$64,520.81				$65,537	$0				Subawards see subawardi budgets				
Other Labor	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**					Rental	0				
RSA M student researcher 1 (1)	$8,000	0	$0		8,000	0	$0		8,000	0	$0		8,000	12	$8,000		$ 8,000	12	$ 8,000		$16,000				Renovatior	0				
RSA M student researcher 2 (2)	$8,000	0	$0		$8,000	12	$8,000		$8,000	12	$8,000		8,000	12	$8,000		$ 8,000	12	$ 8,000		$32,000				IRB	$10,000				
RSA PhD student 1 (1)	$12,000	12	$12,000		$12,000	12	$12,000		$12,000.00	12	$12,000		$12,000.00	12	$12,000		$ 12,000.00	12	$ 12,000		$36,000				Stakeholde	$68,850				
			$0				$0				$0				$0				$0		$0									
Total other Labor			$12,000				$20,000				$20,000				$16,000				$16,000		$84,000									
Total Labor			**$206,366**				**$243,283**				**$271,209**				**$285,349**				**$299,593**		$1,295,800									
Travel	*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*												
International Travel			$39,218				$39,218				$45,255				$39,012				$35,797		$198,501									
Domestic Travel			$1,810				$4,870				$4,870				$4,870				$4,870		$20,490									
Local RSA Travel			$0				$0		$0	0	$0			0	$0		$0	0	$0		$0									
Total Travel			**$41,028**				**$43,089**				**$49,025**				**$43,882**				**$40,467**		$218,991									
Materials & Supplies	*Cost (month)*	*Quantity*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*			*Cost (month)*	*Quantity(months)*												
Field supplies	$6,000	1.0	$6,000		$3,000	1	$3,000		$3,000	1	$3,000		$3,000	1	$3,000		$3,230	1	$3,230		$15,230									
Theory Computers	$3,000	1	$3,000		$3,000	1	$3,000		$2,000	1	$2,000		$3,000	1	$3,000		$0	1	$0		$11,000									
Misc	$2,500	1	$2,500		$1,500	1	$1,500		$1,500	1	$1,500		$1,500	1	$1,500		$1,500	1	$1,500		$6,500									
IRB	$2,000	1	$2,000		$2,000	1	$2,000		$2,000	1	$2,000		$2,000	1	$2,000		$2,000	1	$2,000		$10,000									
Publications (open access fee)	$1,500	0	$0		$1,500	2	$3,000		$1,500	2	$3,000		$1,500	3	$4,500		$1,500	3	$4,500		$15,000									
Communication	$4,000	1.0	$4,000		$4,000	1	$4,000		$4,000	1	$4,000		$4,000	1	$4,000		$4,000	1	$4,000		$20,000									
Workshop (soon)			$0				$0		$5,000	1	$5,000			0	$0		$5,000	1	$5,000		$10,000									
Supplies for Students	$2,000	1	$2,000		$2,000	2	$4,000		$2,000	2	$4,000		$2,000	2	$4,000		$2,000	2	$4,000		$18,000									
Hist Stakeholder meeting	$9,850	1	$9,850		$10,000	1	$10,000		$12,000	1	$12,000		$13,000.00	1	$13,000		$14,000	1	$14,000		$58,850									
Total Materials & Supplies			**$29,350**				**$30,500**				**$36,500**				**$35,000**				**$38,259**		$169,609									
Equipment	*Cost (month)*	*Quantity*			*Cost (month)*	*Quantity(months)*			*Rate (hour)*	*Quantity (hours)*			*Rate (hour)*	*Quantity (hours)*			*Rate (hour)*	*Quantity (hours)*												
[redacted]		0	$0																		$0									
	$10,000	1	$10,000																		$10,000									
Freezer (NCD)	$10,000	1	$10,000								$0										$10,000									
Total Equipment			**$20,000**				**$0**				**$0**				**$0**				**$0**											
Total EHA Direct Costs			**$276,744.01**				**$ 317,872.33**				**########**				**########**				**########**		##########	$579,007.99								
EHA Indirect			$ 58,558.08	#########			$ 101,855.14	#########			#########	#########			#########	#########			#########	#########	$ 539,007.99	$579,007.99								
Subcontractor Tdbtn + equipment		***Indirect Rate***	$592,697.81	#########		***Indirect Rate***	$ 580,152.82	#########		***Indirect Rate***	#########	#########		***Indirect Rate***	#########	#########			#########	#########		***Indirect Rate***		#########	#########					
Indirect on Subcontracts	Invoiced in YF	$ 0.32	$ 40,000.00	Difference	Original	$ 0.32	Difference		Original	$ 0.32	Difference		Original	$ 0.32	Difference		Original	$ 0.32	Difference		$ 40,000.00	996,556								
Total Costs	$997,641		**$998,000**	$1,999	$999,703		**$999,480**	$510	$997,785		**$997,557**	$2,442	$996,560		**$996,877**	$3,122	$996,556		**$996,611**	$3,388	$4,988,526									
	Conversion Rate Used										$2,995,037								$1,003,489											
Subcontractor Costs	0.0750																													
USRA	*Total Salary*	*Months for RVFV*	**Requested**	**Subtotal**	*Total Salary*	*Months for RVFV*	**Requested**	**Subtotal**	*Total Salary*	*Months for RVFV*	**Requested**	**Subtotal**	*Total Salary*	*Months for RVFV*	**Requested**	**Subtotal**	*Total Salary*	*Months for RVFV*	**Requested**	**Subtotal**										
[redacted] (1m/year)	$100,000	18%	$18,167		$103,000	18%	$18,712		$106,090	18%	$19,088		$109,273	18%	$19,564		$112,551	18%	$20,052											
Image Analyst (12m/year1; 5m/year2; 3m/year3)	$61,370	0	$0		$63,211	78%	$49,031		$0	0%	$0		$0	0%	$0		$0	0%	$0											
Direct labor off site	$75,000	5%	$3,502	$21,669	$77,250	5%	$3,590	$71,333	$79,568	4.62%	$3,679	$22,767	$81,955	4.60%	$3,771	$23,335	$84,413	4.58%	$3,866	$23,918										
Travel	$13,127	1	$13,127		$13,455	1	$13,455		$13,792	1	$13,792		$ 14,136	1	$14,136		$14,399	1	$14,399											
Other direct costs (under 3k: including publication costs, facility costs, field work supplies)	$2,649	1	$2,649		$2,649	1	$2,649		$2,649	1	$2,649		$2,649.00	1	$2,649		$2,649	1	$2,649											
ODC procurements (over 3k)		0	$0			0	$0		$3,000	1	$3,000		$3,000.00	0	$0		$3,000	1	$3,000											
[redacted] (6m/year - sub contract	$66,217	55%	$47,044		$68,804	49%	$43,765		$91,468	48%	$43,502	$85,710	$94,212	51%	$48,193	$88,313	$97,038	47%	$45,715	$89,480										
FringeTBD		48%	$15,509			49%	$34,557			49%	$11,042			49%	$11,318			48%	$15,600											
R&D Business Sector OH	$5,131	1	$5,131		$13,058	1	$13,058		$5,698	1	$5,698		$5,504.00	1	$5,504		$5,947	1	$5,947											
Subcontract procurement Rate	$941	1	$941		$975	1	$975		$930	1	$930		$964.00	1	$964		$974	1	$974											
General and Administrative	$5,835	1	$5,835		$14,684	1	$14,684		$6,467	1	$6,467		$6,254.00	1	$6,254		$6,748	1	$6,748											
Fee	$3,207	1	$3,207		$5,832	1	$5,832		$3,295	1	$3,295		$3,371	1	$3,371		$3,446	1	$3,446											
Total		**USRA: Subtotal**	**$110,112**			**USRA: Subtotal**	**$208,238**			**USRA: Subtotal**	**$113,142**			**USRA: Subtotal**	**$112,724**			**USRA: Subtotal**	**$118,286**		$657,614									
NCD	*Total Salary*	*% time spent for*	**Requested (do% Kind**		*Total Salary*	*% time spent for RVFV*	**Requested (do% Kind**		*Total Salary*	*% time spent for RVFV*	**Requested (do% Kind**		*Total Salary*	*% time spent for RVFV*	**Requested (do% Kind**		*Total Salary*	*% time spent for RVFV*	**Requested (do% Kind**											
Senior Personnel			$ 26,616																			Senior Personr	$187,027							
[redacted]	$119,723	0.75	$7,483		$123,314	0.75	$7,707	$7,797	$127,014	0.75	$7,938.35	$7,621	$130,824	0.75	$8,177	$8,222	$134,749	1.15	$12,913	$8,715	$44,218	Other Personne	$154,180							
[redacted]	$57,401	1	$4,783		$59,123	2	$9,854	$13,336	$60,897	2	$10,149.52	$10,353	$62,724	2	$10,454	$10,956	$64,606	2.00	$10,768	$11,814	$46,009	Participant suj	$17,000	Stakeholder:	$14,000					
[redacted]	$57,401	2	$9,567		$59,123	3	$14,781	$15,200	$60,897	3	$15,224.29	$15,224	$62,724	3	$15,681	$16,112	$64,606	3.00	$16,151	$17,079	$71,405			Mosquito wo	$3,000					
	$57,401	1	$4,783		$59,123	1	$4,927	$9,120	$60,897	1	$5,074.76	$9,135	$62,724	1	$5,227	$9,667	$64,606	1.00	$5,384	$10,247	$25,396	Travel	$33,274							
Other Personnel			$ 28,999																					NKO vehicle	$29,166					
[redacted]	$20,163	2.75	$4,621		$20,768	2.75	$4,759	$4,759	$21,391	2.75	$4,902	$4,902	$22,033	2.8	$5,141	$1,200	$22,694	2.80	$5,295	$1,236	$24,718	moved from au human		$4,108						
[redacted]	$47,800	0.7	$2,789		$49,234	0.7	$2,872	$3,090	$50,711	0.7	$2,958.14	$2,958	$52,232	0.7	$3,047	$3,222	$53,799	0.72	$3,223	$3,415	$14,889	Supplies		$5,000	mosquitoes	$5,000				
	$17,006	1	$1,417		$17,516	1	$1,460	$1,801	$18,041	1	$1,503.45	$1,804	$18,583	1	$1,549	$1,909	$19,140	1.00	$1,595	$2,024	$7,524	Lab costs		$172,477	ELISA	$8,209				
Mudkat technologist	$20,163	13	$20,163		$20,768	12	$20,768	$21,397	$21,391	12	$21,391.09	$21,397	$22,033	12	$22,033	$22,694	$22,694	12.00	$22,694	$23,990	$107,049				ELISA kites	$10,658				
Particiant support costs			$ 6,000																						POR	$153,410				
Host stakeholder meeting (local travel) (Y1-3, Y5)	$3,000	1	$3,000		$3,000	12	$3,000		$3,500	12	$3,500		$4,000.00	0	$0		$4,500	12	$4,500		$14,000	Other		$2,000	Transfer ELIS	$2,000				
Mosquito workhop	$3,000	1	$3,000				$0				$0				$0				$0		$3,000									
Travel			$ 12,796																			Total		$570,958						
Human survey and cohort travel costs (field work and meetings)2 people	$4,108.00	1	$4,108		$115	0			$115				$4,231.24	0	$0						$4,108									
NKO vehicle rental (human and mosquito	$8,488	1	$8,488		$3,258	12	$3,258		$8,164	12	$8,164		$ 8,330.00	12	$4,233		$4,823	12	$4,823		$29,166	Total								
Supplies																														
Questionnaire supplies (paper, printer ink, labels, labels books, pens, etc.)		1	$0										$700	0	$0						$0									
Cohort survey and cohort travel costs (field work and meetings)2 people		10	$0		$115	0			$115				$0.00	0	$0						$0									
Marketing/stakeholder stuff			$0				$0		$5,000	12	$5,000			0	$0						$5,000									
Human sampling consumables (swabs, tubes, swabs, disposable containers, biohazard bag,		12	$0										$2,273	0	$0						$0									
Other Direct Costs																														
RVF tenticlon ELISA (lower :117 rand each)	$7,480	800	$7,480		$0	0	$0		$0	0	$0		$0	0	$0		$0	0	$0		$7,480									
RVF IgM ELISA (lower 117 rand each)	$729	80	$729		$0	0	$0		$0	0	$0		$0.00	0	$0		$0	0	$0		$729									
Tenticlion ELISA kits (OVR and technology transfer)	$5	360	$1,664.80		$5	1960	$9,172.80		$5	0	$0		$5	0	$0		$5	0	$0		$10,858									
Transfer cELISA technology as permitted to OVR					$2,000	1	$2,000.00														$2,000									
qRT-PCR (172,300 adult pools at 300 rand each) 75/pool	$23	800	$18,704		$23	800	$18,704		$23	800	$18,704		$23.38	1429	$33,399		$23	800	$18,704		$108,215									
qRT-PCR mark recapture	$23	0	$0		$23	0	$0		$23	567	$13,248		$23.38	0	$0		$23	0	$0		$13,248									
qRT-PCR Y1-Y3 extraction	$23	160	$3,741		$23	160	$3,741		$23	160	$3,741		$23.38	0	$0		$23	0	$0		$11,222									
qRT-PCR (KZN, 10000 per year)					$23	267	$6,235		$23	133	$3,117		$23.38	238	$5,567		$23	133	$3,117		$18,036									
qRT-PCR Y4 and Y5egg extraction	$23	0	$0		$23	0	$0		$23	0	$0		$23.38	84	$1,964		$23	31	$725		$2,689									
NCD Subtotal			$106,741				$113,258				$124,616				$116,470				$109,893											
Overhead	AGREED		$0	15%	AGREED		$0		AGREED		$0		AGREED		$0		AGREED		$0											
TRM	$106,943.15	**NICD - Subtotal**	**$106,741**		$114,993	**NICD - Subtotal**	**$113,239**		$126,485	**NICD - Subtotal**	**$124,616**		$117,842.50	**NICD - Subtotal**	**$116,470**	**$117,543**	$109,822	**NICD - Subtotal**	**$109,893**	$109,822	$570,958									
University of Pretoria				**In Kind**				**In Kind**				**In Kind**				**In Kind**				**In Kind**										
Senior Personnel			$ 1,333																											
100% in kind	$100,000	2	$16,666.67				$0	$18,000		12	$ -	19440		12	$ -	20995.2		12	$0	22674.816	In kind	$105,599								
Other Personnel																														
Post doc entomology	$20,000	12	$20,000		$21,600	12	$21,600		23328	12	$ 23,328		25,194	12	$ 25,194		27,210	12	$27,210		Other Personnel	$117,332				$97,777			
Travel																														
Vehicle and fuel costs for fieldwork and survey visits	$9,000	12	$9,000		$9,720	12	$9,720		10497.6	12	$ 10,498		11,337	12	$ 11,337		12,244	12	$12,244		Travel	$78,847							
Travel costs for meetings with partners and stakeholders	$400	12	$400		$476	12	$476		512.64	12	$ 512		554	12	$ 554		598	12	$598		Field work	$52,799							
Communication and subsistence for field trips	$4,000	12	$4,000	1333.3	$4,320	12	$4,320	$1,440	4665.6	12	$ 4,666	1555.16112	5,039	12	$ 5,039	1679.57401	5,442	12	$5,442	1813.9390	Meetings	$2,581							
Supplies																					Supplies	$4,693	in kind						
Dry ice	$800	12	$800		$864	12	$864		933.12	12	$ 933		1,008	12	$ 1,008		1,088	12	$1,088			Accomodatio	$23,496	$7,822						
UP Subtotal			$34,240	In Kind Total			$36,979	$19,440			$39,938	$20,995			$43,133	$22,675			$46,583	$24,488	Indirect	$8,354	$83,540						
Overhead excl. stipend	AGREED	10%	$3,424		AGREED	10%	$3,698	Contracted	AGREED	10%	$3,994		AGREED	10%	$1,794		AGREED	10%	$1,937		$ year Total	$200,872							
Total	$ 30,895.00	**UP - Subtotal**	**$33,664**	$18,000	$ 36,138	**UP - Subtotal**	**$38,517**		$41,391	**UP - Subtotal**	**$41,598**		$45,524.40	**UP - Subtotal**	**$44,926**		$50,277	**UP - Subtotal**	**$48,520**		$ 209,226	$209,226.46							
ExecuVet	*Total Salary*	*Months for RVFV*	**Requested**	**No in kind**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**	*Total Salary*	*Months for RVFV*	**Requested**	**Fringe**										
Senior Personnel																					Senior Personr	$294,191							
[redacted]	$71,040	9	$53,280	$53,280	$73,171	9	$54,878	$54,878	$75,366	9	$56,525	$56,525	$77,827	10.75	$69,541	$69,541	$ 79,998	9	$59,967	$59,967	Other Personnel	$240,093							
Other Personnel																					Equipment	$5,604							
Senior Research Technician KZN	$23,520	12	$23,520		$24,226	13	$24,226		$24,952	12	$24,952		$25,701	12	$25,701		$26,472	12	$26,472		Travel	$203,068							
Animal Health Technician 2 KZN (TBD) - Temp. to complete cross sectional and 400																														
taxonomic surveys	$16,800	6	$5,400	$60,624		0	$0	$42,395		0	$0	$45,771.44	$19,231	0	$0	$44,877	$19,231	0	$0	$46,328		Field Vehicle E	$29,168							
Entomological Field Assistant 1 KZN	$8,640	12	$8,640		$8,899	12	$8,899		$9,166	12	$9,166		$9,441	12	$9,441		$9,724	12	$9,724			Fuel	$97,009							
Professional Medical Nurse (1 KZN (TBD, Zulu speaking and OTI trained)	$17,919	6	$9,960			0	$0			0	$0		$17,919.36	0	$0			0	$0			Per Diem's and	$54,343							
Human Field Assistant 1 KZN (TBD, zulu speaking and OTI trained)	$4,210	6	$2,105			0	$0		$4,210	6	$2,105		$4,210	0	$0			0	$0			Misc	$7,500							
Executive office administration/clerical based in PE	$9,000	12	$9,000		$9,270	12	$9,270		$9,548	12	$9,548.10		$9,835	12	$9,835		$10,130	12	$10,130				$10,048							
Equipment																							$56,329							
Thermospecific centrifuge KZN	$5,604	1	$5,604		$0	0	$0		$5,604	0	$0		$0	0	$0		$0	0	$0		Supplies	Field Supplies	$29,835							
Travel																						Label Printer S	$9,635							
Field vehicle expenses (toll fees, carwash, services, repairs, maintenance, warranties)	$8,250	1	$8,250	$8,250	$5,000	1	$5,000	$5,000	$5,150	1	$5,150	$5,150	$5,305	1	$5,305	$5,305	$5,464	1	$5,464	$5,464		Office Supplies	$15,859	** can increase printing in Y3						
Field vehicle expenses (fuel)	$37,155	1	$37,155	$37,155	$11,713	1	$11,713	$11,713	$13,988	1	$15,584	$15,584	$15,218	1	$15,218	$15,218	$17,339	1	$17,339	$17,339	Consultant	$5,570							
Field personnel accomodation and subsidence payments ($/day/person); occasional private																														
vehicle use	$31,070	1	$31,070		$5,366	1	$5,366		$6,772	1	$7,175		$5,366	1	$5,366		$5,366	1	$5,366		Rental	$51,853							
AK field funds	2762	1	$2,762		$2,762	1	$2,762		$4,000	1	$4,000		$2,762	1	$2,762		$2,762	1	$2,762		Office related fe	$35,059							
Misc	$1,500.00	1	$1,500		$1,500	1	$1,500		$1,500	1	$1,500		$1,500	1	$1,500		$1,500	1	$1,500			Bank	$3,600							
Supplies																						Accounting	$31,459							
Supplies for field activities (mosquitoes, ruminants, human, vegetation)	$14,750	1	$14,750		$3,500	1	$3,500		$3,675	1	$3,675		$3,859	1	$3,859		$4,052	1	$4,052		Field Related fe	$41,377							
Label Printer supplies	$5,635	1	$5,635		$1,000	1	$1,000		$1,000	1	$1,000		$1,000	1	$1,000		$1,000	1	$1,000			Animal mainte	$24,865							
General printing, stationary, bulk SMS, internet/wifi/telephone, etc.)	$4,676	1	$4,676		$2,455	1	$2,455		$3,192	1	$3,192		$2,701	1	$2,701		$2,836	1	$2,836			Medical waste	$2,400							
Consultant																						Courier	$10,080							
Labourfiet	$1,008	1	$1,008		$1,058	1	$1,058		$1,111	1	$1,111		$1,167	1	$1,167		$1,225	1	$1,225			Translation	$4,032							
Rental																					Insurance	$22,014							
	$9,384	1	$9,384		$9,853	1	$9,853		$10,346	1	$10,346		$10,863	1	$10,863		$11,406	1	$11,406			Insurance	$19,710							
Office Related Fees																						Tracker	$2,304							
Bank Charges	$720	1	$720		$720	1	$720		$720	1	$720		$720	1	$720		$720	1	$720											
Accounting fee	$7,830	1	$7,830		$5,481	1	$5,481		$5,755	1	$5,755		$6,045	1	$6,045		$6,348	1	$6,348											
Field Related Costs																														
Incentive/payment for animal inclusion and maintenance in the 5 year study FS only	$4,500	1	$4,500		$4,725	1	$4,725		$4,961	1	$4,961		$5,209	1	$5,209		$5,470	1	$5,470											
Vehicle tracking management	$460	1	$460		$483	1	$483		$460	1	$460		$483	1	$483		$507	1	$507											
Courier fees (KZN)	$10,080	1	$10,080		$10,584	0	$0		$10,080	0	$0		$11,000	0	$0		$11,338	0	$0											
Translation services (incidental)	$1,920	1	$1,920		$1,920	0	$0		$2,112	1	$2,112		$2,112	0	$0		$0	0	$0											
Insurance																														
Tracker (2 field vehicles)	139	3	$417		$146	3	$438		$153	3	$460		$161	3	$483		$169	3	$507											
Insurance (field vehicles and project equipment)	3567	1	$3,567		$3,745	1	$3,745		$3,933	1	$3,933		$4,129	1	$4,129		$4,336	1	$4,336											
ExecuVet Subtotal			$265,213				$157,070				$173,450				$181,324				$177,103		$ year Total	$954,159							
	AGREED		$0	Contracted	AGREED		$0	Contracted	AGREED		$0.00		AGREED		$0		AGREED	0%	$0		$ -	954,159								
Total	$ 267,988	**execuVet - Subtot**	**$ 265,213**		$

	Y1	Y2	Y3	Y4	Y5	
MR	13187	14516	12416	15052	13552	
BK	11815	11815	11815	11815	12501	
CM	14216	7988	16124	7245	4844	
Int Conf travel		4900	4900	4900	4900	
Dom Conf travel	1260	4120	4120	4120	4120	1260
Meet Assaf	550	550	550	550	550	
Total	**41028**	43889	49925	43682	40467	

Dom Total	$1,810	$4,670	$4,670	$4,670	$4,670
Intn'l Total	$39,218	$39,219	$45,255	$39,012	$35,797
Total	$41,028	$43,889	$49,925	$43,682	$40,467

39033	45191	38419	35654	
38175				

	Y1										Y2										Y3										OY1										OY2										
	#	Pools	OVR Inhib	OVR IgM	OVR full genome	NICD PCR	NICD Inhib	NICD IgM	NICD VNT	IDVet NICD	#	Pools	OVR Inhib	OVR IgM	OVR full genome	NICD PCR	NICD Inhib	NICD IgM	NICD VNT	IDVet NICD	#	Pools	OVR Inhib	OVR IgM	OVR full genome	NICD PCR	NICD Inhib	NICD IgM	NICD VNT	IDVet NICD	#	Pools	OVR Inhib	OVR IgM	OVR full genome	NICD PCR	NICD Inhib	NICD IgM	NICD VNT	IDVet NICD	#	Pools	OVR Inhib	OVR IgM	OVR full genome	NICD PCR	NICD Inhib	NICD IgM	NICD VNT	IDVet NICD	
Livestock cohort	0		$0.00	$0.00							0		$0.00	$0.00							0		$0.00	$0.00							0		$0.00	$0.00							0		$0.00	$0.00							
Livestock KZN cross-sectional sample Y1 and Y4, test Y2 and Y5			$0.00	$0.00							1600		$12,469.04	$1,246.90							0		$0.00	$0.00							0		$0.00	$0.00							0		$0.00	$0.00							
Sheep cohort	360		$2,805.53	$70.14							360		$2,805.53	$70.14							360		$2,805.53	$70.14							360		$2,805.53	$70.14							360		$2,805.53	$70.14							IF WE WANT WOULD BE
Cohort titers																																															2000 $46,291.30
People	800						$7,480.00	$729.44			0						$0.00	$0.00			0						$0.00	$0.00			0						$0.00	$0.00			0						$0.00	$0.00		
Mosquito PCR - adults	60000	75				$18,703.55					60000	75				$18,703.55					60000	75				$18,703.55					60000	42				$33,399.20					60000	75				$18,703.55				
Mosquito PCR - larval study	0					$0.00					0					$0.00					0					$0.00					0					$0.00					0					$0.00				
Mosquito PCR - mark recapture	0	75				$0.00					0	75				$0.00					42500	75				$13,248.35					0	40				$0.00					0	75				$0.00				
qRT-PCR (120 egg extraction/ovitrap study at 300 rand each)	160	1				$3,740.71					160	1				$3,740.71					160	1				$3,740.71					0	1				$0.00					0	1				$0.00				
Mosqito PCR KZN adduts	0	75				$0.00					20000	75				$6,234.52					10000	75				$3,117.26					10000	42				$5,566.53					10000	75				$3,117.26				
qRT-PCR (40 resting box/gravid mosquito study at 300 rand each)	0	1				$0.00					0	1				$0.00					0	1				$0.00					84	1				$1,963.87					31					$724.76				
Barcode PCR (1000 resting box/gravid mosquito study at 300 rand each)	0	75				$0.00					0					$0.00					0					$0.00					0					$0.00					0					$0.00				
IDVet comparison	0						$0.00		$0.00	$0.00	0						$0.00		$0.00	$0.00	0						$0.00		$0.00	$0.00	0						$0.00		$0.00	$0.00	0						$0.00		$0.00	$0.00
Phylogenetic analysis	0				$0.00						0				$0.00						0				$0.00						0				$0.00						0				$0.00					
Subtotal			$2,805.53	$70.14	$0.00	$22,444.27	$7,480.00	$729.44	$0.00	$0.00			$15,274.57	$1,317.04	$0.00	$28,678.78	$0.00	$0.00	$0.00	$0.00			$2,805.53	$70.14	$0.00	$38,809.88	$0.00	$0.00	$0.00	$0.00			$2,805.53	$70.14	$0.00	$40,929.61	$0.00	$0.00	$0.00	$0.00			$2,805.53	$70.14	$0.00	$22,545.58	$0.00	$0.00	$0.00	$0.00
Total										$33,529.38										$45,270.39										$41,685.55										$43,805.28										$25,421.25
Exchange	0.0779	MR exchange rate Oanda annual average rate between June 2017-May 2018																																															
Test	ZAR per test	USD per test																		41587.704										2,688.64										43691.8538										24598.642
OVR inhibition ELISA	100	$7.793																																															
OVR VNT if have >10 samples	297	$23.15																																															
OVR full genome sequencing		$819.00																																															
NICD recombinant ELISA	120	$9.35																																															
NICD inhibition ELISA	120	$9.35	$4.68																																														
NICD VNT	486	$37.87																																															
NICD IgM	117	$9.12																																															
NICD human inhibition	120	$9.35																																															
IDVet kits		$9.90																																															
NICD PCR	300	$23.38																																															

(b)(6)

From: (b)(6)
Sent: Friday, August 16, 2019 10:46 AM
To: Mindy Rostal; Dr. Karesh Billy; Aleksei Chmura
Cc: (b)(6)
(b)(6) DTRA Ft Belvoir Office of the DIR Mailbox PP-FMKA SPS Contracts; onr_seattle@navy.mil
Subject: HDTRA1-19-1-0033
Attachments: HDTRA11910033.pdf; FRBAA14-6-2-0333-SOW.pdf; Terms and Conditions (DTRA-specific)_6April2018.pdf

Good Morning,

Attached is grant HDTRA1-19-1-0033 for your records.

Thank you,

(b)(6), Contractor

Contract Specialist

All Native Group

(b)(6)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00001	27-Nov-2019		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11910033
	X	10B. DATED (SEE ITEM 13) 15-Aug-2019
CODE 3MMU3	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
DTRA Terms and Conditions section 5

E. IMPORTANT: Contractor ☐ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
Incremental funding of $436.10

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 27-Nov-2019

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $436.10 from $998,000.90 to $998,437.00.

SUBCLIN 000102:

AB: 044315 097 0134 000 N 20192021 D 3400 0901515BR_KD_BP_TB_19 1921_0134_3400_SCNCT DTRA 410 (CIN HDTRA19312200001) was increased by $436.10 from $996,413.90 to $996,850.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/AL-ACC
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. Grantee Business Office:
Name: Dr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

c. Grantee Principal Investigator (PI):
Name: Dr. William Karesh
Title: Executive Vice President of Health and Policy
Phone: (212) 380-4463
E-mail: karesh@ecohealthalliance.org

(End of Summary of Changes)

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 12

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA11910033	15 Aug 2019	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317	9. DISCOUNT FOR PROMPT PAYMENT
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: — ITEM
CODE 3MMU3 — FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2317	HQ0337

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				
				15G. TOTAL AMOUNT OF CONTRACT	**$998,464.00**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 5			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	6	X	J	LIST OF ATTACHMENTS	12
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	7		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	8				
X	G	CONTRACT ADMINISTRATION DATA	9 - 11		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	15-Aug-2019

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1		$998,464.00	$998,464.00

YEAR 1: FRBAA14-6-2-0333
FFP
Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics.

In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B.
FOB: Destination

NET AMT $998,464.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Funding for CLIN 0001
FFP

NET AMT $0.00

ACRN AA $1,587.00
CIN: HDTRA19314590001

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00
	Funding for CLIN 0001 FFP				
				NET AMT	$0.00
	ACRN AB CIN: HDTRA19312200001				$996,413.90

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002 OPTION	YEAR 2: FRBAA14-6-2-0333 FFP Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics. In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B. FOB: Destination	1		$998,181.00	$998,181.00
				NET AMT	$998,181.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003		1		$997,709.00	$997,709.00
OPTION	YEAR 3: FRBAA14-6-2-0333 FFP Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics. In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B. FOB: Destination				
				NET AMT	$997,709.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0004		1		$997,193.00	$997,193.00
OPTION	YEAR 4: FRBAA14-6-2-0333 FFP Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics. In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B. FOB: Destination				
				NET AMT	$997,193.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0005		1		$997,467.00	$997,467.00
OPTION	YEAR 5: FRBAA14-6-2-0333 FFP Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics. In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B. FOB: Destination				
				NET AMT	$997,467.00

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-14-24-FRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.531

c. **Authority:** 10 U.S.C. 2358 as amended

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A
0002	Destination	Government	Destination	Government
0003	Destination	Government	Destination	Government
0004	Destination	Government	Destination	Government
0005	Destination	Government	Destination	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 19-AUG-2019 TO 18-AUG-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A
0002	POP 19-AUG-2020 TO 18-AUG-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
0003	POP 19-AUG-2021 TO 18-AUG-2022	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1
0004	POP 19-AUG-2022 TO 18-AUG-2023	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1
0005	POP 19-AUG-2023 TO 18-AUG-2024	N/A	(SAME AS PREVIOUS LOCATION) FOB: Destination	HDTRA1

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20182020 D 34HQ 0901515BR_KD_BP_OT_18 1820_0134_34HQ_SCNCT DTRA 410
AMOUNT: $1,587.00

AB: 044315 097 0134 000 N 20192021 D 3400 0901515BR_KD_BP_TB_19 1921_0134_3400_SCNCT DTRA 410
AMOUNT: $996,413.90

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	HDTRA19314590001	$1,587.00
AB	000102	HDTRA19312200001	$996,413.90

CLAUSES INCORPORATED BY REFERENCE

252.232-7007 Limitation Of Government's Obligation APR 2014

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/AL-ACC
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

e. Grantee Business Office:
Name: Dr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

f. Grantee Principal Investigator (PI):
Name: Dr. William Karesh
Title: Executive Vice President of Health and Policy
Phone: (212) 380-4463
E-mail: karesh@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/BTRP
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:

The amount of $998,000.90 is obligated for work to be performed during the period beginning with grant award and continuing through August 18, 2020. Additional incremental funding planned, but not obligated, is:

FY19 $463.10

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE

1	9/19/2019	$83,205.33
2	10/19/2019	$83,205.33
3	11/19/2019	$83,205.33
4	12/19/2019	$83,205.33
5	1/19/2020	$83,205.33
6	2/19/2020	$83,205.33
7	3/19/2020	$83,205.33
8	4/19/2020	$83,205.33
9	5/19/2020	$83,205.34
10	6/19/2020	$83,205.34
11	7/19/2020	$83,205.34
12	8/19/2020	$83,205.34

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Statement of Work	6	05-DEC-2018
Exhibit B	DTRA Terms and Conditions	18	06-APR-2018

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 9

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	24-Mar-2020		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA11910033
	X	10B. DATED (SEE ITEM 13) 15-Aug-2019
CODE 3MMU3	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Terms & Conditions, Paragraph 5 Modification of the Grant

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
The purpose of this modification is to:
(1) Combine the scope and value from Option CLINs 0002, 0003, 0004, and 0005 into base CLIN 0001.
(2) Extend the PoP of CLIN 0001 through August 18, 2024 at no additional cost to the Government.
(3) Update Grant POC.
(4) Update grant funding profile and invoice schedule.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) / CONTRACTING OFFICER (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	24-Mar-2020

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $3,990,550.00 from $998,464.00 to $4,989,014.00.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0001

The unit price amount has increased by $3,990,550.00 from $998,464.00 to $4,989,014.00.
The unit of issue Lot has been added.
The total cost of this line item has increased by $3,990,550.00 from $998,464.00 to $4,989,014.00.

CLIN 0002

The CLIN extended description has changed from:

Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics.In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0002 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

The pricing detail quantity has decreased by 1.00 from 1.00 to 0.00.
The total cost of this line item has decreased by $998,181.00 from $998,181.00 to $0.00.

CLIN 0003

The CLIN extended description has changed from:

Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics.In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0003 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

The pricing detail quantity has decreased by 1.00 from 1.00 to 0.00.
The total cost of this line item has decreased by $997,709.00 from $997,709.00 to $0.00.

CLIN 0004
The CLIN extended description has changed from:

Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics.In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0004 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

The pricing detail quantity has decreased by 1.00 from 1.00 to 0.00.
The total cost of this line item has decreased by $997,193.00 from $997,193.00 to $0.00.

CLIN 0005
The CLIN extended description has changed from:

Reducing the Threat of Rift Valley Fever through Ecology, Epidemiology, and Socio-Economics.In accordance with the following attachments: SOW at Exhibit A dated December 5,2018 and DTRA Terms and Conditions for Grant Awards, dated April 6, 2018 at Exhibit B.

To:

FOR MISSION CONTINUITY, THE SCOPE AND VALUE FROM CLIN 0005 HAS BEEN COMBINED WITH CLIN 0001. THIS OPTION IS NOT TO BE EXERCISED.

The pricing detail quantity has decreased by 1.00 from 1.00 to 0.00.
The total cost of this line item has decreased by $997,467.00 from $997,467.00 to $0.00.

SUBCLIN 000103 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000103					$0.00
	Funding for CLIN 0001 FFP				
				NET AMT	$0.00
	ACRN AC CIN: HDTRA10343770001				$3,990,550.00

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-14-24-FRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C. 2358 as amended

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000103:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE

POP 19-AUG-2019 TO 18-AUG-2020	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2019 TO 18-AUG-2024	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0002 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2020 TO 18-AUG-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2020 TO 18-AUG-2021	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE

POP 19-AUG-2021 TO 18-AUG-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2021 TO 18-AUG-2022	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0004 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2022 TO 18-AUG-2023	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2022 TO 18-AUG-2023	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0005 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2023 TO 18-AUG-2024	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 19-AUG-2023 TO 18-AUG-2024	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $3,990,550.00 from $998,437.00 to $4,988,987.00.

SUBCLIN 000103:
Funding on SUBCLIN 000103 is initiated as follows:

ACRN: AC

CIN: HDTRA10343770001

Acctng Data: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410

Increase: $3,990,550.00

Total: $3,990,550.00

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $4,989,014 is obligated for work to be performed during the period beginning with grant award and continuing through August 18, 2024.

The Government's liability is limited to the amount obligated.

INVOICE SCHEDULE

1	9/19/2019	$83,205.33
2	10/19/2019	$83,205.33
3	11/19/2019	$83,205.33
4	12/19/2019	$83,205.33
5	1/19/2020	$83,205.33
6	2/19/2020	$83,205.33
7	3/19/2020	$83,205.33
8	4/19/2020	$83,205.33
9	5/19/2020	$83,205.34
10	6/19/2020	$83,205.34
11	7/19/2020	$83,205.34
12	8/19/2020	$83,205.34
13	9/19/2020	$83,181.75
14	10/19/2020	$83,181.75
15	11/19/2020	$83,181.75
16	12/19/2020	$83,181.75
17	1/19/2021	$83,181.75
18	2/19/2021	$83,181.75
19	3/19/2021	$83,181.75
20	4/19/2021	$83,181.75
21	5/19/2021	$83,181.75
22	6/19/2021	$83,181.75
23	7/19/2021	$83,181.75
24	8/19/2021	$83,181.75
25	9/19/2021	$83,142.42
26	10/19/2021	$83,142.42
27	11/19/2021	$83,142.42
28	12/19/2021	$83,142.42
29	1/19/2022	$83,142.42
30	2/19/2022	$83,142.42
31	3/19/2022	$83,142.42
32	4/19/2022	$83,142.42
33	5/19/2022	$83,142.41
34	6/19/2022	$83,142.41
35	7/19/2022	$83,142.41
36	8/19/2022	$83,142.41
37	9/19/2022	$83,099.42
38	10/19/2022	$83,099.42
39	11/19/2022	$83,099.42
40	12/19/2022	$83,099.42
41	1/19/2023	$83,099.42
42	2/19/2023	$83,099.42
43	3/19/2023	$83,099.42
44	4/19/2023	$83,099.42

45	5/19/2023	$83,099.41
46	6/19/2023	$83,099.41
47	7/19/2023	$83,099.41
48	8/19/2023	$83,099.41
49	9/19/2023	$83,122.25
50	10/19/2023	$83,122.25
51	11/19/2023	$83,122.25
52	12/19/2023	$83,122.25
53	1/19/2024	$83,122.25
54	2/19/2024	$83,122.25
55	3/19/2024	$83,122.25
56	4/19/2024	$83,122.25
57	5/19/2024	$83,122.25
58	6/19/2024	$83,122.25
59	7/19/2024	$83,122.25
60	8/19/2024	$83,122.25

(End of Summary of Changes)

From: Amanda Andre
To: Robinson, Adrea A CTR (USA)
Cc: William B. Karesh; Dr. Melinda Rostal; Aleksei Chmura; (b)(6)
(b)(6)
Subject: Re: [Non-DoD Source] Re: FRBAA14-6-2-0333
Date: Monday, July 8, 2019 3:01:07 PM
Attachments: EHA RVF2 Budget_Final.xlsx

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear all,

Dr. Karesh asked me to send the attached budget.

Best,

Amanda Andre, LMSW
Program Coordinator

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4470 (direct)
1.212.380.4465 (fax)
Caution-www.ecohealthalliance.org

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

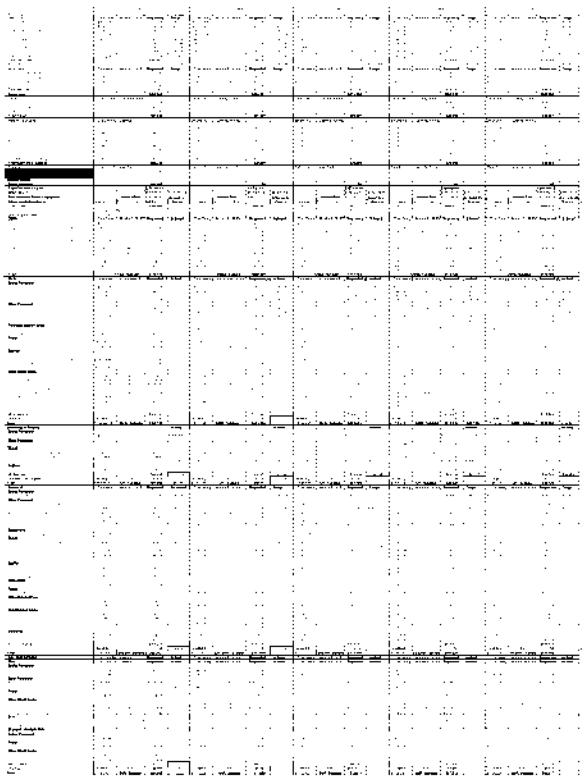
On Mon, Jul 8, 2019 at 2:49 PM (b)(6)
Caution-mailto (b)(6) > wrote:

Thank you for responding so quickly. Please send what you have, because we (Contracts) actually look at more detail than what was required for the grants.gov < Caution-http://grants.gov > submission.

Thank you,

(b)(6)

From: William B. Karesh <karesh@ecohealthalliance.org < Caution-mailto:karesh@ecohealthalliance.org > >
Sent: Monday, July 8, 2019 2:46 PM



	Y1	Y2	Y3	Y4	Y5	
MR	13187	14516	12416	15052	13552	
BK	11815	11815	11815	11815	12501	
CM	14216	7988	16124	7245	4844	
Int Conf travel		4900	4900	4900	4900	
Dom Conf travel	1260	4120	4120	4120	4120	1260
Meet Assaf	550	550	550	550	550	
Total	**41028**	43889	49925	43682	40467	
Dom Total	$1,810	$4,670	$4,670	$4,670	$4,670	
Intn'l Total	$39,218	$39,219	$45,255	$39,012	$35,797	
Total	$41,028	$43,889	$49,925	$43,682	$40,467	
			39033	45191	38419	35654
		38175				



To: (b)(6)
Caution-

Cc: Dr. Melinda Rostal <rostal@ecohealthalliance.org < Caution-mailto:rostal@ecohealthalliance.org > >; Aleksei Chmura <chmura@ecohealthalliance.org < Caution-mailto:chmura@ecohealthalliance.org > > (b)(6)
(b)(6)
Caution-mailto (b)(6) >; Amanda Andre <amanda.andre@ecohealthalliance.org < Caution-mailto:amanda.andre@ecohealthalliance.org > >

Subject: [Non-DoD Source] Re: FRBAA14-6-2-0333

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(6)

We have a budget for the project in Excel format, but it contains more itemized details than that required for submission into the proposal submission system - i.e. multiple rows in our version have to be combined to result in the totals for some of the fields we entered into grants.gov < Caution-http://grants.gov > < Caution-Caution-http://grants.gov < Caution-http://grants.gov > > .

We can send you the version we have, but do understand that the rows will not all match one-to-one with the submission format.

Please let me know how you would like us to proceed.

William B. Karesh, D.V.M

Executive Vice President for Health and Policy

EcoHealth Alliance

460 West 34th Street - 17th Floor

New York, NY 10001 USA

+1.212.380.4463 (direct)

+1.212.380.4465 (fax)

Caution-Caution-www.ecohealthalliance.org < Caution-http://Caution-Caution-www.ecohealthalliance.org > < Caution-Caution-mailto:karesh@ecohealthalliance.org < Caution-mailto:karesh@ecohealthalliance.org > >

President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EPT Partners Liaison, USAID Emerging Pandemic Threats - PREDICT-2 Program

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Jul 8, 2019, at 2:16 PM, (b)(6) < Caution-Caution-mailto (b)(6) Caution-mailto mailto (b)(6) > > > wrote:

Good Afternoon,

Please provide DTRA with a copy of your budget/cost proposal in MS Excel. Please ensure all project years are included and all formulas are visible.

Thank you,

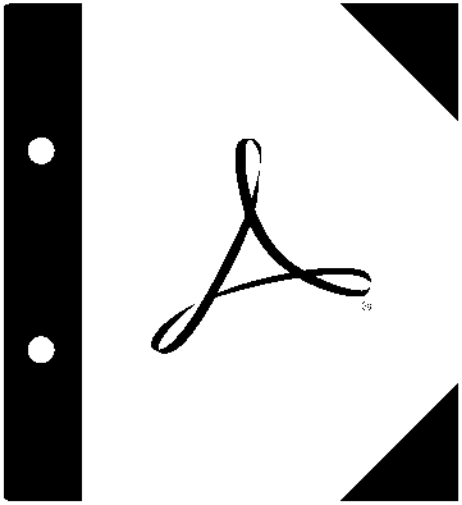
(b)(6) Contractor

Contract Specialist

All Native Group

(b)(6)

Caution-[redacted] ution-
>



For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

Get Adobe Reader Now!

BUDGET JUSTIFICATION FOR ECOHEALTH ALLIANCE

EcoHealth Alliance requests a total of $4,899,297.20 over all-years of the proposed project to support personnel, travel, equipment, consortium agreements, and applicable indirect costs.

A. Key Personnel

William B. Karesh, D.V.M., Principal Investigator (2 calendar months for all years) 3 calendar months for OY2). Dr. Karesh will be responsible for the overall coordination of this project. He will provide overall project oversight, study design development and refinement, data analysis, publication support, and annual stakeholder meeting participation. We request $48,535 in Y1 with a 5% cost of living increase each subsequent year.

Jonathan Epstein, Ph.D., Co-Investigator (1.0 calendar month in all years). Dr. Epstein will be a technical advisor to the project, advising on data interpretation, targeted animal sampling based on data as they come in over the course of the project, and laboratory techniques. He will also assist with writing and dissemination. We request $14,597 in Y1 with a 5% cost of living increase each subsequent year.

Noam Ross, Ph.D., Senior Research Scientist, Modeler (1 calendar month in all years). Dr. Ross will be a technical advisor to the project, advising on data organization, analysis, and writing with a focus on statistical analytics. We request $8,138 in Y1 with a 5% cost of living increase each subsequent year.

Emily Hagan, M.P.H., Behavioral Risk Scientist (3.0 calendar months in all years). Ms. Hagan will provide medical anthropology expertise for the questionnaires and analysis, supervise and conduct the IRB processes and trainings on the human subject work for local partners, and assist with data organization and analysis. We request $16,937 in Y1 with a 5% cost of living increase each subsequent year.

Catherine Machalaba, M.P.H, Policy Advisor (3.5 calendar months in all years), Ms. Machalaba will be a technical advisor to the project, advising on study design and risk reduction. She will conduct a risk reduction workshop in OY2 and will help develop revised biosurveillance and reporting strategies with and for Liberian partners. We request $25,050 in Y1 with a 5% cost of living increase each subsequent year.

Whitney Bagge, Ph.D., Modeler (7 calendar months Y1-OY1, 7.5 calendar months in OY2). Dr. Bagge will provide day-to-day project development and strategic management, including through regular in-person meetings and weekly phone and other direct communications with partners. She will also supervise field sampling, data analysis, and data and information dissemination through workshops, conferences, and papers, for which we request $50,225 in Y1 with a 5% cost of living increase each subsequent year.

B. Other Personnel

Amanda Andre, LMSW, Operations Assistant (5.5 calendar months in all years). 4 calendar months for OY2. Ms. Andre will be the administrative lead handling project management responsibilities related to budgeting, expenses, managing of subcontracts, and meeting scheduling and logistics. She will coordinate all meetings and travel and ensure compliance with funding and contractual requirements. We request $27,373 in Y1 with a 5% cost of living increase each subsequent year.

Fringe Benefits

Fringe benefits are calculated as 36.8% of base salary p.a. with $70,234 requested in Y1 calculated from the base salary for all Personnel. In Y2 – OY2, we budget for a 5% per year cost of living allowance increase in all salaries.

C. Equipment
No funds are requested for equipment.

D. Travel
Domestic Travel
Domestic travel is requested for one trip per year for three program staff to travel from New York City to Washington, DC to meet with Co-Investigator (b)(6) and key personnel at Georgetown University. Transportation is estimated at $400 per trip along with the government GSA per diem rates for each city. Additional domestic travel support will facilitate four EcoHealth Alliance staff presenting at two domestic conferences annually. In total, we are requesting $13,795 in each year of our proposed work.

International Travel
Foreign travel is requested for partner meetings, in-country trainings, and field research. Seven EHA employees will attend annual meetings. Two EHA staff will make additional trips each year for trainings and field research. Flights for each of these trips is estimated at $3,500 and the federal per diem rates of $200 for lodging in Monrovia, Liberia and $70 for field work as well as the $95 for meals in Monrovia, Liberia and $46 for field work are requested. Additionally, we are requesting travel for staff to present on project findings at international conferences each year with flights estimated at $1,500 and hotels and meals at the government GSA per diem rates for Vienna, Austria for International Meeting on Emerging Diseases and Surveillance (IMED). Travel costs are increased 5% each year to account for pricing increases based upon past, actual, annual price increases.

E. Participant/Trainee Support Costs
No funds are requested for participant or trainee support costs.

F. Other Direct Costs
Materials and Supplies
Co-Investigator Epstein & Modeler/Ecologist Bagge will need a new computer, equipped with Microsoft and Adobe software for which we request $5,178 in Y1.

We request $6,830, annually for material and supplies, including office and travel supplies necessary for project aims for a total of $27,320 over five years. Materials estimated in this cost include Cell Phone Communication costs, Dropbox, Adobe, and Stata costs, and basic office supplies.

Publication Costs
To facilitate the dissemination of project findings, $3,190 per year in only Y2-OY2 is requested for open access publication costs in international peer-reviewed journals.

Consultant Services
For the human behavioral risk part of the project, $1,449 is requested in Y1, $1,126 in Y2 & OY1-OY2 and $1,526 in YR 3 for New England IRB and $3,500 in Y1 for required Collaborative Institutional Training Initiative training for personnel handling human and non-human animals and samples as per IRB and IACUC requirements. For (b)(6) $15,000 per year is

requested. (b)(6) will assist with partner communication, data analysis, and data and information dissemination through workshops, conferences, and papers.

Subawards/Consortium/Contractual Costs
Subcontracts for the National Public Health Institute of Liberia, Society for the Conservation of Nature-Liberia, Liberia Chimpanzee Rescue and Protection, University of Nebraska Medical Center and Georgetown University are outlined in their individual budget justifications.

H. Indirect Costs
We are requesting the EcoHealth Alliance federally approved indirect cost rate of 32% on all applicable direct costs. The USA Department of Defense's Department of the Navy has approved this rate on 17 July 2019. We have applied our indirect cost rate to the first $25,000 of the subcontracts only in Y1.

BUDGET JUSTIFICATION FOR NATIONAL PUBLIC HEALTH INSTITUDE OF LIBERIA, LIBERIA

The National Public Health Institute of Liberia (NPHIL) requests a total of $920,968 over all years of the proposed project to support personnel, travel, equipment, other direct costs and indirect costs.

A. Key Personnel

(b)(6), Co-Investigator (.6 calendar month for Y1-OY2). (b)(6) will provide overall project oversight for Liberia-based activities. NPHIL is charged with leading all public health and biomedical research in Liberia, and (b)(6) assumes that role for this project, leading all elements on the human subjects research side of the project as well as the laboratory diagnostics elements. (b)(6) will ensure NPHIL meets project tasks and milestones, will oversee NPHIL's budget, and will assist with dissemination of findings through publications and conference presentations. We do not request salary at this time as (b)(6) will be fully covered by other funding sources during the project period.

(b)(6)., Co-Investigator (1.5 calendar month for Y1-OY2). As head of the Liberia Institute for Biomedical Research (LIBR) at NPHIL, (b)(6) will provide direct oversight of all laboratory activity for the project, for which $2,500 is requested starting in Y1.

(b)(6), Candidate, Co-Investigator (1.5 calendar month for Y1-OY2). (b)(6) directs the national reference laboratory at NPHIL and will ensure compliance with biosafety and biosecurity project requirements; as a lecturer at the University of Liberia he will also assist with identification and recruitment of students to work in the laboratory, activities for which $3,000 is requested starting in Y1.

(b)(6), Co-Investigator (1.5 calendar month for Y1-OY2). As a research scientist within NPHIL's medical and public health research division, (b)(6) will participate in training workshops, processing and testing a subset of samples, and reporting recommendations to (b)(6) and (b)(6) for process refinements and mitigating challenges with the day-to-day laboratory workflow, for which $2,075 is requested starting in Y1.

B. Other Personnel

Laboratory Scientists/Technicians (4 calendar months for Y1-OY2). Four laboratory scientists and/or technicians—two from NPHIL and two seconded from the Ministry of Agriculture—will process and test all project samples at LIBR. They will participate in all laboratory workshops, provide all bench activity (under the supervision of key personnel), and advise on inventory needs and any problems implementing the laboratory protocol. We request $18,667 for all four laboratory technicians starting in Y1.

Hospital Project Coordinators (6 calendar months for Y1-OY2). One coordinator will be appointed to each of two human clinical study sites (Redemption Hospital and Phebe Hospital) operating in Y1-Y3. These coordinators will be chosen from existing staff already participating in other febrile illness studies at the hospitals and will be responsible for participating in human subjects research training, ensuring hospital staff are sensitized to our inclusion criteria (and thus able to identify proper candidates), being available for consultation when patients enroll in the study, collecting consent form and questionnaire data from the patients, and ensuring samples are collected, stored, and transported in timely fashion. Similarly, one coordinator will

be appointed to each of two human clinical study sites (hospitals in Nimba and Lofa counties) in the option years, if funded. In an effort to train and engage Liberian nurses in public health surveillance and in research, at least one and possibly both of these sites will be staffed through Nursing for All, a non-profit that builds capacity in the nursing profession in Liberia and is presently operating at Ganta United Methodist Hospital in Nimba, one of the sites at which we would like to implement the study in OY1-2. We request $26,250 over the proposed five years of the project.

Hospital Laboratory Technicians (1 calendar month for Y1-OY2). Hospital laboratory technicians will assist with initial processing of patient samples (spinning serum, labeling, and storing) prior to transport to NPHIL. We will similarly provide salary support for technicians at the two option year hospitals if funded. We request $1,667 p.a. for these activities.

Post-doctoral Researcher (6 calendar months for Y3-OY2). Beginning in Y3, we propose to add a post-doctoral researcher to the laboratory team. Liberia does not have a PhD-granting institution, but a number of Liberians are presently undertaking PhD degree programs outside of the country; by Y3 we plan to bring one Liberian individual who has received a PhD in laboratory pathogen research into the project to work with the laboratory scientists on sample processing, testing, and data analysis, for which we request $5,000 starting in Y3.

Bachelors and Masters Students. We intend to include approximately three students per semester on the project, to include undergraduate and graduate students from the University of Liberia (Monrovia) and Cuttington University (Bong). Their duties will depend on their degree program but will include assignments at the human clinical sites (nursing, medical, public health, anthropology students); animal field collection sites (biology, animal science, ecology, anthropology); and laboratory (molecular biology, microbiology). We will preferentially choose students interested in developing their theses based on the project. Each student will receive a stipend of $500 per semester.

Administrator/Program Manager (6 months in Y1-OY2). This individual will act as the administrative lead, handling project management responsibilities related to budgeting, expenses, managing of subcontracts, and meeting scheduling and logistics, activities for which we request $5,000 p.a.

C. Equipment

The existing freezer in which PREDICT samples are stored at LIBR will remain there when the project ends, and will be available for this project's use, but its capacity is limited. LIBR will therefore require increased storage capacity for the specimens generated by this project (2,250 humans, up to 4,500 specimens; 3,840 animals, up to 14,560 specimens). A -80°C freezer is requested for sample storage and is estimated at $29,885. Liberia does not have a VAT and our conversations with Liberian partners indicate it is unlikely they will instate one in the near future. Government agencies and non-profits would be exempt from any such tax. If absolutely necessary, we would seek unrestricted funding sources to cover any such costs.

D. Travel

We are requesting travel for one Liberian project participant to attend a regional conference and an international conference in Y3 and OY2 to present on project findings, with flights estimated. For the regional conference flights are estimated at $750 and hotels and meals at the government GSA per diem rates for Accra, Ghana. For the international conference flights are estimated at $2,500 and hotels and meals at the government GSA per diem rates for Vienna, Austria.

In Y3 we plan to bring one Liberian individual who has received a PhD in laboratory pathogen research into the project to work with the laboratory scientists on sample processing, testing, and data analysis as a post-doctoral associate. We will fund a one-month trip for this individual to the University of Nebraska Medical Center to train in the laboratory of co-investigator Dr. (b)(6) A flight is estimated at $3,000 and hotels and meals at the government GSA per diem rates for Omaha, Nebraska.

In total over the course of the project, we are requesting $20,038 in for International Travel.

E. Participant/Trainee Support Costs
No funds are requested for participant or trainee support costs.

F. Other Direct Costs
Materials and Supplies
We will supply the participating hospitals with all consumables required to collect patient samples, including serum tubes, EDTA tubes, cryovials, vacutainer holder, needles, syringes, nitrile gloves, and nasal swabs, for which we request $2,504 p.a. For the human clinical study implementation sites, our request also includes funding for a centrifuge to enable processing of serum at the hospital clinical laboratories ($460 each) (b)(4) (b)(4) and a tablet for data collection and tracking at each site ($229 each).

Commented [MOU1]: Quote needed

Laboratory Testing
Our laboratory request covers three primary types of molecular testing: next-generation sequencing, real-time PCR, and ELISA-based antibody serology. In Y1, we will test 300 existing PREDICT bat and rodent samples, pooled by three, via NGS Ampliseq on LIBR's existing MiSeq machine. We will barcode 5% these, a process that most likely will be done outside of Liberia. In Y2-OY2, we will use a Taqman Array Card system (modified for a 96-well plate to run on LIBR's ABI 7000 sequencer) to test human samples for up to 31 pathogens at three samples per plate, and will run nasopharyngeal samples on singleplex PCR to test for key respiratory pathogens. We will run specific real-time PCR to confirm positives; NGS Ampliseq to further sequence viral-positive human samples (expect not more than 10% to fall into this category) and 10% of negative human samples; and specific antibody ELISAs on convalescent samples from humans who tested positive on TAC plus 20 of their neighbors. For animals in Y2-OY2, we have budgeted for specific antibody ELISAs on all animals, averaging 5 tests each, pooled by 5; NGS on 10% of animal samples pooled by three; singleplex PCR for confirmation of NGS positives (expect ~4%); a new ELISA reader; a new ELISA plate shaker; Mastermix; and miscellaneous consumables. We request $453,414 over the five years of the proposed project. Of this amount, $152,400 is for next-generation sequencing, $4,000 is for barcoding, and the remainder supports the PCR and ELISA testing, which are and will continue to be mainstays of the laboratory.

Meetings and Conferences
We request support for an annual meeting each year for 45 people including personnel from all partner institutions (EHA, NPHIL, SCNL, LCRP, UNMC, GU) as well as local stakeholders. Travel costs for United States-based participants to attend the annual meeting are covered in the EcoHealth Alliance budget. We estimate that for the three-day meeting, eight Liberian partners traveling from outside Monrovia will require transportation, meals and accommodation to be covered, and for Y3, when the annual meeting will function as a broader regional technical meeting, we will also fund two attendees from elsewhere in West Africa (likely Guinea) working

on similar studies. Additionally, the meetings will require a room rental, lunch for all participants, and printing of materials and supplies. Overall costs are estimated at $10,000 p.a.

We will conduct a series of workshops across the study period, as outlined in the technical proposal and in more detail in Attachment 3. *Workshop 1a* will cover the overall research study protocol, will occur at the Y1 kickoff meeting, and will include all project participants. *Workshop 2a* will cover the human study protocol and human subjects research, will occur mid-Y1 and again toward the end of Y3, and will include Tasks 2 and 4 personnel and students. *Workshops 3a and 3b* will cover biosafety, biosecurity, and laboratory techniques training, will occur twice during Y1 (at the kickoff meeting and again in the middle of the year) and during Y3, and will include all Task 3 personnel. *Workshop 4a* will cover the animal sampling protocol and animal subjects research, will occur at the kickoff meeting and during Y3, and will include all Task 4 personnel and students. *Workshop 5a* will cover analysis of laboratory data (including bioinformatics), will occur during Y2 as the laboratories ramp up their sample testing, and will include Task 3 personnel. *Workshop 6a* will cover risk reduction analysis and opportunities, will occur during OY2, and all personnel including many from ministries not directly involved in the project will be invited to attend. Across the workshops, the number of participants will vary from 10-20 people for whom we will require catering (lunch) for all participants, room rental, and some materials and supplies. Over the five proposed years of the project, $18,940 is requested to support these workshop trainings.

Two NPHIL personnel will travel to each of the five study communities for two-day, one-night trips to share study findings with community members and discuss risk reduction opportunities in OY1-2. Lodging, meals, and printed materials and supplies are estimated at $310 per visit.

Freezer Maintenance
Support of $500 p.a is requested to cover the cost of freezer maintenance (the newly-purchased freezer and LIBR's existing freezer) to ensure they are properly maintained, calibrated and in full working order at all times.

H. Indirect Costs
We are requesting the federally agreed indirect cost of 10% on all direct costs.

BUDGET JUSTIFICATION FOR SOCIETY FOR CONSERVATION OF NATURE, LIBERIA

The Society for Conservation of Nature, Liberia (SCNL) requests a total of $685,069 over all years of the proposed project to support personnel, travel, equipment, and indirect costs.

A. Key Personnel

(b)(6), Co-Investigator (0.6 calendar months per year for all years). As head of SCNL, (b)(6) will be responsible for the oversight of all non-human animal sampling activities including preparation, staffing, implementation, and follow-up. He will further oversee the sample transport activity of both animal and human samples, for which SCNL is responsible. We do not request salary for him, since he will be fully covered by other SCNL funding sources.

B. Other Personnel

Annual support is requested for a field supervisor ($650/month), social scientist ($550/month), three field technicians ($550/month each), and two drivers ($330/month each) to make up the field research team. This team will be responsible for all aspects of animal field sampling, including planning, ordering supplies, implementation, ensuring all samples are safely and securely transferred to LIBR for testing, and any needed follow-up. This team will also administer a survey to the patients whose community they visit, administer a similar questionnaire to up to twenty additional community members, and with consent collect blood samples from these individuals for serological testing. Support is requested for an accounting assistant ($720/month) and an administrative assistant ($1,350/month) to assist with procurement, invoicing, scheduling, and field team logistics.

C. Equipment

A field vehicle for field sampling and sample transport is estimated at $45,000. Liberia does not currently have a VAT. Our conversations with Liberian partners indicate that it is unlikely that VAT will be instated in the near future. If it were, Government agencies and non-profits such as SCNL would be exempt from VAT.

D. Travel

Domestic Travel

Domestic travel support will cover fuel, vehicle maintenance, lodging and per diems for overnight trips ($50/day) for eight field team members for four, week-long field sampling trips. In addition to transporting the animal samples that it collects in the field, SCNL will also be responsible for picking up and safely and securely transporting all human samples from the clinical study sites to the Liberian Institute for Biomedical Research via the standing cold chain procedures they follow for the animal samples. Vehicle maintenance is calculated at $10,942 in Y1 for the two field vehicles, with higher costs estimated for the current vehicle due to its age and the condition of roads to be utilized, with a 2% increase in cost for each subsequent year. Fuel is estimated based on km to be traveled (664 total) weekly for sample transportation costs to both Phebe Hospital and Robertsport, as well as field travel from those locations and within a 50km radius. Vehicles are estimated to have a fuel efficiency of 20km/gallon with fuel currently costing $3.80/gallon. Cost is calculated at $45,103 in Y1.

E. Participant/Trainee Support Costs

No funds are requested for participant or trainee support costs.

F. Other Direct Costs

Materials and Supplies

We request $458 in Y1 for the purchase of two hand-held tablets with cases to be utilized by the field research team for data collection and organization (animal and human). Tablets will be used to conduct surveys off-line in the field, and to upload the data collected upon returning to SCNL offices. We request $589 for the purchase of a tarp, spade and 40 pitfall traps for rodent sampling. We request $442 for the purchase of a centrifuge to enable processing of medium- and large-animal blood samples in preparation for serological testing.

Field consumables including gloves, Tyvek suits, vacutainers, syringes and needles, EDTA collection tubes, non-EDTA collection tubes, cryotubes, TRIzol, and swabs are needed to conduct field sampling. The budget for consumables will enable us to test 3,360 animals over the course of the project (Y1: 160; Y2: 1,200; Y3: 800; OY1: 800; OY2: 400) and will cover a total of 12 sampling events (Y1: 4; Y2: 3; Y3: 2; OY1: 2; OY2: 1), with $37,943 budgeted for Y1 .

H. Indirect Costs

We are requesting a *de minims* rate of 10% on all allowable direct costs.

Months						EHA	Y1	Y2	Y3	OY1	OY2	Total
Y1	Y2	Y3	OY1	OY2	Base	A. Senior/Key Personnel						
2	2	2	2	3	$ 291,211.20	William Karesh, PI	$ 48,535.20	$ 50,961.96	$ 53,510.06	$ 56,185.56	$ 88,492.26	$ 297,685.04
						William Karesh Fringe	$ 17,860.95	$ 18,754.00	$ 19,691.70	$ 20,676.29	$ 32,565.15	$ 109,548.09
1	1	1	1	1	$ 175,159.66	Jon Epstein, Co-Investigator	$ 14,596.64	$ 15,326.47	$ 16,092.79	$ 16,897.43	$ 17,742.31	$ 80,655.64
						Jon Epstein Fringe	$ 5,371.56	$ 5,640.14	$ 5,922.15	$ 6,218.26	$ 6,529.17	$ 29,681.28
1	1	1	1	1	$ 97,650.00	Noam Ross, Senior Scientist, Modeler	$ 8,137.50	$ 8,544.38	$ 8,971.59	$ 9,420.17	$ 9,891.18	$ 44,964.82
						Noam Ross, Fringe	$ 2,994.60	$ 3,144.33	$ 3,301.55	$ 3,466.62	$ 3,639.96	$ 16,547.06
3.5	3.5	3.5	3.5	3.5	$ 85,884.88	Catherine Machalaba, Policy Advisor	$ 25,049.76	$ 26,302.24	$ 27,617.36	$ 28,998.22	$ 30,448.14	$ 138,415.72
						Catherine Machalaba Fringe	$ 9,218.31	$ 9,679.23	$ 10,163.19	$ 10,671.35	$ 11,204.91	$ 50,936.98
3	3	3	3	3	$ 67,747.18	Emily Hagan, Behavioral Risk Scientist	$ 16,936.80	$ 17,783.63	$ 18,672.82	$ 19,606.46	$ 20,586.78	$ 93,586.48
						Emily Hagan Fringe	$ 6,232.74	$ 6,544.38	$ 6,871.60	$ 7,215.18	$ 7,575.94	$ 34,439.83
7	7	7	7	7.5	$ 86,100.68	Whitney Bagge, Modeler/Ecologist	$ 50,225.40	$ 52,736.67	$ 55,373.50	$ 58,142.17	$ 65,409.95	$ 281,887.68
						Whitney Bagge Fringe	$ 18,482.95	$ 19,407.09	$ 20,377.45	$ 21,396.32	$ 24,070.86	$ 103,734.67
Fringe Rate-->			36.8%			Total Senior/Key Personnel	$ 223,642.40	$ 234,824.52	$ 246,565.75	$ 258,894.03	$ 318,156.59	$ 1,282,083.29
						B. Other Personnel						
5.5	5.5	5.5	5.5	4	$ 59,723.41	Amanda Andre, Operations Assistant	$ 27,373.23	$ 28,741.89	$ 30,178.99	$ 31,687.93	$ 24,198.06	$ 142,180.10
						Amanda Andre Fringe	$ 10,073.35	$ 10,577.02	$ 11,105.87	$ 11,661.16	$ 8,904.89	$ 52,322.28
23.0	23.0	23.0	23.0	23.0		Total Other Personnel	$ 37,446.58	$ 39,318.91	$ 41,284.85	$ 43,349.09	$ 33,102.95	$ 194,502.38
						C. Equipment						
							$ -	$ -	$ -	$ -	$ -	$ -
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel	$ 13,795.00	$ 13,795.00	$ 13,795.00	$ 13,795.00	$ 13,795.00	$ 68,975.00
FY'20 -> FY'21 Increase:					3.0%	2. Foreign Travel	$ 64,394.50	$ 65,831.50	$ 65,831.50	$ 65,831.50	$ 65,628.50	$ 327,517.50
						Total Travel	$ 78,189.50	$ 79,626.50	$ 79,626.50	$ 79,626.50	$ 79,423.50	$ 396,492.50
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ -	$ -	$ -	$ -
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies	$ 12,221.00	$ 6,830.00	$ 6,830.00	$ 6,830.00	$ 6,830.00	$ 39,541.00
						2. Publication Costs	$ -	$ 3,190.00	$ 3,190.00	$ 3,190.00	$ 3,190.00	$ 12,760.00
						3. Consultant Services	$ 18,500.00	$ 15,000.00	$ 15,000.00	$ 15,000.00	$ 15,000.00	$ 78,500.00
						4. ADP/Computer Services	$ -	$ -	$ -	$ -	$ -	$ -
						5. Subawards/Consortium/Contractual Costs	$ 472,602.22	$ 479,396.69	$ 479,489.76	$ 424,942.40	$ 365,745.62	$ 2,222,176.70
						6. Equipment or Facility Rental/User Fees	$ -	$ -	$ -	$ -	$ -	$ -
						7. Alterations and Renovations	$ -	$ -	$ -	$ -	$ -	$ -
						8. Other	$ -	$ -	$ -	$ -	$ -	$ -
						9. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Other Direct Costs	$ 503,323.22	$ 504,416.69	$ 504,509.76	$ 449,962.40	$ 390,765.62	$ 2,352,977.70
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 842,601.70	$ 858,186.62	$ 871,986.86	$ 831,832.03	$ 821,448.66	$ 4,226,055.87
						Modified Direct Costs	$ 369,999.48	$ 378,789.93	$ 392,497.10	$ 406,889.63	$ 455,703.04	$ 2,003,879.17
						H. Indirect Costs						
IDC Rate-->			32.0%			1. Indirect Cost Type (DC-Equip)	$ 118,399.83	$ 121,212.78	$ 125,599.07	$ 130,204.68	$ 145,824.97	$ 641,241.33
IDC Rate-->			32.0%			2. Indirect Cost Type (Subs)	$ 32,000.00	$ -	$ -	$ -	$ -	$ 32,000.00
						Total Indirect Costs	$ 150,399.83	$ 121,212.78	$ 125,599.07	$ 130,204.68	$ 145,824.97	$ 673,241.33
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 993,001.53	$ 979,399.40	$ 997,585.93	$ 962,036.71	$ 967,273.63	$ 4,899,297.20
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						TOTAL	$ 993,001.53	$ 979,399.40	$ 997,585.93	$ 962,036.71	$ 967,273.63	$ 4,899,297.20

Subcontractor Totals						
SCNL	$ 158,888.37	$ 148,890.92	$ 131,419.99	$ 131,665.89	$ 114,204.70	$ 685,069.86
NPHIL	$ 169,453.66	$ 223,546.22	$ 223,810.22	$ 185,449.23	$ 118,709.07	$ 920,968.39
GU-CGHS	$ 58,528.39	$ 23,566.36	$ 40,866.36	$ 24,434.09	$ 49,438.65	$ 196,833.85
LCRP	$ 85,731.80	$ 83,393.20	$ 83,393.20	$ 83,393.20	$ 83,393.20	$ 419,304.60

EHA TOTAL						
	$ 520,399.31	$ 500,002.70	$ 518,096.17	$ 537,094.31	$ 601,528.01	$ 2,677,120.50

EHA Supplies	Unit/Annual Price	Y1	Y2	Y3	OY1	OY2
Laptop (U)	$ 2,589.00	$ 5,178.00				
Stata (a)	$ 600.00	$ 600.00	$ 600.00	$ 600.00	$ 600.00	$ 600.00
Dropbox (a/pp)	$ 140.00	$ 420.00	$ 420.00	$ 420.00	$ 420.00	$ 420.00
Adobe (a/pp)	$ 177.00	$ 531.00	$ 531.00	$ 531.00	$ 531.00	$ 531.00
Endnote	$ 99.00	$ 99.00	$ 99.00	$ 99.00	$ 99.00	$ 99.00
MS Office	$ 94.00	$ 188.00				
Paperpile (a/pp)	$ 2.99					
Communications (pa)	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00
Zoom (a)	$ 180.00	$ 180.00	$ 180.00	$ 180.00	$ 180.00	$ 180.00
Skype (a)	$ 25.00	$ 25.00	$ 25.00	$ 25.00	$ 25.00	$ 25.00
TOTALS		$ 12,221.00	$ 6,830.00	$ 6,830.00	$ 6,830.00	$ 6,830.00

Consultant Services	Y1	Y2	Y3	Y4	Y5
New England IRB	$ 1,449.0	$ 1,126.00	$ 1,526.00	$ 1,126.00	$ 1,126.00
CITI Trainings	$ 3,500.00				
(b)(6)	$ 15,000.00	$ 15,000.00	$ 15,000.00	$ 15,000.00	$ 15,000.00
	$ 18,500.00	**$ 15,000.00**	**$ 15,000.00**	**$ 15,000.00**	**$ 15,000.00**

	Y1	Y2	Y3	Y4	Y5	
International Travel						**TOTAL**
Traveler 1 - William Karesh (Monrovia)						
Hotel Max Per Diem	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	
Meals and Incidental Expenses Per Diem	$ 522.50	$ 522.50	$ 522.50	$ 522.50	$ 522.50	
Flight Estimate	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 25,112.50
Traveler 2 - Whitney Bagge (Monrovia)						
Hotel Max Per Diem	$ 3,000	$ 3,000	$ 3,000	$ 3,000	$ 3,000	
Meals and Incidental Expenses Per Diem	$ 1,568	$ 1,568	$ 1,568	$ 1,568	$ 1,568	
Flight Estimate	$ 10,500	$ 10,500	$ 10,500	$ 10,500	$ 10,500	
No. Days	6	6	6	6	6	
No. Trips per Year	3	3	3	3	3	
Total	$ 15,067.50	$ 15,067.50	$ 15,067.50	$ 15,067.50	$ 15,067.50	$ 75,337.50
Traveler 3 - Whitney Bagge (Field)						
Hotel Max Per Diem	$ 1,960	$ 1,960	$ 1,960	$ 1,960	$ 1,960	
Meals and Incidental Expenses Per Diem	$ 1,334	$ 1,334	$ 1,334	$ 1,334	$ 1,334	
Flight Estimate	$ -	$ -	$ -	$ -	$ -	
No. Days	15	15	15	15	15	
No. Trips per Year	2	2	2	2	2	
Total	$ 3,294.00	$ 3,294.00	$ 3,294.00	$ 3,294.00	$ 3,294.00	$ 16,470.00
Traveler 4 -Jon Epstein (Monrovia)						
Hotel Max Per Diem	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	
Meals and Incidental Expenses Per Diem	$ 523	$ 523	$ 523	$ 523	$ 523	
Flight Estimate	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 25,112.50
Traveler 4 -Emily (Monrovia)						
Hotel Max Per Diem	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	
Meals and Incidental Expenses Per Diem	$ 523	$ 523	$ 523	$ 523	$ 523	
Flight Estimate						
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 1,522.50	$ 1,522.50	$ 1,522.50	$ 1,522.50	$ 1,522.50	$ 7,612.50
Traveler 5 - Emily (Field)						
Hotel Max Per Diem	$ 1,960	$ 1,960	$ 1,960	$ 1,960	$ 980	
Meals and Incidental Expenses Per Diem	$ 1,334	$ 1,334	$ 1,334	$ 1,334	$ 667	
Flight Estimate	$ 7,000	$ 7,000	$ 7,000	$ 7,000	$ 3,500	
No. Days	15	15	15	15	15	
No. Trips per Year	2	2	2	2	1	
Total	$ 10,294.00	$ 10,294.00	$ 10,294.00	$ 10,294.00	$ 5,147.00	$ 46,323.00
Traveler 6 - Amanda Andre (Monrovia)						
Hotel Max Per Diem	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	
Meals and Incidental Expenses Per Diem	$ 523	$ 523	$ 523	$ 523	$ 523	
Flight Estimate	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 25,112.50
Traveler 7 - Noam Ross (Monrovia)						
Hotel Max Per Diem	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	
Meals and Incidental Expenses Per Diem	$ 523	$ 523	$ 523	$ 523	$ 523	
Flight Estimate	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 25,112.50
Traveler 8 - International Conferences (EHA) IME	Vienna					
Hotel Max Per Diem	$ 1,326	$ 1,989	$ 1,989	$ 1,989	$ 3,315	
Meals and Incidental Expenses Per Diem	$ 488	$ 732	$ 732	$ 732	$ 1,220	
Flight Estimate	$ 3,000	$ 4,500	$ 4,500	$ 4,500	$ 7,500	
No. Days	4	4	4	4	4	
No. People Attending	2	3	3	3	5	
Total	$ 4,814.00	$ 7,221.00	$ 7,221.00	$ 7,221.00	$ 12,035.00	$ 38,512.00
Traveler 9 - Catherine (Monrovia)						
Hotel Max Per Diem	$ 1,000	$ 1,000	$ 1,000	$ 1,000	$ 1,000	
Meals and Incidental Expenses Per Diem	$ 523	$ 523	$ 523	$ 523	$ 523	
Flight Estimate	$ 3,500	$ 3,500	$ 3,500	$ 3,500	$ 3,500	
No. Days	6	6	6	6	6	
No. Trips per Year	1	1	1	1	1	
Total	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 5,022.50	$ 25,112.50
Visa Fees	$ 1,390.00	$ 1,320.00	$ 1,320.00	$ 1,320.00	$ 1,450.00	
Vaccination Costs	$ 900.00					
Conference Registration Fees	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	
YEARLY TOTALS	**$ 64,394.50**	**$ 65,831.50**	**$ 65,831.50**	**$ 65,831.50**	**$ 65,628.50**	

130 single entry, 200 multiple)

	Y1	Y2	Y3	Y4	Y5	
Domestic Travel						**TOTAL**
Traveler 1 - William Karesh (NY-DC)						
Hotel Max Per Diem	$ 502	$ 502	$ 502	$ 502	$ 502	
Meals and Incidental Expenses Per Diem	$ 235	$ 235	$ 235	$ 235	$ 235	
Transportation Estimate	$ 400	$ 400	$ 400	$ 400	$ 400	
No. Days	3	3	3	3	3	
No. Trips per Year	1	1	1	1	1	
Total	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	
Traveler 2 - Whitney Bagge (NY-DC)						
Hotel Max Per Diem	$ 502	$ 502	$ 502	$ 502	$ 502	
Meals and Incidental Expenses Per Diem	$ 235	$ 235	$ 235	$ 235	$ 235	
Transportation Estimate	$ 400	$ 400	$ 400	$ 400	$ 400	
No. Days	3	3	3	3	3	
No. Trips per Year	1	1	1	1	1	
Total	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	
Traveler 3 - Catherine Machalaba (NY-DC)						
Hotel Max Per Diem	$ 502	$ 502	$ 502	$ 502	$ 502	
Meals and Incidental Expenses Per Diem	$ 235	$ 235	$ 235	$ 235	$ 235	
Transportation Estimate	$ 400	$ 400	$ 400	$ 400	$ 400	
No. Days	3	3	3	3	3	
No. Trips per Year	1	1	1	1	1	
Total	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	$ 1,137.00	
Presenting Domestic Mtg ASTMH (Maryland)						
Hotel Max Per Diem	$ 1,884	$ 1,884	$ 1,884	$ 1,884	$ 1,884	
Meals and Incidental Expenses Per Diem	$ 994	$ 994	$ 994	$ 994	$ 994	
Transportation Estimate	$ 1,600	$ 1,600	$ 1,600	$ 1,600	$ 1,600	
No. Days	4	4	4	4	4	
People Attending	4	4	4	4	4	
Total	$ 4,478.00	$ 4,478.00	$ 4,478.00	$ 4,478.00	$ 4,478.00	
Presenting Domestic Mtg WDA (Tahoe City)						
Hotel Max Per Diem	$ 1,808	$ 1,808	$ 1,808	$ 1,808	$ 1,808	
Meals and Incidental Expenses Per Diem	$ 1,098	$ 1,098	$ 1,098	$ 1,098	$ 1,098	
Transportation Estimate	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	
No. Days	5	5	5	5	5	
People Attending	4	4	4	4	4	
Total	$ 4,906.00	$ 4,906.00	$ 4,906.00	$ 4,906.00	$ 4,906.00	
Conference Registration Fees	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	$ 1,000.00	
YEARLY TOTALS	**$ 13,795.00**	**$ 13,795.00**	**$ 13,795.00**	**$ 13,795.00**	**$ 13,795.00**	

	Monrovia	Other
Hotels	200	70
M&E	95	46

Y1	Y2	Y3	OY1	OY2	Base	Georgetown	Y1	Y2	Y3	OY1	OY2	Total
1.2	0.6	1.2	0.6	1.2	$ 108,191.00	A. Senior/Key Personnel						
						(b)(6) Assistant Professor (Co-Investiga	$ 10,819.10	$ 5,517.74	$ 11,256.19	$ 5,740.66	$ 11,710.94	$ 45,044.63
						Fringe	$ 3,505.39	$ 1,787.75	$ 3,647.01	$ 1,859.97	$ 3,794.35	$ 14,594.46
1.2	0.6	0.6	0.6	0.6	$ 114,767.00	(b)(6) Assistant Professor (Co-Investigator)	$ 11,476.70	$ 5,853.12	$ 5,970.18	$ 6,089.58	$ 6,211.37	$ 35,600.95
		Fringe Rate-->			32%	Fringe	$ 3,718.45	$ 1,896.41	$ 1,934.34	$ 1,973.02	$ 2,012.49	$ 11,534.71
						Total Senior/Key Personnel	$ 29,519.64	$ 15,055.02	$ 22,807.72	$ 15,663.24	$ 23,729.15	$ 106,774.76
Y1	Y2	Y3	OY1	OY2	Base	B. Other Personnel						
						Research Assistant						
						Total Other Personnel	$ -	$ -	$ -	$ -	$ -	$ -
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel						$ -
						2. Foreign Travel	$ 7,769.00	$ -	$ 3,272.50	$ -	$ 7,769.00	$ 18,810.50
						Total Travel	$ 7,769.00	$ -	$ 3,272.50	$ -	$ 7,769.00	$ 18,810.50
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance						$ -
						2. Stipends						$ -
						3. Travel						$ -
						4. Subsistence						$ -
						5. Other						$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies	$ 150.20	$ 50.20	$ 150.40	$ -	$ 95.20	$ 446.00
						2. Publication Costs						$ -
						3. Consultant Services						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees						$ -
						7. Alterations and Renovations						$ -
						8. Other - Telecommunications	$ 200.00	$ 50.00	$ 50.00	$ 50.00	$ 200.00	$ 550.00
						9. Other						$ -
						Total Other Direct Costs	$ 350.20	$ 100.20	$ 200.40	$ 50.00	$ 295.20	$ 996.00
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 37,638.84	$ 15,155.22	$ 26,280.62	$ 15,713.24	$ 31,793.35	$ 126,581.26
						Modified Direct Costs						$ -
						H. Indirect Costs						
IDC Rate-->					56%	1. Indirect Cost Type	$ 20,889.56	$ 8,411.14	$ 14,585.74	$ 8,720.85	$ 17,645.31	$ 70,252.60
IDC Rate-->						2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 58,528.39	$ 23,566.36	$ 40,866.36	$ 24,434.09	$ 49,438.65	
						J. Fee						
						Fee						
						K. Total Costs and Fee						
						Total Costs	$ 58,528.39	$ 23,566.36	$ 40,866.36	$ 24,434.09	$ 49,438.65	$ 196,833.85

Supplies	Unit/Annual Pr	Y1	Y2	Y3	OY1	OY2
Encrypted storage device (unit)	$ 55.00	$ 55.00				
Pens (dozen)	$ 0.85	$ 10.20	$ 10.20	$ 20.40		$ 10.20
USB Drives (unit)	$ 10.00	$ 30.00				$ 30.00
Notebooks (unit)	$ 5.00	$ 15.00	$ 15.00	$ 30.00		$ 15.00
Printing (page)	$ 0.25	$ 40.00	$ 25.00	$ 100.00		$ 40.00
TOTALS		$ 150.20	$ 50.20	$ 150.40	$ -	$ 95.20

Telecommunications	Unit/Annual Pr	Y1	Y2	Y3	OY1	OY2
Skype (annual)	$ 25.00	$ 25.00	$ 25.00	$ 25.00	$ 25.00	$ 25.00
Cell Phone for travel (unit)	$ 50.00	$ 50.00				
Cell Phone - Roaming (minute)	$ 0.25	$ 100.00	$ 20.00	$ 20.00	$ 20.00	$ 125.00
Local airtime and data (unit)		$ 25.00	$ 5.00	$ 5.00	$ 5.00	$ 50.00
TOTALS		$ 200.00	$ 50.00	$ 50.00	$ 50.00	$ 200.00

	Y1	Y2	Y3	Y4	Y5	
	International Travel					TOTAL
(b)(6) DC - Monrovia						
Hotel Max Per Diem	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Hotel Total	$ 1,000.00	$ -	$ -	$ -	$ 1,000.00	
Meals & Incidental Per Diem	$ 95.00	$ 95.00	$ 95.00	$ 95.00	$ 95.00	
M&I Total	$ 522.50	$ -	$ -	$ -	$ 522.50	
Taxi Estimate	$ 250.00	$ -	$ -	$ -	$ 250.00	
Flight Estimate	$ 1,500	$ -	$ -	$ -	$ 1,500	
No. Days	6	0	0	0	6	
No. Trips per Year	1	0	0	0	1	
Total	$ 3,272.50	$ -	$ -	$ -	$ 3,272.50	$ 6,545.00

	Y1	Y2	Y3	Y4	Y5	
	International Travel					TOTAL
(b)(6) Frankfurt - Monrovia						
Hotel Max Per Diem	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Hotel Total	$ 1,000.00	$ -	$ 1,000.00	$ -	$ 1,000.00	
Meals & Incidental Per Diem	$ 95.00	$ 95.00	$ 95.00	$ 95.00	$ 95.00	
M&I Total	$ 522.50	$ -	$ 522.50	$ -	$ 522.50	
Taxi Estimate	$ 250.00	$ -	$ 250.00	$ -	$ 250.00	
Flight Estimate	$ 1,500	$ -	$ 1,500	$ -	$ 1,500	
No. Days	6	0	6	0	6	
No. Trips per Year	1	0	1	0	1	
Total	$ 3,272.50	$ -	$ 3,272.50	$ -	$ 3,272.50	$ 9,817.50

	International Travel					TOTAL
(b)(6) Field: Monrovia						
Hotel Max Per Diem	$ 70.00	$ 70.00	$ 70.00	$ 70.00	$ 70.00	
Hotel Total	$ 280.00	$ -	$ -	$ -	$ 280.00	
Meals & Incidental Per Diem	$ 46.00	$ 46.00	$ 46.00	$ 46.00	$ 46.00	
M&I Total	$ 207.00	$ -	$ -	$ -	$ 207.00	
Domestic Transportation	$ 125.00	$ -	$ -	$ -	$ 125.00	
Flight Estimate						
No. Days	5	0	0	0	5	
No. Trips per Year	1	0	0	0	1	
Total	$ 612.00	$ -	$ -	$ -	$ 612.00	$ 1,224.00

	International Travel					TOTAL
(b)(6) Field: Monrovia						
Hotel Max Per Diem	$ 70.00	$ 70.00	$ 70.00	$ 70.00	$ 70.00	
Hotel Total	$ 280.00	$ -	$ -	$ -	$ 280.00	
Meals & Incidental Per Diem	$ 46.00	$ 46.00	$ 46.00	$ 46.00	$ 46.00	
M&I Total	$ 207.00	$ -	$ -	$ -	$ 207.00	
Taxi Estimate	$ 125.00	$ -	$ -	$ -	$ 125.00	
Flight Estimate						
No. Days	5	0	0	0	5	
No. Trips per Year	1	0	0	0	1	
Total	$ 612.00	$ -	$ -	$ -	$ 612.00	$ 1,224.00
Visa Fees	$ 150.00		$ 75.00			
TOTAL	**$ 7,769.00**	**$ -**	**$ 3,272.50**	**$ -**	**$ 7,769.00**	**$ 18,810.50**

Y1	Y2	Y3	OY1	OY2	Base	SCNL	Y1	Y2	Y3	OY1	OY2	Total
0.6	0.6	0.6	0.6	0.6	$ -	A. Senior/Key Personnel						
						(b)(6) Co-Investigator	$ -	$ -	$ -	$ -	$ -	$ -
						Total Senior/Key Personnel	$ -	$ -	$ -	$ -	$ -	$ -
						B. Other Personnel						
12	12	12	12	12	$ 6,600.00	Social Scientist	$ 6,600.00	$ 6,600.00	$ 6,600.00	$ 6,600.00	$ 6,600.00	$ 33,000.00
12	12	12	12	12	$ 6,600.00	Field technicians (x3)	$ 19,800.00	$ 19,800.00	$ 19,800.00	$ 19,800.00	$ 19,800.00	$ 99,000.00
12	12	12	12	12	$ 3,960.00	Drivers (x2)	$ 7,920.00	$ 7,920.00	$ 7,920.00	$ 7,920.00	$ 7,920.00	$ 39,600.00
12	12	12	12	12	$ 7,800.00	Field Supervisor	$ 7,800.00	$ 7,800.00	$ 7,800.00	$ 7,800.00	$ 7,800.00	$ 39,000.00
6	6	6	6	6	$ 16,200.00	Administrative Assistant	$ 8,100.00	$ 8,100.00	$ 8,100.00	$ 8,100.00	$ 8,100.00	$ 40,500.00
6	6	6	6	6	$ 8,640.00	Accounting Assistant	$ 4,320.00	$ 4,320.00	$ 4,320.00	$ 4,320.00	$ 4,320.00	$ 21,600.00
						Total Other Personnel	$ 54,540.00	$ 54,540.00	$ 54,540.00	$ 54,540.00	$ 54,540.00	$ 272,700.00
						C. Equipment						
						Total Equipment	$ 45,000.00	$ -	$ -	$ -	$ -	$ 45,000.00
						D. Travel						
						1. Domestic Travel	$ 45,103.12	$ 50,921.96	$ 45,545.18	$ 45,772.86	$ 40,405.09	$ 227,748.21
						2. Foreign Travel						$ -
						Total Travel	$ 45,103.12	$ 50,921.96	$ 45,545.18	$ 45,772.86	$ 40,405.09	$ 227,748.21
						E. Participant/Trainee Support Costs						
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies	$ 5,809.07	$ 32,400.00	$ 21,600.00	$ 21,600.00	$ 10,800.00	$ 92,209.07
						Total Other Direct Costs	$ 5,809.07	$ 32,400.00	$ 21,600.00	$ 21,600.00	$ 10,800.00	$ 92,209.07
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 150,452.19	$ 137,861.96	$ 121,685.18	$ 121,912.86	$ 105,745.09	$ 637,657.28
						Modified Direct Costs	$ 105,452.19	$ 137,861.96	$ 121,685.18	$ 121,912.86	$ 105,745.09	$ 592,657.28
						H. Indirect Costs						
				IDC Rate-->	8%	1. Indirect Cost Type	$ 8,436.18	$ 11,028.96	$ 9,734.81	$ 9,753.03	$ 8,459.61	$ 47,412.58
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 158,888.37	$ 148,890.92	$ 131,419.99	$ 131,665.89	$ 114,204.70	$ 685,069.86
						J. Fee						
						Fee						
						K. Total Costs and Fee						
						Total Costs	$ 158,888.37	$ 148,890.92	$ 131,419.99	$ 131,665.89	$ 114,204.70	$ 685,069.86

Travel Cost Calculations	Y1	Y2	Y3	OY1	OY2
Fuel/Lodging/Per Diems	$ 33,622.56	$ 39,441.40	$ 34,064.62	$ 34,292.30	$ 28,924.53
Field Consumables	$ 4,320.00	$ 32,400.00	$ 21,600.00	$ 21,600.00	$ 10,800.00
Field Work Totals	$ 37,942.56	$ 71,841.40	$ 55,664.62	$ 55,892.30	$ 39,724.53
Sample Transport Costs	$ 11,480.56	$ 11,480.56	$ 11,480.56	$ 11,480.56	$ 11,480.56
Domestic Travel Total	**$ 45,103.12**	**$ 50,921.96**	**$ 45,545.18**	**$ 45,772.86**	**$ 40,405.09**

Per Day	400
Per Animal	27

People	Per Diems	
8	50	400

Equipment	
Vehicle x 1	$ 45,000.00

	Y1	Y2	Y3	Y4	Y5	
# trips	4	3	2	2	1	12
# animals/year	160	1200	800	800	400	3360
# days	7	14	14	14	14	

Sample Transport Gas & Vehicle Maintance					
KM	664	664	664	664	664
Weekly	52	52	52	52	52
KM/G	33.2	33.2	33.2	33.2	33.2
Gas Price	$ 126.16	$ 126.16	$ 126.16	$ 126.16	$ 126.16
Total	**$ 11,480.56**	**$ 11,480.56**	**$ 11,480.56**	**$ 11,480.56**	**$ 11,480.56**

Monrovia to Phebe Hospital RT	376
Monrovia to Robertsport RT	288

Vehicle Maintance	**2 Vehicles Per YR**	**2 Vehicles Per YR**	**2 Vehicles Per YR**	**2 Vehicles Per YR**	**2 Vehicles Per YR**
TOTAL	**$ 10,942.00**	**$ 11,160.84**	**$ 11,384.06**	**$ 11,611.74**	**$ 11,843.97**

Materials and Supplies	**# Unit**	**Price/Unit**	**Quantity**	**Y1**	**Y2**	**Y3**	**OY1**	**OY2**
Tarp and Spade		1 $ 109.47	1	$ 109.47				
Centrifuge		1 $ 442.00	1	$ 442.00				
Pitfall Traps		1 $ 11.99	40	$ 479.60				
Tablets		1 $ 229.00	2	$ 458.00				
Field Work Consumables	(above)			$ 4,320.00	$ 32,400.00	$ 21,600.00	$ 21,600.00	$ 10,800.00
				$ 5,809.07	$ 32,400.00	$ 21,600.00	$ 21,600.00	$ 10,800.00

NPHIL							Y1	Y2	Y3	OY1	OY2	Total
Y1	Y2	Y3	OY1	OY2	Base	A. Senior/Key Personnel						
0.6	0.6	0.6	0.6	0.6	$ -	PHIL	Co-Investigator	$ -	$ -	$ -	$ -	$ -	$ -
1.5	1.5	1.5	1.5	1.5	$ 24,000.00		Co-Investigator	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 15,000.00
1.5	1.5	1.5	1.5	1.5	$ 16,596.00		Senior Research Scientist	$ 2,074.50	$ 2,074.50	$ 2,074.50	$ 2,074.50	$ 2,074.50	$ 10,372.50
1.5	1.5	1.5	1.5	1.5	$ 20,000.00		Co-Investigator	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 2,500.00	$ 12,500.00
						Total Senior/Key Personnel		$ 7,574.50	$ 7,574.50	$ 7,574.50	$ 7,574.50	$ 7,574.50	$ 37,872.50
						B. Other Personnel						
4	4	4	4	4	$ 14,000.00	Lab Technician (x4)		$ 18,666.67	$ 18,666.67	$ 18,666.67	$ 18,666.67	$ 18,666.67	$ 93,333.33
6	6	6	0	0	$ 7,500.00	Redemption Hospital project coordinator		$ 3,750.00	$ 3,750.00	$ 3,750.00	$ -	$ -	$ 11,250.00
6	6	6	0	0	$ 5,000.00	Phebe Hospital project coordinator		$ 2,500.00	$ 2,500.00	$ 2,500.00	$ -	$ -	$ 7,500.00
0	0	0	6	3	$ 5,000.00	Nimba County project coordinator		$ -	$ -	$ -	$ 2,500.00	$ 1,250.00	$ 3,750.00
0	0	0	6	3	$ 5,000.00	Lofa County project coordinator		$ -	$ -	$ -	$ 2,500.00	$ 1,250.00	$ 3,750.00
1	1	1	1	1	$ 10,000.00	Hospital Lab Technicians (1 per hospital + 2/yr)		$ 1,666.67	$ 1,666.67	$ 1,666.67	$ 1,666.67	$ 1,666.67	$ 8,333.33
12	12	12	12	12	$ 3,000.00	Postdoc in Lab		$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 15,000.00
0	0	6	6	6	$ 10,000.00	Students (2 lab, 1 field: 1k ea per year)		$ -	$ -	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 15,000.00
6	6	6	6	6	$ 10,000.00	Project Management		$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 25,000.00
						Total Other Personnel		$ 34,583.33	$ 34,583.33	$ 39,583.33	$ 38,333.33	$ 35,833.33	$ 182,916.67
						C. Equipment							
						Equipment: -80 Freezer		$ 29,885.00	$ -	$ -	$ -	$ -	$ 29,885.00
						Total Equipment		$ 29,885.00	$ -	$ -	$ -	$ -	$ 29,885.00
						D. Travel							
						1. Domestic Travel							$ -
						2. Foreign Travel		$ -	$ 6,038.50	$ 7,960.50	$ -	$ 6,038.50	$ 20,037.50
						Total Travel		$ -	$ 6,038.50	$ 7,960.50	$ -	$ 6,038.50	$ 20,037.50
						E. Participant/Trainee Support Costs							
						1. Tuition/Fees/Health Insurance							$ -
						2. Stipends							$ -
						3. Travel							$ -
						4. Subsistence							$ -
						5. Other							$ -
						Total Participant/Trainee Support Costs		$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs							
						1. Materials and Supplies		$ 12,795.57	$ 5,200.00	$ 5,600.00	$ 15,600.00	$ 5,200.00	$ 44,395.57
						2. Publication Costs							$ -
						3. Consultant Services							$ -
						4. ADP/Computer Services							$ -
						5. Subawards/Consortium/Contractual Costs							$ -
						6. Equipment or Facility Rental/User Fees							$ -
						7. Alterations and Renovations							$ -
						8. Other - Lab Testing		$ 54,907.20	$ 137,827.50	$ 128,825.50	$ 95,032.38	$ 36,821.00	$ 453,413.58
						9. Other - Meetings and Conferences		$ 16,520.00	$ 11,500.00	$ 13,420.00	$ 11,550.00	$ 15,950.00	$ 68,940.00
						10. Other - Freezer Maintenance		$ 500.00	$ 500.00	$ 500.00	$ 500.00	$ 500.00	$ 2,500.00
						Total Other Direct Costs		$ 84,722.77	$ 155,027.50	$ 148,345.50	$ 122,682.38	$ 58,471.00	$ 569,249.14
						G. Direct Costs and Modified Direct Costs							
						Direct Costs		$ 156,765.60	$ 203,223.83	$ 203,463.83	$ 168,590.21	$ 107,917.33	$ 839,960.81
IDC Rate-->			10%			Modified Direct Costs		$ 126,880.60	$ 203,223.83	$ 203,463.83	$ 168,590.21	$ 107,917.33	$ 810,075.81
IDC Rate-->						H. Indirect Costs							
						1. Indirect Cost Type		$ 12,688.06	$ 20,322.38	$ 20,346.38	$ 16,859.02	$ 10,791.73	$ 81,007.58
						2. Indirect Cost Type							$ -
						I. Total Direct and Indirect Costs							
						Direct + Indirect		$ 169,453.66	$ 223,546.22	$ 223,810.22	$ 185,449.23	$ 118,709.07	
						J. Fee							
						Fee							
						K. Total Costs and Fee							
						Total Costs		$ 169,453.66	$ 223,546.22	$ 223,810.22	$ 185,449.23	$ 118,709.07	$ 920,968.39

Post Doc Training	Omaha
Hotel Max Per Diem	$ 3,161
Meals and Incidental Expenses Per Diem	$ 1,800
Flight Estimate	$ 3,000
No. Days	30
No. People Attending	1
Total	$ 7,960.50

Regional Conferences	Accra
Hotel Max Per Diem	$ 928
Meals and Incidental Expenses Per Diem	$ 428
Flight Estimate	$ 750
No. Days	5
No. People Attending	1
Total	$ 2,105.50

International Conferences	Vienna
Hotel Max Per Diem	$ 884
Meals and Incidental Expenses Per Diem	$ 549
Flight Estimate	$ 2,500
No. Days	5
No. People Attending	1
Total	$ 3,933.00

Item	Name of FisherSci Product	Catalog No.	Number in ur	Price per unit	QTY Needed	Total
Serum tubes 6 mL	BD Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper	23-021-032	1000	$ 281.00	2	$ 562.38
Serum tubes 6 mL	BD Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper	23-021-032	100	$ 35.00	3	$ 105.00
EDTA Tubes 6 mL	BD Vacutainer™ Plastic Blood Collection Tubes with K2EDTA: Hemogard™ Closure	13-680-61	1000	$ 337.00	4	$ 1,348.00
EDTA Tubes 6 mL	BD Vacutainer™ Plastic Blood Collection Tubes with K2EDTA: Hemogard™ Closure	13-680-61	100	$ 43.30	5	$ 216.50
Nunc 1.8 internal cryovials	Thermo Scientific™ Nunc™ 1.8 mL Internally-Threaded Cryogenic Tubes	12-565-171N	450	$ 0.51	10	$ 5,460.00
Vaccutainer holder	BD Vacutainer™ Tube Holder	22-289-953	250	$ 29.71	9	$ 267.41
21g 1in vacutainer safety needles	BD Vacutainer™ Eclipse™ Blood Collection Needle	02-683-101	48	$ 29.99	47	$ 1,999.85
3cc luer lock syringe	BD Disposable Syringes with Luer-Lok™ Tips	14-823-435	100	$ 33.25	23	$ 764.75
22g 1in needle	BD General Use and PrecisionGlide Hypode	14-826C	100	$ 18.15	23	$ 417.45
1cc syringe and needle	BD Syringe with Sub-Q Needle	14-829-10F	100	$ 35.25	12	$ 423.00
Nitrile gloves extended cuff	Fisherbrand™ Extended Cuff Nitrile Exam G	19-041-170	50	$ 39.95	23	$ 898.15
Nasal Swabs	Puritan™ Polyester-Tipped Applicators	22-029-574	100	$ 0.90	100	$ 90.00
Shipping Costs				$ -	9	$ -

Total over 5 years	$ 12,517.83
Supply Cost/Year	**$ 2,503.57**

Workshops

	Y1	Y2	Y3	OY1	OY2
1A	$ -	$ -	$ -	$ -	$ -
2A	$ 1,620.00	$ -	$ 1,620.00	$ -	$ -
3A	$ 1,000.00	$ -	$ 500.00	$ -	$ -
3B	$ 2,600.00	$ -	$ 1,300.00	$ -	$ -
4A	$ 1,300.00	$ -	$ -	$ -	$ -
4B	$ -	$ -	$ -	$ -	$ -
5A	$ -	$ 1,500.00	$ -	$ -	$ -
6A	$ -	$ -	$ -	$ -	$ 4,400.00
	$ 6,520.00	$ 1,500.00	$ 3,420.00	$ -	$ 4,400.00

Workshop 1A

Hotel Max Per Diem	$ -	20	2	$ -
M&I Expenses Per Diem	$ -	20	2	$ -
Domestic Transport	$ -	10	1	$ -
Regional Transport	$ -	5	1	$ -
Printing/Supplies	$ -	1	1	$ -
Room Rental	$ -	1	2	$ -
Lunch	$ -	25	2	$ -
				$ -

Included in Kickoff Costs

Workshop 2A - Human Protocol Work

Hotel Max Per Diem	$ 100.00	1	2	$ 200.00
M&I Expenses Per Diem	$ 60.00	1	2	$ 120.00
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies		1	0	$ -
Room Rental	$ 200.00	1	2	$ 400.00
Lunch	$ 30.00	15	2	$ 900.00
				$ 1,620.00

Y1 and Y3 refresher

Workshop 3A MW lab training workshop and inlab practical

Hotel Max Per Diem	$ -	1	2	$ -
M&I Expenses Per Diem	$ -	1	2	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies		1	1	$ -
Room Rental	$ 200.00	1	1	$ 200.00
Lunch	$ 30.00	10	1	$ 300.00
				$ 500.00

Workshop 3B - In Lab Training (twice Y1, Y3)

Hotel Max Per Diem	$ -	1	2	$ -
M&I Expenses Per Diem	$ -	1	2	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Lab Consumables	$ 1,000.00	1	1	$ 1,000.00
Room Rental	$ -	1	4	$ -
Lunch	$ 30.00	10	1	$ 300.00
				$ 1,300.00

Add on to KO Y1, Mid Y1, Y3

Workshop 4A PPE, Animal Research, cold chain etc

Hotel Max Per Diem	$ 100.00	1	0	$ -
M&I Expenses Per Diem	$ 60.00	1	0	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies			1	$ -
Room Rental	$ 200.00	1	2	$ 400.00
Lunch	$ 30.00	15	2	$ 900.00
				$ 1,300.00

Y1 Only

Workshop 4B Emily breakout groups

Hotel Max Per Diem	$ -	1	2	$ -
M&I Expenses Per Diem	$ -	1	2	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies	$ -	1	1	$ -
Room Rental	$ -	1	2	$ -
Lunch	$ -	20	2	$ -
				$ -

Workshop 5A - MW on interpreting results Y2

Hotel Max Per Diem	$ -	1	2	$ -
M&I Expenses Per Diem	$ -	1	2	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies	$ -	1	1	$ -
Room Rental	$ 200.00	1	3	$ 600.00
Lunch	$ 30.00	10	3	$ 900.00
				$ 1,500.00

Happening Y2 same trip as annual meeting

Workshop 6A - CM Risk Reduction Workshop

Hotel Max Per Diem	$ -	1	2	$ -
M&I Expenses Per Diem	$ -	1	2	$ -
Domestic Transport	$ -	0	1	$ -
Regional Transport	$ -	0	1	$ -
Printing/Supplies		1	1	$ -
Room Rental	$ 200.00	1	4	$ 800.00
Lunch	$ 30.00	30	4	$ 3,600.00
				$ 4,400.00

OY1

Community Engagements

Lodging	$ 30.00	1	2	$ 60.00
Per Diem	$ 25.00	1	2	$ 50.00
Supplies	$ 200.00	1	1	$ 200.00
		Cost Per Trip		$ 310.00

Y1	Y2	Y3	OY1	OY2
$ -	$ -	$ -	$ 1,550.00	$ 1,550.00

Annual Conference

Hotel Max Per Diem	$ 200.00	10	2	$ 4,000.00
M&I Expenses Per Diem	$ 80.00	10	2	$ 1,600.00
Domestic Transport	$ 50.00	10	1	$ 500.00
Regional Transport	$ 100.00	4	1	$ 400.00
Printing/Supplies	$ 200.00	1	1	$ 200.00
Room Rental	$ 300.00	1	2	$ 600.00
Lunch	$ 30.00	45	2	$ 2,700.00
				$ 10,000.00

Sampling regime

	Specimen	Year 1		Year 2		Year 3		Year 4		Year 5		Subtotal
Human Monrovia & Phebe	Human blood	150		675		675		0		0		1500
	Human N/P	150		675		675		0		0		1500
Human Nimba & Lofa	Human blood	0		0		0		600		150		750
	Human N/P	0		0		0		600		150		750
Community samples for serology	Human blood	0		63	(3 comm)	42	(2 comm)	42	(2 comm)	21	(1 comm)	168
	Human individuals subtotal	150		675		675		600		150		**2250**
	Human specimens subtotal	300		1350		1350		1200		300		4500
Existing PREDICT samples (no sampling cost--just lab)	Bat, rodent blood	300		0		0		0		0		300
	Bat, rodent oral/NP	300		0		0		0		0		300
	Bat, rodent fecal	300		0		0		0		0		300
Animal prelim (Y1)	All species blood	640		0		0		0		0		640
	All species oral/NP	640		0		0		0		0		640
	All species fecal	640		0		0		0		0		640
Animal targeted community sampling (Y2-5)	All species	0		1200		800		800		400		3200
	All species oral/NP	0		1200		800		400		400		2800
	All species fecal	0		1200		800		400		400		2800
	Animal individuals subtotal	640		1200	(3 comm)	800	(2 comm)	800	(2 comm)	400	(1 comm)	**3840**
	Animal specimens subtotal	2560		4800		3200		2400		1600		14560
Annual subtotal specimens		2860		6150		4550		3600		1900		19060

Lab regime & budget

Rough Workflow

Item (green animal, blue human)	**Unit cost ($)**	**Units/Year 1**	**$**	**Units/Year 2**	**$**	**Units/Year 3**	**$**	**Units/Year 4**	**$**	**Units/Year 5**	**$**		
NGS Ampliseq on PREDICT samples	300	100	30000	0	0	0	0	0	0	0	0	30,000	
Barcoding (5% Y1 bats and rodents)	250	16	4000	0	0	0	0	0	0	0	0	4,000	
TAC (AFI) on human blood samples	65	0	0	675	43875	675	43875	600	39000	150	9750	136,500	
Single-plex real-time PCR on N/P samples	1.5	0	0	3037.5	4556.25	3037.5	4556.25	2700	6834.375	675	1012.5	16,959	
Specific real-time PCR on positives (expect 10%)	1.5	0	0	607.5	911.25	607.5	911.25	60	90	135	202.5	2,115	
NGS Ampliseq on all viral-positive human samples (≤ 10%) and 10% of negative human samples	300	0	0	90	27000	90	27000	80	24000	20	6000	84,000	
Specific antibody ELISAs on follow-up human samples (positive humans plus 20 neighbors)	10	0	0	667.5	33375	647.5	32375	100	5000	155	7750	78,500	
Specific antibody ELISAs (animal) (all animals, average 5 tests each)	10	640	6400	1200	12000	800	8000	800	8000	400	4000	38,400	
NGS (animal) (10% of animals)	300	21.33	6400	40	12000	26.67	8000	26.67	8000	13.33	4000	38,400	
Singleplex PCR for confirmation of NGS positives (expect 10%)	1.5	2.13	3.2	4	6	2.67	4	2.67	4	1.33	2	19	
New ELISA reader	3000	1	3000	0	0	0	0	0	0	0	0	3,000	
Plate shaker	1000	1	1000	0	0	0	0	0	0	0	0	1,000	
Mastermix	552	2	1104	2	1104	2	1104	2	1104	2	1104	5,520	
Misc consumables	1	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	15,000	
	TOTAL	$	54,907	$	137,827.50	$	128,825.50	$	95,032.38	$	36,821.00	**$ 453,414**	
			$ 54,907		$ 137,827.50		$ 128,825.50		$ 95,032.38		$ 36,821.00		

Y1	Y2	Y3	OY1	OY2	Base
6	6	6	6	6	$ 135,000.00
			Fringe Rate-->		

IDC Rate-->	10.00%
IDC Rate-->	

LCRP	Y1	Y2	Y3	OY1	OY2	Total
A. Senior/Key Personnel						
(b)(6) Co-Investigator	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 337,500.00
	$ -	$ -	$ -	$ -	$ -	$ -
Total Senior/Key Personnel	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 67,500.00	$ 337,500.00
B. Other Personnel						
	$ -	$ -	$ -	$ -	$ -	$ -
Total Other Personnel	$ -	$ -	$ -	$ -	$ -	$ -
C. Equipment						
Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
D. Travel						
1. Domestic Travel	$ -	$ -	$ -	$ -	$ -	$ -
2. Foreign Travel	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 41,560.00
Total Travel	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 8,312.00	$ 41,560.00
E. Participant/Trainee Support Costs						
1. Tuition/Fees/Health Insurance						$ -
2. Stipends						$ -
3. Travel						$ -
4. Subsistence						$ -
5. Other						$ -
Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
F. Other Direct Costs						
1. Materials and Supplies	$ 2,126.00					$ 2,126.00
2. Publication Costs						$ -
3. Consultant Services						$ -
4. ADP/Computer Services						$ -
5. Subawards/Consortium/Contractual Costs						$ -
6. Equipment or Facility Rental/User Fees						$ -
7. Alterations and Renovations						$ -
8. Other						$ -
9. Other						$ -
Total Other Direct Costs	$ 2,126.00	$ -	$ -	$ -	$ -	$ 2,126.00
G. Direct Costs and Modified Direct Costs						
Direct Costs	$ 77,938.00	$ 75,812.00	$ 75,812.00	$ 75,812.00	$ 75,812.00	$ 381,186.00
Modified Direct Costs						$ -
H. Indirect Costs						
1. Indirect Cost Type	$ 7,793.80	$ 7,581.20	$ 7,581.20	$ 7,581.20	$ 7,581.20	$ 38,118.60
2. Indirect Cost Type						$ -
I. Total Direct and Indirect Costs						
Direct + Indirect	$ 85,731.80	$ 83,393.20	$ 83,393.20	$ 83,393.20	$ 83,393.20	
J. Fee						
Fee						
K. Total Costs and Fee						
Total Costs	$ 85,731.80	$ 83,393.20	$ 83,393.20	$ 83,393.20	$ 83,393.20	$ 419,304.60

International Conferences (EHA)	Vienna
Hotel Max Per Diem	$ 663
Meals and Incidental Expenses Per Diem	$ 427
Flight Estimate	$ 2,000
No. Days	4
No. People Attending	1
Total	$ 3,090.00

Visit to NY	
Hotel Max Per Diem	$ 1,728
Meals and Incidental Expenses Per Diem	$ 494
Flight Estimate	$ 3,000
No. Days	7
No. People Attending	1
Total	$ 5,222.00

YEARLY TOTALS $ 8,312.00

ECOHEALTH ALLIANCE
DOCUMENTATION TABLE OF CONTENTS

SALARIES 1

TRAVEL 2

OTHER DIRECT COSTS 4

Paygroup: 5D7 Paygroup Name: Ecohealth Alliance Inc Report: Earnings Record Check Dates From : 01/31/2020-1 To: 01/31/202

01/31/2020	(b)(6)	000083	Regular	$ 56,879.44	$ 59,723.41
01/31/2020		100097	Regular	$ 82,000.08	$ 86,100.08
01/31/2020		100002	Regular	$ 166,818.72	$ 175,159.66
01/31/2020		100030	Regular	$ 64,521.12	$ 67,747.18
01/31/2020		100015	Regular	$ 277,344.00	$ 291,211.20
01/31/2020		100016	Regular	$ 81,795.12	$ 85,884.88
01/31/2020		000068	Regular	$ 93,000.00	$ 97,650.00

PAYMENT INFORMATION
Amanda Andre
460 W 34th St
17th Floor
New York, NY 10001

$398.00 Mastercard ending **** 5817

Amtrak Total: $398.00

New York, NY - Penn Station to Washington, DC - Union Station
Mon. Feb 24, 2020- Mon. Feb 24, 2020

2h 51m TOTAL TRIP TIME

Mon. Feb 24, 2020	New York, NY (NYP)	Washington, DC (WAS)	**VALUE FARE**
2151 Acela	9:00 am	11:51 am	**1 Adult** **$215.00**
2h 51m	Mon. Feb 24	Mon. Feb 24	1 Business Class Seat **Included**

Washington, DC - Union Station to New York, NY - Penn Station
Thu. Feb 27, 2020- Thu. Feb 27, 2020

2h 49m TOTAL TRIP TIME

Thu. Feb 27, 2020	Washington, DC (WAS)	New York, NY (NYP)	**VALUE FARE**
2160 Acela	10:00 am	12:49 pm	**1 Adult** **$183.00**
2h 49m	Thu. Feb 27	Thu. Feb 27	1 Business Class Seat **Included**

CANCEL

COMPLETE PURCHASE

	6:29 PM – 11:58 PM United	8h 29m EWR – RNO	1 stop 1h 1m SFO	$486 round trip	
	4:25 PM – 9:58 PM American	8h 33m JFK – RNO	1 stop 49m PHX	$527 round trip	
	6:00 AM – 12:52 PM Ameri… · Operated by Compass Airlines as Americ…	9h 52m JFK – RNO	1 stop 1h 51m LAX	$528 round trip	
	4:57 PM – 9:58 PM American	8h 1m EWR – RNO	1 stop 33m PHX	$530 round trip	
	1:25 PM – 6:38 PM American	8h 13m JFK – RNO	1 stop 36m PHX	$577 round trip	
	7:45 AM – 12:37 PM United	7h 52m LGA–RNO	1 stop 1h 2m DEN	$781 round trip	

CITI PROGRAM

* INVOICE *

CITI Program, a division of BRANY
1981 Marcus Avenue, Suite 210
Lake Success, NY 11042
888-529-5929 Option 4 (US Toll Free)
+1-305-907-3097 (Outside US)
admin@citiprogram.org

Contact Information	Date	Number
EcoHealth Alliance Melinda Rostal 460 W 34th St., 17th Floor New York, NY 10001	5/3/2018	SO20181284
	P.O. No.	**Terms**
		Due on receipt

NOT-FOR-PROFIT REGULAR SUBSCRIPTION (One Year) Unlimited access to CITI Program series including Human Subjects Research (HSR), Good Clinical Practice (GCP), Information Privacy and Security (IPS), Animal Care and Use (ACU), and Responsible Conduct of Research (RCR) including the Conflicts of Interest (COI) course (custom module setup fees will apply for institution-specific modules). PAYMENT OPTIONS: 1 CHECK PAYMENTS: Please make check payable to CITI Program, a division of BRANY, and mail to the address listed above. 2 CREDIT CARD PAYMENTS: Please complete the Credit Card Authorization Form and submit by fax to (844)529-5929. To access the form, click here or copy and paste the link below: https://www.citiprogram.org/citidocuments/ccafpdf.pdf 3 ELECTRONIC FUNDS TRANSFER PAYMENTS: To request information for EFTs, please email: admin@citiprogram.org and insert the title: EFT Information Requested. Case #373112	1	3,500.00	3,500.00
This offer will expire SIX MONTHS from the date listed above	**Total**		$3,500.00

15

Bag

[redacted]

Computer (with AppleCare), mouse and keyboard unit: $2126 each

Here's what's in your bag.

Get free shipping and free returns on all orders.

Magic Keyboard - US English 5 $495.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: [redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details

Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware.
Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: [redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



Magic Mouse 2 - Silver 5 $395.00

Remove



Paygroup: 5D7 Paygroup Name: Ecohealth Alliance Inc Report: Earnings Record
Check Dates From : 11/29/2019-1 To: 11/29/2019-1

11/29/2019	(b)(6)	100091	Regular	5,850.00	$ 140,400.00

Hourly Rate at termination	$	68.18
Add 10% overhead, benefits, et.	$	75.00

2020 IRB Fee Schedule
New England IRB

New England IRB

Services Rendered	Cost
Initial Review	
Initial Study Review (includes protocol, study materials and 1 Consent Form)	$1,449
Review of Central Principal Investigator (PI)/Change of PI/Co-PI	$851 / PI
Non-Scheduled IRB Meeting	$1,995
Each Additional Informed Consent Form (ICF) (per ICF / per PI)	$373
Canadian Protocol Level Review	$1,449
Continuing Review	
Continuing Review of Study	$1,126
Continuing Review of Central Principal Investigator	$875 / PI
Ongoing Oversight (*non-exempt research not requiring continuing review)*	$630 / PI
Change to Research After Initial Review	
New / Revised Informed Consent (per consent)	$402 / PI
Protocol Amendment / Clarification Letter (No Revision to ICF)	$440 / PI
Protocol Amendment (With Revision to the ICF)	$537 / PI
Review of Revised Product Information *(i.e. Clinical Investigator Brochure, Package Insert, DSMB reports)*	$255 / Document
Review of Recruitment Services & Supplemental Materials (Per Document)	$303
Distribution/Processing Fee	$130 / PI
Translation Services	Variable
Translation Review Administration Fee	$318 / Submission
Distribution/Processing Fee	$130 / PI
Translation Vendor Facilitation *(when WCG Preferred Vendor is not Used)*	$100 / PI
Close Out of Research	
Study Close Out – Study Level	$318
Principal Investigator Close Out	$265 / PI
Other Services and Fees	
Site Visit	Cost Plus $1,166
Duplication Request/Retrieval (Per Document)	$212
Administrative Fee for Submission not Using Connexus/IRBNet	$75 / Submission
Master Protocol / Complex Design Protocol Review	Contact BD
IRB Exemption Review	$1,097
New or Modified Generic or Non-Protocol Related Material *(for sites/institutions)*	$911
Annual Review of Generic or Non-Protocol Related Material	$911
Clinical Trial List Service (Per Study) – Optional Service	$2,500
Clinical Trial List Service Annual Renewal (Per Study)	$1,000

TERMS: Net 30 days unless otherwise agreed to in writing. Late payments may be subject to a monthly finance charge of 1.5% of the amount owed from the due date until payment in full. WCG shall be entitled to recover all reasonable attorneys' fees, costs and expenses associated with any efforts to recover payment for overdue invoices. Fees are subject to change without notice.

Effective: January 1, 2020

Software Fees

Quotation

Quote #	115815
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Quote Date	8/19/2019
Expires	8/26/2019
Sales Rep	(b)(6)

(b)(6)

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Megan Walsh
460 W 34th St Fl 17
New York, NY 10001-2317
UNITED STATES
(212) 380-4460
walsh@ecohealthalliance.org

Adobe subscription renewal			Electronic Delivery

25	Adobe Acrobat Pro DC for Teams 12 month subscription renewal	$177.00	$4,425.00	2019-09-18	2020-09-17	
15	Adobe Creative Cloud for Teams 12 month subscription renewal	$370.00	$5,550.00	2019-09-18	2020-09-17	

Sub Total:	$9,975.00
Shipping and Handling:	$0.00
Tax Rate: (0.08875)	$0.00
Total	**$9,975.00**

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

Price is subject to change based on potential fluctuation of trade tariff regulation.

Dropbox Inc.
333 Brannan Street
San Francisco, CA 94107
United States
billing-support@dropbox.com

Invoice for EcoHealth Alliance

TO	DATE	INVOICE ID
Megan Walsh walsh@ecohealthalliance.org 10001 United States	February 25, 2019 6:50 AM GMT	SLSWTLNSKN5J

PRODUCT	PRICE	DISCOUNT	AMOUNT
Dropbox Business Advanced Plan (includes 3 licenses) + 60 Additional Licenses + Unlimited API Call Rate Limit + Unlimited Extended Version History (2/25/2019 to 2/25/2020)			
Dropbox Business Advanced Plan (includes 3 licenses)	$600.00	30%	$420.00
60 Additional Licenses	$12,000.00	30%	$8,400.00
Unlimited API Call Rate Limit	$0.00	30%	$0.00
Unlimited Extended Version History	$0.00	30%	$0.00
Total			$8,820.00

All amounts shown are in USD.

Clarivate
Analytics

Clarivate Analytics
Philadelphia, PA 19130
1500 Spring Garden Street, Suite 400
Philadelphia, PA 19130

To: Megan Walsh, Department Head, EcoHealth Alliance

Re: Your EndNote X9 Upgrade License Quote

Sent by e-mail: 10/16/2018

Thank you for your interest in our products. Please accept this letter (via e-mail) as our quote for Endnote X9.

License Type	Total Users	Total Price (excludes state tax, if applicable)
Endnote X9 Upgrade License (US$99.95 each)	40	US$3,998.00

Promotional Pricing Valid 11/16/2018

Purchasing Instructions:
If applicable, send (b)(6) your institution's Tax-Exempt Certificate for your state's tax to be excluded from your order

Contact (b)(6) at (b)(6) or (b)(6) to receive EndNote.

Premium access to EndNote Web – **Free**
Training and support - $0.00 – **Free**
Shipping – Digital Download - $0.00 – **Free**

You may place your order on a purchase order (terms are Net 30), by check/money order drawn on a U.S. bank or Visa/MasterCard/American Express.

Regards,

(b)(6)
Account Manager
(b)(6)

cb

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

Invoice IN88282-1

Order #	88282
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Invoice Date	4/11/2018
Due Date	5/11/2018

Sales Rep: (b)(6)

(b)(6)

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
walsh@ecohealthalliance.org
(212) 380-4462

CCB Technology
Accounts Receivable
2823 Carlisle Ave.
Racine, WI 53404
(800) 342-4222

(10) Office 2016 Standard Edition licenses	Per Phone	

1	Microsoft Corporation	021-10552	10	Microsoft Office 2016 Standard Edition license	$94.00	$940.00

Sub Total:	$940.00
Shipping and Handling:	$0.00
Tax Rate: (0.00000)	$0.00
Total	**$940.00**
Credits/Payments:	$0.00
Total Due:	**$940.00**

Shipping Location

1	EcoHealth Alliance Megan Walsh 460 W 34th St Fl 17 New York, NY 10001-2317 UNITED STATES (212) 380-4460 walsh@ecohealthalliance.org	10	$940.00

Shipping Detail

4/10/2018	Microsoft Corporation	021-10552	

Tracking Numbers

4/10/2018	Other	*VIRTUAl (Unrecognized Number)*

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE

Monthly Summary	Page 1 of 2
Account Number	52804
Invoice Date	11/01/19
Invoice Number	100207378
Previous Balance	$3,934.66
Current Charges	$3,931.54
Total Amount Due	**$3,931.54**

Total Amount Due December 1, 2019

Usage From: 10/01/19 - 10/31/19

To contact Altice Business, please call (866) 611-3434 or (516) 803-6000, or feel free to e-mail us at Care@AlticeUSA.com

Enhanced Caller ID!

Altice Businesses newest enhancement is now included in Altice Business Voice services at no additional cost. Not only do we help take the guesswork out of who?s calling you, but now we can help detect robocalls too.

Visit the Customer Portal

View your invoice, service inventory, pay online, see Call Detail reports and more. Simply go to portal.alticebusiness.com. New access is available through the Request Access button. In person payments can no longer be accepted.

Important Messages:

New! Call Recording is now available for Business Hosted Voice services. Contact your Account Executive for details.

New York Sales Tax Breakdown For Our Common Bundles
Internet/Voice Bundle
66% of the total charge is attributable to Internet access service and 34% is attributable to voice service. For purposes of calculating the NY sales tax, 24.5% of the voice fee is attributable to interstate/international service.

Toll Free Bundle or Audio Conference Bundle
For purposes of calculating the NY sales tax, 76% of the fee is attributable to interstate/international service.

Enterprise Voice Bundle
For purposes of calculating the NY sales tax, 24.5% of the fee is attributable to interstate/international service.

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE	Page 2 of 2
Account Number	52804
Usage From	10/01/19 - 10/31/19

PAYMENTS, CREDITS AND ADJUSTMENTS:

Description	Total
10/22/2019 Payment - Thank You	-3,934.66

SERVICES:

Description	From Date - To Date	Qty	Non-Recurring	Recurring	Total
Managed Router	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
100Mb/50K Internet/Voice Bundle	11/01/2019 - 11/30/2019	1	$0.00	$3,549.00	$3,549.00
Primary Rate Interface - ISDN	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
DID Reserve 20 Numbers - 3 yr	11/01/2019 - 11/30/2019	7	$0.00	$60.00	$60.00
TOTAL SERVICE CHARGES			**$0.00**	**$3,609.00**	**$3,609.00**

TAXES AND SURCHARGES:

Description	Total
911 Surcharge(s)	24.00
Federal Excise Tax	1.92
Local Utility Gross Receipt Tax	82.76
MTA Surcharges	27.71
State and Local Gross Receipts Taxes	112.22
Universal Service Fund Surcharge	73.93

Open Access Publication Fees

Why Researchers Choose PLOS ONE
Scope
Criteria for Publication
Peer Review at PLOS ONE
Ready to Submit?
Contact
Give Feedback

See all Calls for Papers and learn more about publishing in a Collection.

Criteria for Publication

1. The study presents the results of original research.
2. Results reported have not been published elsewhere.
3. Experiments, statistics, and other analyses are performed to a high technical standard and are described in sufficient detail.
4. Conclusions are presented in an appropriate fashion and are supported by the data.
5. The article is presented in an intelligible fashion and is written in standard English.
6. The research meets all applicable standards for the ethics of experimentation and research integrity.
7. The article adheres to appropriate reporting guidelines and community standards for data availability.

PLOS ONE encourages researchers to share early versions of their manuscripts via preprint server, either before or after submission; posting to a preprint server will not preclude consideration of your manuscript.

Peer Review at PLOS ONE

PLOS ONE is a fully peer reviewed journal with a rigorous multi-stage editorial screening and assessment process.

First, we undertake an initial in-house quality check to identify potential issues such as competing interest, compliance with ethical standards for studies involving human and animal subjects, financial disclosures, data availability, and other scientific and policy requirements. Submissions may be returned to authors for changes or clarifications at this stage.

After passing quality control, each manuscript is placed with a member of the Editorial Board who conducts peer review and makes the decision to accept, invite revision, or reject the submitted manuscript. Read the detailed Editorial and Peer Review Process overview.

Ready to Submit?

Submission Guidelines | Submission System

About

Publication fees

PLOS ONE publication fees are US$1595 per manuscript and will be billed upon acceptance. Authors' ability to pay publication fees will never be a consideration in the decision whether to publish. Read more about publication fees and publication fee support.

Indexing and archiving

See publishing details for all PLOS journal titles, including ISSN and indexing and archiving information.

PLOS

PLOS is a nonprofit Open Access publisher, innovator and advocacy organization with a mission to advance progress in science and medicine by leading a transformation in research communication.

Contact

Visit the Contact page for details about whom to contact with different queries.

Give Feedback

	DTRA Questions	EHA Responses	Documentation Page Number
1	Please provide documentation to support the proposed salaries (key and other personnel)	Please see the attached documentation of the salaries of current staff as well as that of the positions created by this grant.	PG.1
2	For domestic travel, please provide documentation (screenshots, links, quotes, etc.) for transportation cost	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget and documentation of all items is provided in the EHA Documentation file.	PG.2-3
3	Please provide documentation (quotes, screen shots, links, etc.) for consultant services to support the proposed cost.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. Hummingbird IRB has been aquired by New England IRB since original submission. Additionally, Key Personnel (b)(6) is no longer employed at EHA but will rather work on this project as a consultant. Please see attached documentation for all consultant costs.	PG. 4-15
4	Please provide a breakdown of the proposed materials and supplies, to include quantities and unit prices. Also, provide documentation (quotes, screen shots, links, etc.) to support the proposed cost.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget and documentation of all items is provided in the EHA Documentation file.	PG. 4-15
5	Domestic conference location	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget for domestic conferences. There are two domestic conferences included in the budget one the ASTMH in Maryland along with WDA. For price estimates, the 2019 conference was hels in Tahoe City. Documentation is provided for flights from New York to the closest airport in Reno, NV.	
6	Departure location that the staff will be leaving from to present on project findings at the international conference in Austria	Staff will be departing from New York City to attend IMED in Austria.	
7			
8			
9			
10			

	DTRA Questions	LCRP Responses	Documentation Page Number
1	Please provide documentation to support the proposed salaries (Key and other personnel)	LCRP is being subcontracted as a consultancy for the expertise of the director (b)(6) who has years field experince working on EIDs generally, and in Liberia specifically. His previous contract with EHA for work on the PREDICT project is attached as salary support.	Pg. 1
2	For all travel proposed whether domestic and international, please provide departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. Hotels, meals and incidentals are at the federal per diem levels. Each year there are two international trips: one from Monrovia, Liberia to Nyew York, New York for 7 days to collaborate with EcoHealth Alliance program staff, and one trip to an international conference to present on project findings. For budgeting purposes, this trip is from Monrovia, Liberia to Vienna, Austria to attend IMED for 4 days.	N/A
3	Please provide a breakdown of the proposed materials and supplies, to include quantities and unit prices. Also, provide documentation (quotes, screen shots, links, etc.) to support the proposed cost.	A computer will be purchased for use during this project, price justification provided in the LCRP Documentation file.	Pg. 2
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	N/A	N/A
5			

	DTRA Questions	UNMC Responses	Documentation Page Number	NOTES
1	Please provide documentation to support the proposed salaries (key and other personnel)	Personnel from UNMC will be receiving funding to conduct work from another funding source and we are no longer requesting the proposed salaries. ASM will be another laboratory partner but neither needs funding under this project	N/A	
2	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Personnel from UNMC will be receiving funding to conduct work from another funding source and we are no longer requesting the proposed salaries. ASM will be another laboratory partner but neither needs funding under this project	N/A	
3	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	Personnel from UNMC will be receiving funding to conduct work from another funding source and we are no longer requesting the proposed salaries. ASM will be another laboratory partner but neither needs funding under this project	N/A	
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	Personnel from UNMC will be receiving funding to conduct work from another funding source and we are no longer requesting the proposed salaries. ASM will be another laboratory partner but neither needs funding under this project	N/A	
5				
6				
7				
8				
9				
10				

	DTRA Questions	SCNL Responses	Documentation Page Number
1	Please provide documentation to support all the proposed salaries (key and other personnel)	Please see the attached documentation of the salaries of current staff.	**PG.1**
2	One (1) nurse and two (2) administrative assitants were noted in the budget narrative but not included in budget. If they are needed please update budgte to reflect as such	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. For this project, a nurse is not requested for SCNL. There will be a social scientist, a field supervisor, three field technicians, two drivers, a half time administratice assistant and a half time accounting assistant.	PG.1
3	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget.	PG.2-18
4	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. Equipment costs are for the purchase of a field vehicle with quote from vendor included.	PG.19-24
5	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	N/A	
6			

	DTRA Questions	GU-CGHS Responses	Documentation Page Number
1	Please provide documentation to support the proposed salaries	Please see attached letter from Prof (b)(6) Director of the Center for Global Science and Security, confirming the salary rates in the GU-CGHS Documentation file.	Pg. 1
2	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. Hotels, meals and incidentals are at the federal per diem levels. Taxi costs are estimated as $75 for transportation to and from origin airports, and $25 per day in-country transpotation. Flights are the average price on a Fly America Act allowable flight, with documentation provided in the GU-CGHS Documentation file.	Pg. 2-3
3	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget and documentation of all items is provided in the GU-CGHS Documentation file.	Pg. 4-10
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	Please see attached NICRA, confirming federally approved indirect cost rate of 56% for research projects under the proposed period of performance in the GU-CGHS Documentation file.	Pg. 11-14
5			
6			
7			
8			
9			
10			

	DTRA Questions	NPHIL Responses	Documentation Page Number
1	Please provide documentation to support the proposed salaries (key and other personnel)	Please see the attached documentation of the salaries of current staff.	PG.1
2	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget.	PG. 2-4
3	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget documentation of all items is provided in the NPHIL Documentation file.	PG.5-21
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	N/A	
5	Per CFR §200.439(b)(1), Equipment is unallowable as direct charges. Total direct cost excludes capital expenditures (buildings, individual items of equipment, alterations and renovations). Year 1 needs to be revised to not include equipment in proposed indirect rate cost.	A detailed breakdown is provided in the FRBAA14-6-2-0436 Detailed Budget. Year 1 has been updated to remove indirect from capital equipment.	
6			
7			

Statement of Work

Project Title: Reducing the threat from high-risk pathogens causing febrile illness in Liberia

Document Date: July 26, 2019

Objective: This project will build Liberian capacity for threat reduction through an integrated human-animal surveillance approach to high consequence zoonotic pathogens associated with human acute febrile illness (AFI) including Ebola virus, Lassa virus, and other emerging infections. We will identify and characterize the etiological agents of infectious AFI in Liberia, particularly among patients with a history of animal contact. Many AFI causative agents may go undetected empirically by common rapid diagnostic tests or by existing surveillance platforms. We will work to mitigate this challenge through scientific discovery, hypothesis testing, and capacity building while leveraging significant U.S. government and other investment in workforce building and laboratory infrastructure. Training provided to local partners in critical biosecurity and biosafety skillsets will include: sample transport and laboratory biosafety and biosecurity; human and animal sampling approaches; performance of both routine and advanced molecular diagnostic assays; cold-chain transport implementation; and data analysis and reporting. As many emerging diseases have been inadequately studied in Liberia, this project will provide fundamental baseline knowledge of pathogens circulating and potentially causing human illness. Its outcomes will suggest opportunities for improved clinical training, tailored case definitions, and other methods to improve identification rates for especially dangerous pathogens at the index case level and prior to widespread transmission. The desired endpoint is a broad, sustainable surveillance program that enhances public and global health security.

Scope: The grantee proposes a five-year multi-disciplinary study incorporating the epidemiology, ecology, and microbiology of AFI in Liberia. The grantee team shall focus on the following major **goals** and milestones:

1. **Identify causative agents of AFI in Liberia**
    - Establish an evidence-based research platform for assessing and addressing high-consequence pathogens in Liberia (Y1)
    - Enroll human patients and undertake sampling (Y1-3 & OY1-2)
    - Undertake sample processing and testing (Y1-3 & OY1-2)
2. **Identify evidence for zoonotic transmission of high-consequence AFI pathogens**
    - Establish an evidence-based research platform for assessing and addressing high-consequence pathogens in Liberia (Y1)
    - Undertake sample processing and testing (Y1-3 & OY1-2)
    - Undertake preliminary animal sampling (Y1)
    - Visit communities: human-animal interface assessment, animal sampling, and human serology (Y2-3 & OY1-2)
    - Analyze data (Y2-3 & OY1-2)
3. **Identify risk factors for zoonotic AFI in humans**
    - Establish an evidence-based research platform for assessing and addressing high-consequence pathogens in Liberia (Y1)
    - Undertake preliminary animal sampling (Y1)
    - Visit communities: human-animal interface assessment, animal sampling, and human serology (Y2-3 & OY1-2)

- Analyze data (Y2-3 & OY1-2)
- Disseminate information to stakeholders (Y2-3 & OY1-2)

Background: Limited detection and diagnostic capacity by definition results in a limited ability of clinicians and public health professionals to accurately identify infectious agents. Febrile illness can be caused by pathogens other than malaria and typhoid that may include dozens of pathogens unassessed by health providers, including hemorrhagic fever viruses; bacterial Select Agents such as *Burkholderia mallei/pseudomallei, Yersinia pestis, and Coxiella burnetti;* and any number of as-yet unknown pathogens. Because the incidence of such agents has not been assessed in Liberia, febrile illness thus presents an unquantified and undifferentiated burden to Liberian health and the health care system and continues to do so. Liberia's public health authorities do not assess incidence of febrile illness. Some studies are just beginning to assess this. Other published studies have reported on causative agents of infectious fever in other low- and middle-income countries (LMIC), including in West Africa. In low resource settings, and particularly where malaria is endemic, patients presenting with febrile illness may be treated presumptively for malaria and may not receive an accurate diagnosis. Co-infections may also be common, particularly with malaria parasites. Where studies have sought to investigate the source of febrile illness, high-risk pathogens of proliferation concern such as *Brucella*, dengue virus, and viral hemorrhagic fevers have been observed. The specific challenge for Liberian health authorities is that pathogens that result in a burden of febrile illness in the population—and the zoonotic transmission pathways that may drive it have not been systematically nor comprehensively identified.

Preliminary Data: This project will leverage more than four years of human and animal data collected during the USAID PREDICT Ebola Host Project in Liberia and in neighboring countries. To date, our team in Liberia has enrolled 585 people and sampled 5387 wild and domestic animals. That project has focused on determining the animal reservoir of Zaire ebolavirus and human behavior/activities to evaluate risk factors for spillover to people. Our research team, which included U.S. and Liberian partners, made the first discovery of the virus in a bat in West Africa. Partner discoveries have included a virus new to science, Bombali ebolavirus, in a bat in Sierra Leone. Anthropological investigation of the risk factors associated with zoonotic spillover events were also extensively addressed; data are still being collated and analyzed, but preliminary evaluation reveals trends in animal contact that vary by country, gender, age, and occupation. The data suggest that in the general Liberian population, some communities are nearly evenly split (up to 60%/40%) with members that have and do not have animal contact as defined by the survey; this informs our own study design in that it provides a sound statistical basis testing the questions at the root of our hypotheses, including whether animal contact is a risk factor for certain zoonotic febrile infections.

Most of the work of the Ebola Host Project is presently being prepared for publication. Key references available include:

- EcoHealth Alliance. 2019. *EcoHealth Alliance Scientists Discover the Deadly Zaire Ebola Virus in West African Bat* [press release]. Retrieved from: https://www.ecohealthalliance.org/2019/01/ecohealth-alliance-scientists-discover-the-deadly-zaire-ebola-virus-in-west-african-bat.
- Goldstein T, Anthony SJ, Gbakima A, et al. The discovery of Bombali virus adds further support for bats as hosts of ebolaviruses. *Nat Microbiol* 2018;3:1084-1089.

Tasks/Scientific Goals: **(Format: Year #(s).Task #. Sub-task#)**

TASK 1

1.1: Establish an evidence-based research platform for assessing and addressing high-consequence pathogens in Liberia

The grantee shall oversee refinement and finalization of human and animal study protocols and data collection instruments. This stage incorporates planning and training in the protection of human subjects and animal subjects; training in laboratory biosafety, biosecurity, and safe disposal of samples or sampling materials after laboratory work (which will adhere to guidelines in the BMBL 5th edition, sections III – VI[25]); laboratory diagnostic techniques; and any necessary revisions to original sampling and testing approach based on DTRA feedback and discussion at the kick-off meeting. We will refine our human subjects data collection tools, piloting our instruments within our research network to assure validity and reliability of the questionnaires. A database will be created for secure data entry and data storage of human subjects data. MOH will assign personnel to train clinical staff and oversee study in clinics in Monrovia and Bong. NPHIL and CVL will assign personnel to laboratory. EHA and Liberian partners will host kick-off meeting in Monrovia, Liberia to which all partners will be invited. Each study partner will present on its roles and specific desired outcomes to support its agency's priorities. In addition, we will invite other researchers undertaking febrile illness and related research in-country, such as the U.S. Centers for Disease Control and Prevention (AFI study), the Walter Reed Army Institute of Research (Joint West Africa Research Group), and the Henry Jackson Foundation (sepsis study). Human subjects research and lab training workshops will occur during kick-off.

1.1.1 Refine and finalize human and animal study protocols and data collection instruments
1.1.2 Secure and finalize all research permits (human and animal) including IRB, IACUC, and national approvals in Liberia
1.1.3 Assign MOH, NPHIL, and CVL staff to field and laboratory positions
1.1.4 Host kick-off meeting in Liberia
1.1.5 Conduct Workshop 1a: overall research protocol (concurrent with Task 1.1.4)

TASK 2

1.2 – O2.2: Enroll human patients and undertake sampling

We will enroll febrile patients at two hospitals in Y1-3 and two hospitals in Y4-5 to collect blood and respiratory samples and transport them to the Liberia Institute for Biomedical Research (LIBR) for testing. Cross-sectional sampling will be used to provide a representative sample of a relatively urban or relatively rural population (depending on site) of individuals with fever. Longitudinal sampling of target populations (not individuals) across up to 2.5 years per clinical study site will maximize the opportunity for detection and possibly reveal seasonal trends in infection or other time-related changes in trends. Sampling will be based on available volume in the clinical sites but is designed to assure detection of rare pathogens and answering questions about the relative proportion of febrile illness caused by each; we are targeting 1,500 patients at the first two hospitals total, and 1,500 at the second set of sites in the option years. We will review historical and concurrent surveillance reports for the study counties and for neighboring counties as comparators. MOH will provide a locally hired on-site project coordinator to work with the hospital team and oversee the study protocol (train clinicians and nurses; be alerted when febrile patients arrive; work with hospital staff to oversee informed consent, enrollment, sample collection, and interviews). will train study staff in human subjects research and patient

recruitment; biosafety, safe and secure sample collection, handling, packaging, and transport; and implementation of the study protocol. Training will provide the principles for safe and ethical human subjects research; and project-specific teachings to ensure staff understand, practice, and can implement the study protocol (enrollment determination, informed consent, and questionnaire administration (demographic information, animal ownership), sample acquisition, data entry, and sample packaging and readying for transport).

1.2.1, 3.2.1 Conduct Workshop 2a: IRB/human subjects research

1.2.2-O2.2.2 Locally-hired project coordinator reports to hospital at each study site

1.2.3-O2.2.3 Enroll patients (continuous)

TASK 3

1.3 – O2.3: Undertake sample processing and testing

LIBR reception personnel will be briefed on the study protocol and will notify the project supervisor on receipt of the samples, at which point study-specific inventory and storage procedures will be followed. LIBR has an ABI 7000 Sequence Detection System in operation on which the laboratory scientists and technicians are well trained; a MiSeq system for NGS that is available but requires staff training; and ELISA platforms for serology. NPHIL will budget for and be responsible for ordering needed consumables throughout the project, and UNMC will provide assistance, training, and oversight. LIBR staff are already trained in real-time PCR and ELISA platforms; UNMC will refresh these skills and provide additional training via two one-week didactic and hands-on workshops Y1; another dedicated workshop in Y3; and in other years if needed via visits to the laboratory. These will cover execution of specific pathogen tests, advanced techniques (NGS), and results interpretation (including NGS bioinformatics); sample inventory management; and biorisk management. UNMC will provide oversight and mentorship through their at least twice-yearly working visits to Monrovia and the laboratory as well as video and teleconference. UNMC will leverage its additional DTRA work at LIBR (under funding consideration) to assist with skill-building among laboratory scientists and technicians there. UNMC will assess competence at each visit via a standardized evaluation form to use as a basis for targeted future training.

1.3.1-O2.3.1 Provide necessary equipment and consumables to NPHIL laboratory (continuous)

1.3.2, 3.3.2 Conduct Workshop 3a: laboratory biosafety and biosecurity, sample disposition

1.3.3, 3.3.3 Conduct Workshop 3b: laboratory sample testing techniques

1.3.4-O2.3.4 Provide continuous on-the-job training in laboratory techniques

1.3.5 Submit annual report (Y1)

2.3.6 Host workshop on results interpretation/bioinformatics

3.3.7 Host regional technical ad networking workshop

TASK 4

1.4 – 3.4 Undertake preliminary animal sampling

While laboratory training is beginning, preliminary field animal sampling will begin in Y1 with sampling in communities selected based on previous cases of AFI from historical hospital admissions trends, including some communities from which the study site hospitals draw patients. We will review a sampling of hospital records from Monrovia and Bong in search of geographic trends in AFI presentations going back three years, and begin randomized sampling

of peridomestic and wild animals in four communities identified as part of this process and continue every three months. In five-day/five-night trips we will target approximately 50 bats, 50 rodents, 50 livestock (including chickens if poultry-transmitted infection is suspected), and 10 dogs per sampling event, allowing for approximately 640 animals sampled in Y1 to include blood and oral/nasopharyngeal specimens, and feces and urine when possible. Our teams are trained in species identification, and we will also plan to barcode approximately 5% of individual bats and rodents in Y1 to improve species determination and team training. All animals will be non-lethally sampled with strict adherence to U.S. IACUC-approved protocols following those currently used by EHA scientists globally (Attachment 3) and using bat and rodent sampling protocols we developed for the PREDICT project (Attachment 3). All personnel undertaking animal sampling will be will be trained to ensure competency with a combination of didactic and practical training. SCNL will transfer samples to LIBR consistent with PREDICT protocols (Attachment 3).

1.4.1, 3.4.1 Conduct Workshop 4b: IRB/human subjects research (for animal teams)

1.4.2 Review hospital records in search of geographic trends in acute febrile illness presentations

1.4.3 Sample in communities identified as part of this process and continue every three months

TASK 5

1.5 – O2.5: Visit communities: human-animal interface assessment, animal sampling, and human serology

Animal sampling will continue in Y2, expanding to communities of enrolled patients, sampling in and around study enrollees' homes and surrounding areas; we plan to reach three communities in Y2. This task predominantly supports Hypothesis 3. It is designed to: a) assess the risk interface between people and animals; b) strategically target and sample animal species for the pathogens/antibodies they are most likely to have based on what is already known about pathogen-host proclivity; and c) enable follow-up serology on patients and their community neighbors. We will sample five communities in the catchment areas of Redemption and Phebe Hospital, targeting 400 animals per community, and the patient plus 20 neighbors per community for human interviews and blood sampling. In option years, we will target three communities with the same numbers of animal and human subjects per community.

2.5.1-O2.5.2 Review study patient records for geographic trends in AFI presentations

2.5.2-O2.5.3 Undertake sampling in and around study enrollees' homes

2.5.3-O2.5.4 Undertake sampling from broader patients' communities

2.5.4-O2.5.5 Administer human-animal interface assessment

2.5.5-O2.5.6 Collect human samples for serology

TASK6

2.6 – O2.6: Analyze data

We will compare any diagnoses established at the clinical sites to laboratory results; and compare clinical study site diagnoses and laboratory results to national weekly and monthly county surveillance records. We will estimate population in catchment areas (from where the patient population comes) to develop prevalence estimates of each detected pathogen. We will compare phylogenetic sequence data from humans and animals to identify possible shared strains and infer transmission. Using the questionnaire data comparisons of exposure variables across

varying demographics measures in study sites will be conducted to characterize high risk behaviors and statistical analysis will be employed to identify differences between groups with a 95% probability of detecting a difference. As appropriate, multivariate analysis will be utilized to evaluate the relationship between the positive biological findings and key measures of contact to evaluate the factors that influence and may have led to AFI pathogen exposure. The pathogen and human interface data collected in this study; characterization of zoonotic potential through phylogenetic analyses undertaken in this and other studies (such as PREDICT); and additional data such as available spatial, ecological, and environmental data will inform models designed to help tease correlation from causation. The data will thus provide the foundation of an OY2 risk reduction workshop. We will also compare diagnostic results for endemic agents to reports for these diagnoses in the preceding years to allow for control for any changed practices (even if subconscious) in our target counties based on the project team's presence; this will also allow for a controlled comparison of the impact on incidence of any differential diagnosis or testing interventions we may implement in OY1 and OY2. We will develop recommendations for adapted differential diagnostic protocols and testing practices.

2.6.1-O2.6.1 Undertake data analysis

TASK 7

2.7-O2.7: Disseminate information to stakeholders

We will host the annual stakeholders meeting to which we will invite all project partners as well as others doing related research in country. We will discuss preliminary data and analyses and use these to inform any needed modifications to forward sampling strategy. We will review protocols for biosafety, specimen transport, and animal handling at each annual meeting. We will provide support travel for at least one (1) Liberian scientist to present at an international conference. We will share samples as appropriate with other in-country projects to ensure synergies. We will compile and summarize research results and share with all partners and other in-country researchers as appropriate and use it to develop an annual report for DTRA. In Y3, we will broaden annual stakeholders meeting to include regional partners from Guinea and possibly other adjacent countries; share information about ongoing research; plan cross-border study for OY1. We will broaden outreach in Y3 and OY2 to communities that have engaged in sampling to share results and discuss preliminary risk mitigation strategies. Project data will provide the foundation of an OY2 risk reduction workshop at the annual meeting to engage multi-sectoral Liberian participants to review statistical evaluation of diagnostic data, identify key risk interfaces, assess economic options for prevention and control, and develop threat reduction measures. Workshop products include 1) development of priorities for refined PCR and serological tests based on study findings, 2) recommendations for an updated national surveillance and reporting strategy and plan, 3) inclusion of stakeholders (e.g., National Disaster Management Authority, the Forestry Development Authority, the Ministry of Finance) to consider options for risk and impact reduction and generate policy recommendations. We will work with MOH and MOA to develop written educational products designed for laypersons to explain project results, community impact, and risk mitigation, and thank community members for their participation.

2.7.1-O2.7.1 Host annual stakeholders meeting

2.7.2-O2.7.2 Present to DTRA at Annual Technical Review

2.7.3-O2.7.3 Submit annual report

2.7.4-O2.7.4 Share specimens if available and appropriate with other in-country researchers

2.7.5, O2.7.5 Support Liberian scientist to present at international conference
3.7.6 Host regional technical and networking workshop
3.7.7-O2.7.7 Prepare/submit up to two (2) peer-reviewed manuscripts
3.7.8, O2.7.8 Engage sampled communities for follow-up education
O2.7.9 Conduct Workshop 6a: risk reduction workshop

Cost estimate: Y1: $995,517.56 Y2: S989,251.55 Y3: S996,113.74 OY1: $962,716.26 OY2: S969,218.86

Performance Schedule:

Task	Y1	Y2	Y3	OY1	OY2
Task 1: Establish evidence-based research initiative for high-consequence pathogens in Liberia					
1.1 Refine and finalize human and animal study protocols					
1.2 Secure and finalize all research permits (human and animal)					
1.3 Assign MOH, NPHIL, and CVL staff to field and lab positions					
1.4 Host kick-off meeting in Liberia					
1.5 Conduct Workshop 1a: overall research protocol					
Task 2: Enroll human patients and undertake sampling					
2.1 Conduct Workshop 2a: IRB/human subjects research					
2.2 Local project coordinator reports to hospital at each study site					
2.3 Enroll patients (continuous)					
Task 3: Undertake sample processing and testing					
3.1 Provide equipment and consumables to LIBR					
3.2 Conduct Workshop 3a: biosafety/biosecurity, sample disp.					
3.3 Conduct Workshop 3b: laboratory sample testing techniques					
3.4 Provide on-the-job training in lab techniques (continuous)					
3.5 Submit Y1 annual report					
3.6 Conduct Workshop 5a: results interpretation, bioinformatics					
3.7 Host regional technical and networking workshop					
Task 4: Preliminary animal sampling					
4.1 Conduct Workshop 4a: IACUC/animal subjects research					
4.2 Review hospital records for geo. trends in AFI presentations					
4.3 Sample animals in select communities (preliminary)					
Task 5: Visit communities: interface assessment, animal sampling, human serology					
5.1 Review study patient records for geographic AFI trends					
5.2 Administer human-animal interface assessment					
5.3 Undertake animal sampling in/around study enrollees' homes					
5.4 Undertake animal sampling from patients' communities					
5.5 Collect human samples for serology					
Task 6: Analyze data					
6.1 Undertake data analysis					
Task 7: Disseminate research results to stakeholders					
7.1 Host annual Stakeholders meeting					
7.2 Present to DTRA at Annual Technical Review					
7.3 Submit annual report					
7.4 Share specimens if appropriate w/ other in-country researchers					
7.5 Support Liberian scientist to international conference					
7.6 Host regional technical and networking workshop					
7.7 Prepare/submit up to two (2) peer-reviewed manuscripts					
7.8 Engage sampled communities for follow-up education					
7.9 Conduct Workshop 6a: risk reduction workshop					

BUDGET JUSTIFICATION FOR GEORGETOWN UNIVERSITY CENTER FOR GLOBAL HEALTH AND SECURITY, UNITED STATES

The Georgetown University Center for Global Health and Security requests a total of $196,834 over all years of the proposed project to support personnel, travel, other direct costs, and indirect costs.

A. Key Personnel

(b)(6), Co-Investigator (1.2 calendar months for Y1, .6 calendar months for Y2-OY2). (b)(6) will provide subject matter expertise in support of the execution of the project, specifically related to study design and analysis and dissemination of findings for which $11,477 is requested in Y1, with a 2% increase each subsequent year. (b)(6) time will vary over the five years of the project based on involvement in specific tasks.

(b)(6) Co-Investigator (1.2 calendar months for Y1, Y3, OY2, .6 calendar months for Y1, OY1). (b)(6) will serve as the GU PI for the award, and will be the lead for all aspects of GU's contribution to the project, notably related to project design and analysis and dissemination of the findings for which $10,819 is requested in Y1, with a 2% increase each subsequent year. (b)(6) time will vary over the five years of the project based on involvement in specific tasks.

Fringe Benefits

Fringe benefits are calculated as 32.4% of base salary p.a. with $7,224 requested in Y1 for Key Personnel.

B. Other Personnel

No funds are requested for other personnel.

C. Equipment

No funds are requested for equipment.

D. Travel

International Travel

International travel will be used to support Dr. Sorrell to travel from Frankfurt, Germany to Monrovia, Liberia to attend the kick off meeting in Y1 and annual meetings in Y3 and OY2 for six days, and to continue onto the field in Y1 and OY2 for an additional 5 days. Dr. Standley will travel from Washington, DC to Monrovia, Liberia to attend the kick off meeting in Y1 and annual meeting in OY2 for six days, and to continue onto the field in Y1 and OY2 for an additional 5 days. Flights for all trips are priced at $1,500, along with $75 each way for airport taxis as well as $25 per day for in-country transportation. The federal per diem rates for Monrovia and Other are utilized. A total of $18,811 is requested for international travel over the five proposed project years.

E. Participant/Trainee Support Costs

No funds are requested for participant or trainee support costs.

F. Other Direct Costs

Materials and Supplies

We request $55 in Y1 to purchase an encrypted storage device and $30 to purchase 3 USB drives. Over the five years of the project we request $331 for other office supplies including pens ($51), notebooks ($75) and printing ($205).

Telecommunications
We request $550 over the five years of the project to support telecommunication costs including a Skype subscription ($25 p.a), mobile phone charges for project communication, including roaming charges while on international travel in Liberia ($285 total) and local airtime and data ($90 total). A cell phone for travel will be purchased in Y1 for $50.

H. Indirect Costs
We are requesting the federally agreed indirect cost of 55.5% on all direct costs.

GEORGETOWN UNIVERSITY CENTER FOR GLOBAL HEALTH AND SECURITY
DOCUMENTATION TABLE OF CONTENTS

SALARIES 1

TRAVEL 2

OTHER DIRECT COSTS 4

SUPPLIES 4
COMMUNICATIONS 8

RATE AGREEMENT 11

GEORGETOWN UNIVERSITY
Georgetown University Medical Center
Center for Global Health Science and Security

February 4, 2020

EcoHealth Alliance
460 West 34th St – 17th floor
New York, NY 10001

RE: Confirmation of salary rates

To Whom It May Concern:

This letter is to confirm the base salary rates used for the development of the proposal "Reducing the threat from high-risk pathogens causing febrile illness in Liberia", submitted to the Defense Threat Reduction Agency under Broad Agency Announcement HDTRA1-14-24-FRCWMDBAA.

I can confirm the following base annual salary rates for the two Center for Global Health Science and Security personnel for the proposed period of performance of the project:

- (b)(6) $108,191.00
- (b)(6) : $114,767.00

We are projecting 10% effort for (b)(6) in Y1, Y3, and OY2 of the project, and 5% in Y2 and OY1. For (b)(6) we are projecting 10% effort in Y1 and 5% effort thereafter. We use an assumption of a 2% annual salary increase, effective from the start of our fiscal year (July 1), when generating our proposal budgets. This is our standard practice across all submitted proposals.

If further evidence of salary levels is required, I would be happy to discuss this with you further over the phone or via email. My contact information is provided below.

Sincerely,

(b)(6)

Director
Center for Global Health Science and Security
Georgetown University
TEL: (b)(6)
Email

Round trip | 1 passenger | Economy

Washington, D.C. — Monrovia ROB — Mon, Mar 16 — Fri, Mar 20

Bags | Stops | Airlines | Price | Times | Connecting airports | More

Track prices | Date grid | Price graph | Nearby airports

Best departing flights

Total price includes taxes + fees for 1 adult. Additional bag fees and other fees may apply.

Sort by:

	7:00 PM – 8:10 PM+1	21h 10m	2 stops	$1,525	
	United, Brussels Airlines	IAD–ROB	BRU, LNA	round trip	
	7:10 PM – 8:10 PM+1	21h 0m	2 stops	$1,378	
	Brussels Airlines, United	IAD–ROB	BRU, LNA	round trip	
	10:15 PM – 8:10 PM−2	41h 55m	3 stops ⚠	$1,340	
	United, Brussels Airlines	IAD–ROB	ZRH, BRU, LNA	round trip	
	10:55 PM – 8:10 PM+2	41h 15m	3 stops ⚠	$1,[illegible]	
	United, Brussels Airlines	IAD–ROB	ZRH, BRU, LNA	round trip	
	7:20 PM – 8:10 PM−1	20h 50m	3 stops	$1,727	
	Lufthansa, Brussels Airlines, United	IAD–ROB	FRA, BRU, LNA	round trip	

Round trip 1 passenger Economy

Frankfurt Monrovia ROB Mon, Mar 16 Fri, Mar 20

Bags Stops Airlines Price Times Connecting airports More

Track prices Date grid Price graph Nearby airports

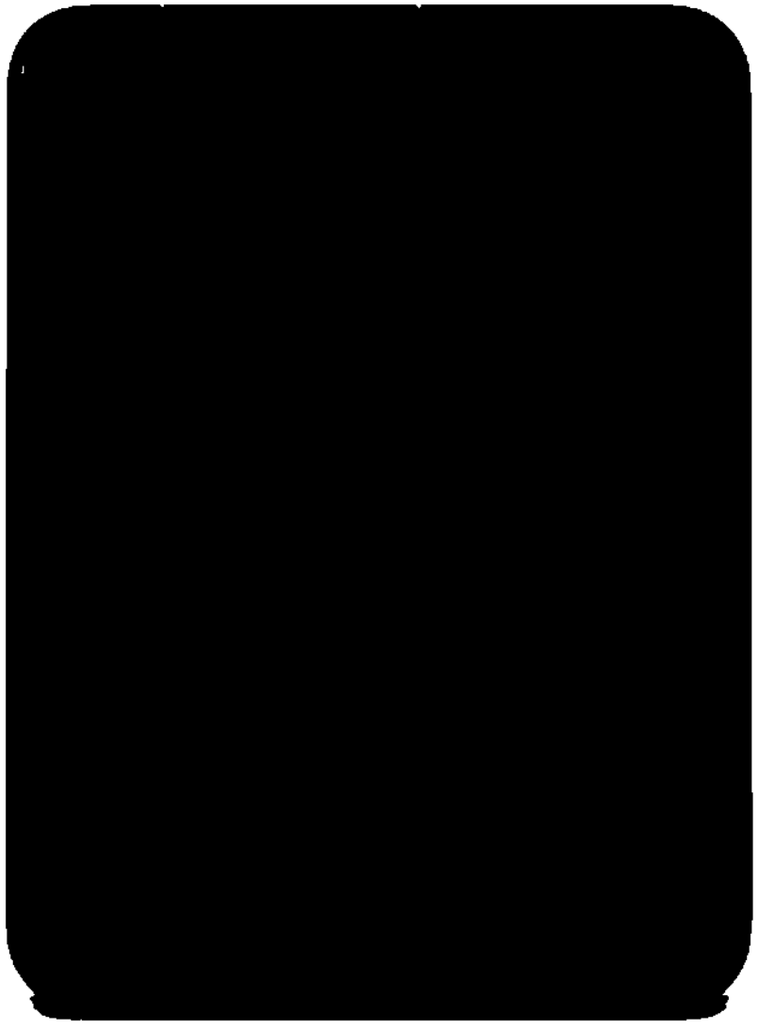
Prices are currently high for your trip. Details

Departing flights

Sep prices include taxes + fees for 1 adult. Additional bag fees and other fees may apply. Sort by

9:25 AM – 8:10 PM	11h 45m	2 stops	$1,[illegible]	
Lufthansa, Brussels Airlines	FRA – ROB	[illegible] LNA	round trip	
9:25 PM – 8:10 PM[+1]	23h 45m	2 stops ⚠	$1,[illegible]	
Lufthansa, Brussels Airlines	FRA – ROB	[illegible] LNA	round trip	

5 more flights



WD 2TB Elements Portable External Hard Drive - USB 3.0 - WDBU6Y0020BBK

by Western Digital

[illegible]

[illegible]

Was: ~~$61.81~~

Price: $54.99 prime FREE Same-Day & FREE Returns

You Save: $6.82 (11%)

Free Amazon tech support included

2TB

1TB	2TB	3TB	4TB	5TB
[illegible]	$54.99	[illegible]	[illegible]	[illegible]

Single

Get professional installation Details

Without expert installation	Include installation +$62.29 [illegible]

What's included in the box

- USB 3.0 and USB 2.0 Compatibility
- Fast data transfers
- Improve PC Performance
- High Capacity; Compatibility Formatted NTFS for Windows 10.

$54.99

prime FREE Same-Day, & FREE Returns

FREE delivery: Today

Order within [illegible] Details

Deliver to Washington 20002

In Stock.

Qty: 1

Add to Cart

Buy Now

Ships from and sold by Amazon.com.

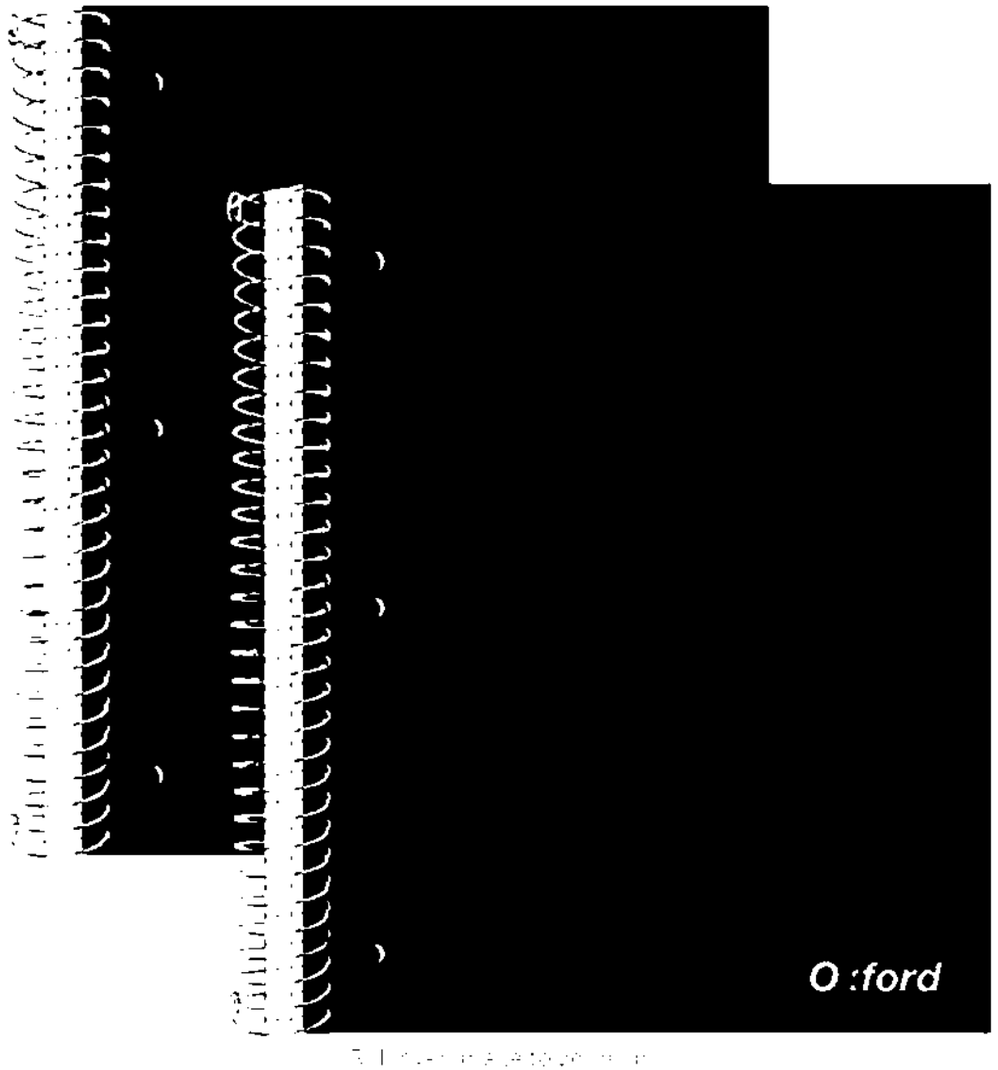
Add a Protection Plan:

3-year Data Recovery Plan for $14.99

3-year Data Recovery Plan for $21.99

Add other items:

SAVE $20 | TurboTax Deluxe + State $39.99



By [illegible]

[illegible] ratings

Amazon's Choice

[illegible] notebook [illegible]

Price: $10.99 [illegible] FREE Same-Day & FREE Returns

[illegible] Pay $0.00 ~~$10.99~~ upon approval for the Amazon Prime Rewards Visa Card. No annual fee.

- For study notes that last: Oxford 3-Subject Poly notebooks are wear-, tear- & moisture-resistant so your important notes will survive through spills, midterms, finals & overcrowded backpacks
- GEL PENS & HIGHLIGHTERS WELCOME: Each notebook contains 150 sheets of smooth paper that resists ink smearing & bleed through for pinnable, A+ notes
- Keep only the pages you want: Oxford micro-perforated sheets are designed so the notes you want stay, and the notes you don't detach easily without effort or fuss
- Carry as needed: 3-hole punched spiral notebooks let you carry multiple notebooks in your 3-ring binder or zip binder for maximum versatility
- The right ruling: these college-ruled notebooks fit more writing per page than wide-ruled; 150 double-sided sheets with red margin lines; 3 Poly divider pockets; 2 pack in blue & black

Compare with similar items

New (8) from $10.99 + FREE Shipping

Report incorrect product information

Similar item to consider

[illegible]

Get FREE delivery **Today** if you order $35 of qualifying items within 7 hrs and 2 mins and choose this date at checkout. Details

Deliver to Washington 20003

In Stock.

Qty: 1

Add to Cart

Buy Now

Ships from and sold by Amazon.com

Add other items:

[illegible] 1.5" D-Ring Presentation View Binders, [illegible] $13.69

Add gift options

Add to List

Add to Baby Registry



PILOT G2 Premium Refillable & Retractable Rolling Ball Gel Pens, Fine Point, Black Ink, 12 Count (31020)

by Pilot

4,347 ratings | 74 answered questions

In Stock

List Price: ~~$24.00~~

Price: $10.80 FREE Standard & FREE Returns

You Save: $13.20 (57%)

Save an extra $1.21 on your first Subscribe & Save order. Details

Get 270 Amazon Rewards Points. Pay $0.00 ~~$10.80~~ upon approval for the Amazon Prime Rewards Visa Card. No annual fee.

Get FREE delivery **Today** if you order $35 of qualifying items within 7 hrs and 4 mins and choose this date at checkout. Details

Deliver to Washington 20005

In Stock.

Ships from and sold by Amazon.com.

- THE IDEAL PEN FOR OVERACHIEVERS: The smooth writing, long-lasting Pilot G2 Premium Gel Ink Pen features a comfortable rubber grip, & is available in ultra fine, extra fine, fine, & bold point
- LONGEST LASTING, REFILLABLE GEL INK: Proven to be the longest writing gel ink pen among top brands, the smooth-writing, retractable G2 gel ink pen is a classic choice for all your writing needs
- PERFECTLY SUITED FOR YOU: If you love the original Pilot G2, you'll want to try our full G2 line of Mini, Metallic, Mosaic, & Fashion gel ink

One-time purchase:
$10.80

Subscribe & Save:
$10.80

Save up to 5% on future deliveries.
Learn more

First delivery on Feb 5 Change

Qty: 1

Deliver every:
3 months (Most common)

Set Up Now

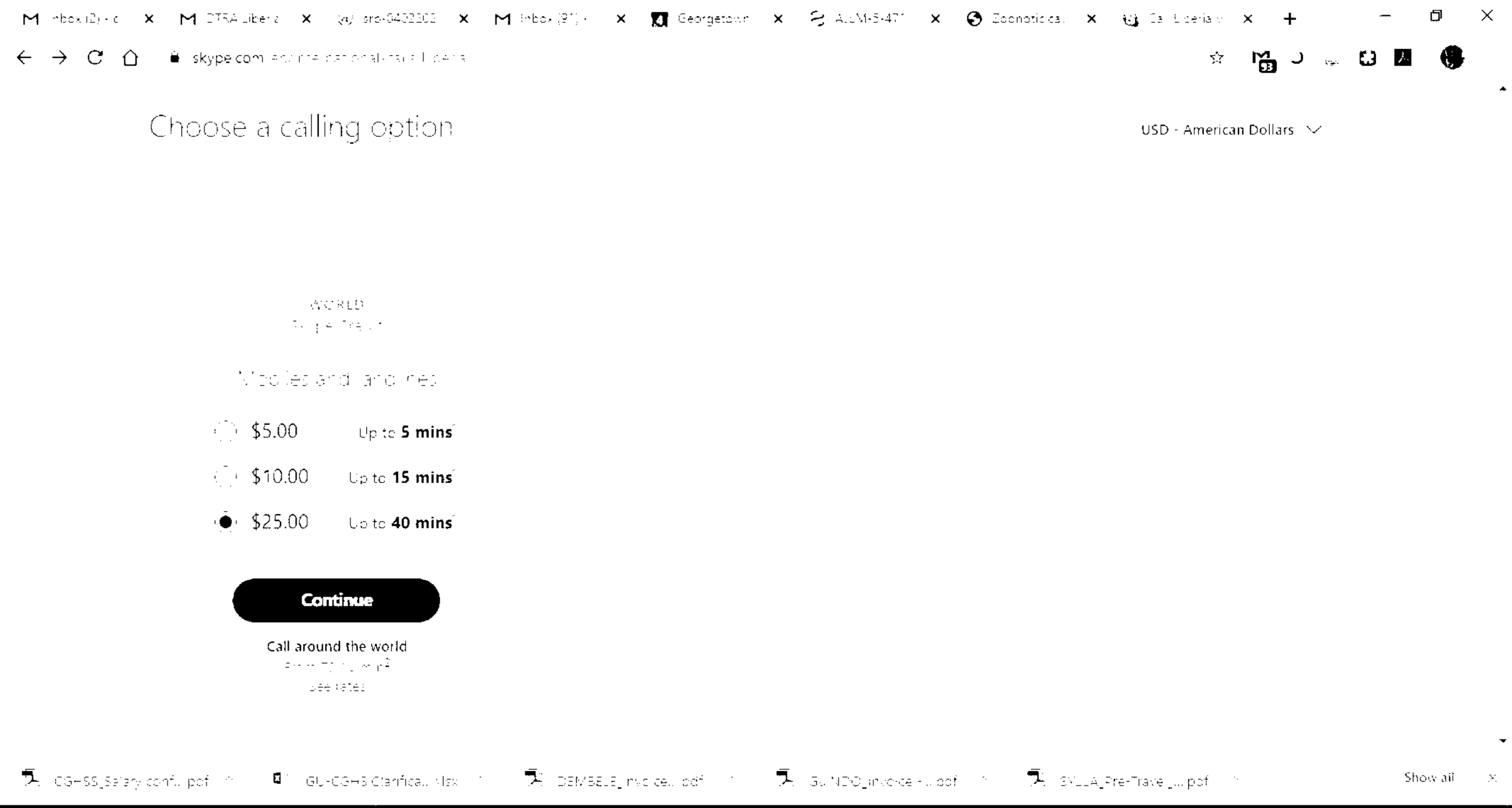
Add to your Dash Buttons

Learn more about Dash Buttons

Add to List

Add to Baby Registry

New & Used (22) from


skype.com
Choose a calling option
USD - American Dollars
WORLD
Mobiles and landlines
$5.00 Up to 5 mins
$10.00 Up to 15 mins
$25.00 Up to 40 mins
Continue
Call around the world
Dropbox
ENG
INTL
10:19 AM
05-Feb-20

Georgetown
t-mobile.com

page. or check out our **international roaming site** for rates and additional info.

Roaming with T-Mobile

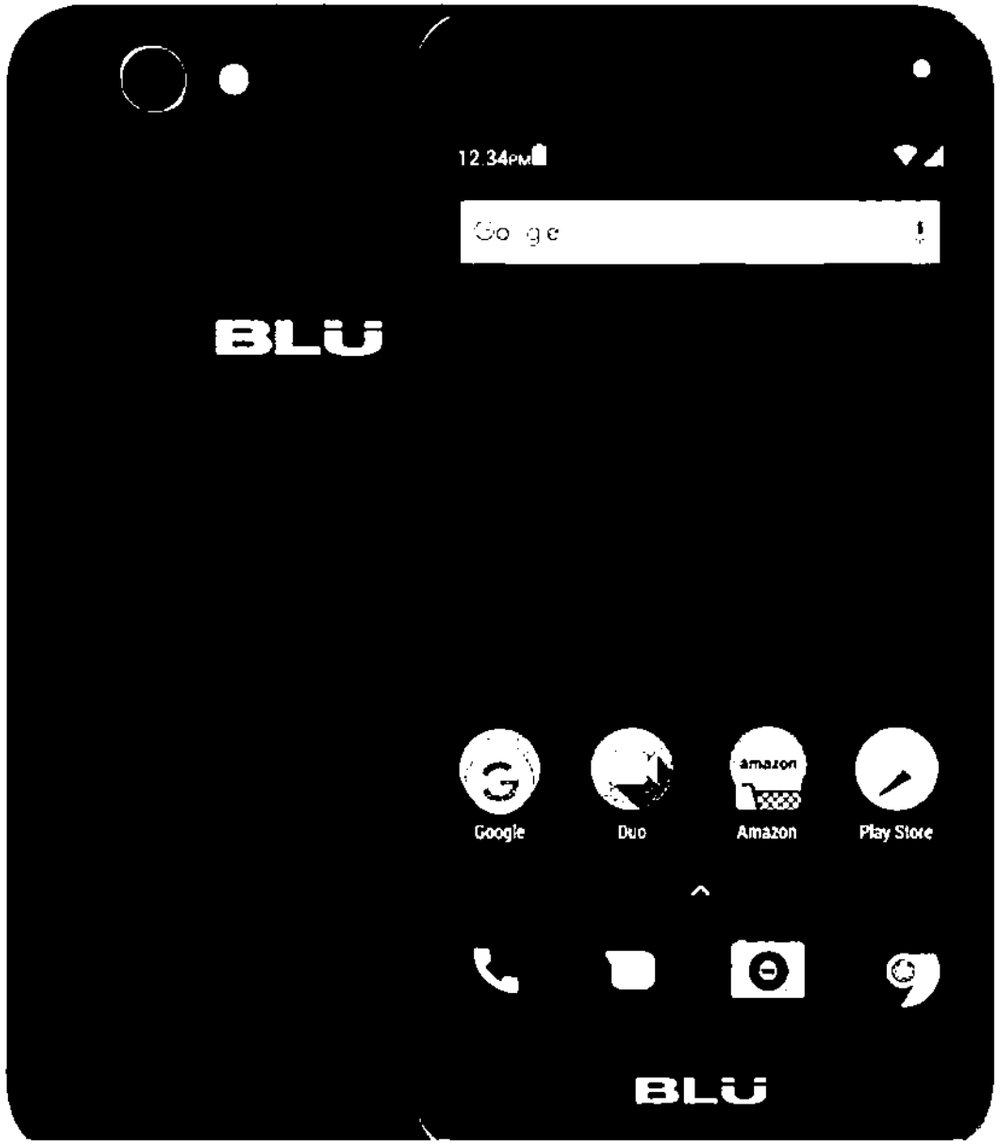
- Magenta. T-Mobile ONE and Simple Choice plans give you unlimited 2G data and texting in more than 210 countries and destinations at no extra charge. while voice ca ls are $0 25/minute (**Look up calling and messaging rates**)
- Use our **International Roaming checklist** to go over everything you need to know about using your phone abroad.
- If you're in a destination where international roaming is not included. you can still use calling and messaging services but data is turned off by default
  - You can turn on data by dialing **#RON#**.
  - As data is used. you will receive free text messages notifying you of the incurred charges
  - If you want to turn data back off. dial **#ROF#**.
- If you want to prevent any accidental usage. you can also **block voice. messaging. and data** when roaming nternationally
- To see what plan you're on. or switch to Magenta check out **Change your plan**

International travel with older plans

If you're not on a Magenta T-Mobile ONE. Essentials or a Simple Choice plan and you'll be traveling outside the U S you can add World
Roaming to each line. To learn how read **Change your services**

Message us on My T-Mobile

Show all
Dropbox
ENG INTL 10:46 AM 05-Feb-20



BLU Advance S5 HD – Unlocked Single Sim Smartphone, 16GB+1GB RAM - Black

by BLU

75 ratings | 32 answered questions

Amazon's Choice for phones unlocked

Price: $49.99 prime FREE Same-Day

Get it as soon as tomorrow, Feb 06 when you order within 3 hrs 36 mins. Details

Amazon Prime Rewards Visa Card. No annual fee.

- Unlocked Single SIM smartphone, Android 8.1 Oreo (Go Edition)
- 5.0" HD Touchscreen Display
- 8MP Main Camera with flash + 5MP Selfie Camera with flash
- 16GB Internal memory 1GB RAM Micro SD up to 64GB, 1.3GHz Quad core processor with Mali-400 GPU
- GSM Quad band, 3G (850/1900) 4G LTE (4/5/7/28): Compatible with GSM networks. Not compatible with CDMA networks like Verizon, Sprint and Boost mobile.

Compare with similar items

Report incorrect product information

SAMSUNG
Next-level power.
Unlocked by Samsung

$49.99
prime FREE Same-Day

FREE delivery: **Today**
Order within 3 hrs 36 mins. Details

Deliver to Washington 20002

In Stock.

Qty: 1

Add to Cart

Buy Now

Sold by BLU Products and Fulfilled by Amazon.

Add a Protection Plan:

Extend your 1 year Screen Protection for $6.99

Add gift options

Add to your Dash Buttons

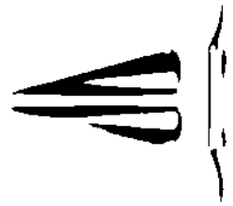
Learn more about Dash Buttons

Add to List

CG-S5_Safety confi... pdf
GU-CG-S Clarifica... xlsx
DEMBELE_nvc ce... pdf
Su NDO_invoice -... pdf
SVLLA_Pre-Trave_... pdf
Show all

Dropbox
ENG INTL
10:38 AM 05-Feb-20

amazon warehouse
Great Deals and Top Rated You Love. Shop now ›



Samsung BAR Plus 32GB - 200MB/s USB 3.1 Flash Drive Champagne Silver (MUF-32BE3/AM)

by Samsung

4,735 ratings | 268 answered questions

List Price: ~~$13.99~~
Price: $9.91 prime FREE Same-Day & FREE Returns
You Save: $4.08 (29%)

Free Amazon tech support included

Silver

32 GB

32 GB	64 GB	128 GB	256 GB

- Redefine everyday file transfers with speeds up to 200MB/s
- Reliable and secure storage for your photos, videos, music, and files
- Rugged metal casing for durability with key ring to prevent loss
- Safeguard your data (Water proof, shock proof, magnet proof, temperature proof, x ray proof)
- USB 3.1 flash drive with backwards compatibility (USB 3.0, USB 2.0)

Compare with similar items

New (4) from $9.91 prime FREE Shipping

$9.91
prime FREE Same-Day
& FREE Returns

Get FREE delivery **Today** if you order $35 of qualifying items within 7 hrs and 5 mins and choose this date at checkout.
Details

Deliver to Washington 20007

In Stock.

Qty: 1

Add to Cart

Buy Now

Ships from and sold by Amazon.com.

Add a Protection Plan:

2-year Protect and Detect Protection Plan for $2.99

1-year Protect and Detect

CG-SS_Safety confi... pdf
GU-CG-H3 Clarifica... xlsx
DEMBELE_invoice_... pdf
Gu NDO_invoice_... pdf
SVLLA_Pre-Travel_... pdf
Show all

Dropbox
ENG INTL 9:54 AM 05-Feb-20

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN: 15-30196603A

ORGANIZATION:

Georgetown University
2121 Wisconsin Avenue, NW
Suite 431
Washington, DC 20007

DATE:11/19/2019

FILING REF.: The preceding agreement was dated 06/10/2019

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

	EFFECTIVE PERIOD				
TYPE	**FROM**	**TO**	**RATE(%)**	**LOCATION**	**APPLICABLE TO**
FINAL	07/01/2018	06/30/2019	55.50	On-Campus	Organized Research
PRED.	07/01/2019	06/30/2020	55.50	On-Campus	Organized Research
PRED.	07/01/2020	06/30/2022	56.00	On-Campus	Organized Research
FINAL	07/01/2018	06/30/2019	42.00	On-Campus	Instruction
PRED.	07/01/2019	06/30/2020	42.00	On-Campus	Instruction
PRED.	07/01/2020	06/30/2022	44.00	On-Campus	Instruction
FINAL	07/01/2018	06/30/2019	35.50	On-Campus	Other Sponsored Activities
PRED.	07/01/2019	06/30/2022	35.50	On-Campus	Other Sponsored Activities
FINAL	07/01/2018	06/30/2019	26.00	Off-Campus	All Programs
PRED.	07/01/2019	06/30/2022	26.00	Off-Campus	All Programs

TYPE	FROM	TO	RATE(%)	LOCATION	APPLICABLE TO
PROV.	07/01/2022	Until Amended			Use same rates and conditions as those cited for fiscal year ending June 30, 2022.

*BASE

Modified total direct costs, consisting of all salaries and wages, fringe benefits, materials, supplies, services, travel and subgrants and subcontracts up to the first $25,000 of each subgrant or subcontract (regardless of the period covered by the subgrant or subcontract). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each sub-grant and subcontract in excess of $25,000.

SECTION I: FRINGE BENEFIT RATES**

TYPE	FROM	TO	RATE(%)	LOCATION	APPLICABLE TO
FIXED	7/1/2019	6/30/2020	32.40	All	Full-Time Employees
FIXED	7/1/2019	6/30/2020	21.20	All	University Fellows
FIXED	7/1/2019	6/30/2020	8.30	All	Temporary Workers
PROV.	7/1/2020	Until amended			Use same rates and conditions as those cited for fiscal year ending June 30, 2020.

** DESCRIPTION OF FRINGE BENEFITS RATE BASE:

Salaries and wages.

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

The fringe benefits are charged using the rate(s) listed in the Fringe Benefits Section of this Agreement. The fringe benefits included in the rate(s) are listed below.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

OFF-CAMPUS DEFINITION: For all activities performed in facilities not owned by the institution and to which rent is directly allocated to the project(s), the off-campus rate will apply. Actual costs will be apportioned between on-campus and off-campus components. Each portion will bear the appropriate rate.

Fringe Benefits include: FICA, Retirement, Disability Insurance, Life Insurance, Employee Tuition Remission, Group Hospitalization, Labor Union, Sabbatical Leave, Workers' Compensation, Unemployment Insurance, Dental Insurance, FAS No. 106 Post Retirement Benefits other than Pension and Fringe Benefit Administration.

Fringe benefit rates exclude student salaries and wages.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes, or $5,000.

This agreement updates the F&A rates only. All other terms and conditions remain unchanged.

A Fringe Benefit rate proposal for FYE 06/30/2019 is due in our office by 12/31/2019. Next F&A rate proposal for FYE 06/30/2021 is due in our office by 12/31/2021.

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted: such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:

Georgetown University

(INSTITUTION)

(b)(6)

(SIGNATURE)

(b)(6)

(NAME)

CONTROLLER

(TITLE)

12/6/2019

(DATE)

ON BEHALF OF THE FEDERAL GOVERNMENT:

DEPARTMENT OF HEALTH AND HUMAN SERVICES

(b)(6)

(SIGNATURE)

(b)(6)

(NAME)

Deputy Director, Cost Allocation Services

(TITLE)

11/19/2019

(DATE) 3149

HHS REPRESENTATIVE: (b)(6)

Telephone:

From: (b)(6)
To: karesh@ecohealthalliance.org; Aleksei Chmura
Cc: (b)(6)
(b)(6); DTRA Ft Belvoir SI Mailbox SI-FMKA SPS Contracts; onr_boston@navy.mil
Subject: HDTRA1-20-1-0016 Award
Date: Wednesday, May 27, 2020 1:24:31 PM
Attachments: HDTRA12010016 Award.pdf

Good Afternoon,

Attached you will find the award documentation for Grant number HDTRA1-20-1-0016, proposal FRBAA14-6-2-0436. Please confirm once you have received this email.

V/r

(b)(6) Contractor

Contract Specialist ▪ Broadleaf

Defense Threat Reduction Agency (DTRA)

Office Phone: (b)(6)

(b)(6)

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 10

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA12010016	01 Jun 2020	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317	9. DISCOUNT FOR PROMPT PAYMENT
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: — ITEM
CODE 3MMU3 — FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2317	HQ0337

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				
				15G. TOTAL AMOUNT OF CONTRACT	**$4,912,818.06**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	3	X	J	LIST OF ATTACHMENTS	10
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	4		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	5				
X	G	CONTRACT ADMINISTRATION DATA	6 - 9		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) / CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		(b)(6) BY _____ (Signature of Contracting Officer)	27-May-2020

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lot	$4,912,818.06	$4,912,818.06

Year 1: FRBAA14-6-2-0436
FFP
Reducing the threat from high-risk pathogens causing febrile illness in Liberia. In accordance with the following attachements: SOW at attachement 1 dated 7/26/2019 and DTRA Terms and Conditions for Grant Awards dated 4/18/2018 at attachment 2
FOB: Destination
U009

NET AMT $4,912,818.06

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Funding in support of CLIN 0001
FFP

NET AMT $0.00

ACRN AA $4,912,818.06
CIN: HDTRA10335520001

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-11-16-BRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C 2358 as amended

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	Destination	Government
000101	N/A	N/A	N/A	N/A

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 01-JUN-2020 TO 31-MAY-2025	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410
AMOUNT: $4.912.818.06

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	HDTRA10335520001	$4,912,818.06

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

e. Grantee Business Office:
Name: Dr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

f. Grantee Principal Investigator (PI):
Name: Dr. William Karesh
Title: Executive Vice President of Health and Policy
Phone: (212) 380-4463
E-mail: karesh@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

FUNDING PROFILE:

The amount of $4,912,818.06 is obligated for work to be performed during the period beginning with grant award and continuing through May 31, 2025

The Government's liability is limited to the amount obligated

INVOICE SCHEDULE

1	6/30/2020	$81,880.36
2	7/31/2020	$81,880.30
3	8/31/2020	$81,880.30
4	9/30/2020	$81,880.30
5	10/31/2020	$81,880.30
6	11/30/2020	$81,880.30
7	12/31/2020	$81,880.30
8	1/31/2021	$81,880.30
9	2/28/2021	$81,880.30
10	3/31/2021	$81,880.30
11	4/30/2021	$81,880.30
12	5/31/2021	$81,880.30
13	6/30/2021	$81,880.30
14	7/31/2021	$81,880.30
15	8/31/2021	$81,880.30
16	9/30/2021	$81,880.30
17	10/31/2021	$81,880.30
18	11/30/2021	$81,880.30
19	12/31/2021	$81,880.30
20	1/31/2022	$81,880.30
21	2/28/2022	$81,880.30
22	3/31/2022	$81,880.30
23	4/30/2022	$81,880.30
24	5/31/2022	$81,880.30
25	6/30/2022	$81,880.30
26	7/31/2022	$81,880.30
27	8/31/2022	$81,880.30
28	9/30/2022	$81,880.30
29	10/31/2022	$81,880.30
30	11/30/2022	$81,880.30
31	12/31/2022	$81,880.30
32	1/31/2023	$81,880.30
33	2/28/2023	$81,880.30
34	3/31/2023	$81,880.30
35	4/30/2023	$81,880.30
36	5/31/2023	$81,880.30
37	6/30/2023	$81,880.30
38	7/31/2023	$81,880.30
39	8/31/2023	$81,880.30
40	9/30/2023	$81,880.30
41	10/31/2023	$81,880.30
42	11/30/2023	$81,880.30
43	12/31/2023	$81,880.30
44	1/31/2024	$81,880.30
45	2/29/2024	$81,880.30

46	3/31/2024	$81,880.30
47	4/30/2024	$81,880.30
48	5/31/2024	$81,880.30
49	6/30/2024	$81,880.30
50	7/31/2024	$81,880.30
51	8/31/2024	$81,880.30
52	9/30/2024	$81,880.30
53	10/31/2024	$81,880.30
54	11/30/2024	$81,880.30
55	12/31/2024	$81,880.30
56	1/31/2025	$81,880.30
57	2/28/2025	$81,880.30
58	3/31/2025	$81,880.30
59	4/30/2025	$81,880.30
60	5/31/2025	$81,880.30

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Statement of Work	8	26-JUL-2019
Attachment 2	Terms and Conditions	18	06-APR-2018

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 10

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA12010016	01 Jun 2020	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317	9. DISCOUNT FOR PROMPT PAYMENT
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: — ITEM
CODE 3MMU3 — FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2317	HQ0337

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	**See Schedule**

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$4,912,818.06**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	3	X	J	LIST OF ATTACHMENTS	10
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	4		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	5				
X	G	CONTRACT ADMINISTRATION DATA	6 - 9		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.) Your bid on Solicitation Number _____ including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	27-May-2020

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lot	$4,912,818.06	$4,912,818.06

Year 1: FRBAA14-6-2-0436
FFP
Reducing the threat from high-risk pathogens causing febrile illness in Liberia. In accordance with the following attachements: SOW at attachement 1 dated 7/26/2019 and DTRA Terms and Conditions for Grant Awards dated 4/18/2018 at attachment 2
FOB: Destination
U009

NET AMT $4,912,818.06

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Funding in support of CLIN 0001
FFP

NET AMT $0.00

ACRN AA $4,912,818.06
CIN: HDTRA10335520001

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-11-16-BRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C 2358 as amended

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	Destination	Government
000101	N/A	N/A	N/A	N/A

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 01-JUN-2020 TO 31-MAY-2025	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410
AMOUNT: $4.912.818.06

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	HDTRA10335520001	$4,912,818.06

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

e. Grantee Business Office:
Name: Dr. Aleksei Chmura
Title: Authorized Organizational Representative
Phone: (212) 380-4473
E-mail: chmura@ecohealthalliance.org

f. Grantee Principal Investigator (PI):
Name: Dr. William Karesh
Title: Executive Vice President of Health and Policy
Phone: (212) 380-4463
E-mail: karesh@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

FUNDING PROFILE:

The amount of $4,912,818.06 is obligated for work to be performed during the period beginning with grant award and continuing through May 31, 2025

The Government's liability is limited to the amount obligated

INVOICE SCHEDULE

1	6/30/2020	$81,880.36
2	7/31/2020	$81,880.30
3	8/31/2020	$81,880.30
4	9/30/2020	$81,880.30
5	10/31/2020	$81,880.30
6	11/30/2020	$81,880.30
7	12/31/2020	$81,880.30
8	1/31/2021	$81,880.30
9	2/28/2021	$81,880.30
10	3/31/2021	$81,880.30
11	4/30/2021	$81,880.30
12	5/31/2021	$81,880.30
13	6/30/2021	$81,880.30
14	7/31/2021	$81,880.30
15	8/31/2021	$81,880.30
16	9/30/2021	$81,880.30
17	10/31/2021	$81,880.30
18	11/30/2021	$81,880.30
19	12/31/2021	$81,880.30
20	1/31/2022	$81,880.30
21	2/28/2022	$81,880.30
22	3/31/2022	$81,880.30
23	4/30/2022	$81,880.30
24	5/31/2022	$81,880.30
25	6/30/2022	$81,880.30
26	7/31/2022	$81,880.30
27	8/31/2022	$81,880.30
28	9/30/2022	$81,880.30
29	10/31/2022	$81,880.30
30	11/30/2022	$81,880.30
31	12/31/2022	$81,880.30
32	1/31/2023	$81,880.30
33	2/28/2023	$81,880.30
34	3/31/2023	$81,880.30
35	4/30/2023	$81,880.30
36	5/31/2023	$81,880.30
37	6/30/2023	$81,880.30
38	7/31/2023	$81,880.30
39	8/31/2023	$81,880.30
40	9/30/2023	$81,880.30
41	10/31/2023	$81,880.30
42	11/30/2023	$81,880.30
43	12/31/2023	$81,880.30
44	1/31/2024	$81,880.30
45	2/29/2024	$81,880.30

46	3/31/2024	$81,880.30
47	4/30/2024	$81,880.30
48	5/31/2024	$81,880.30
49	6/30/2024	$81,880.30
50	7/31/2024	$81,880.30
51	8/31/2024	$81,880.30
52	9/30/2024	$81,880.30
53	10/31/2024	$81,880.30
54	11/30/2024	$81,880.30
55	12/31/2024	$81,880.30
56	1/31/2025	$81,880.30
57	2/28/2025	$81,880.30
58	3/31/2025	$81,880.30
59	4/30/2025	$81,880.30
60	5/31/2025	$81,880.30

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Statement of Work	8	26-JUL-2019
Attachment 2	Terms and Conditions	18	06-APR-2018

LIBERIA CHIMPANZEE RESCUE AND PROTECTION
DOCUMENTATION TABLE OF CONTENTS

SALARY 1

OTHER DIRECT COSTS 2

CONSULTANCY CONTRACT

NAME:	(b)(6)
ADDRESS:	Liberian Institute for Biomedical Research Charlesville, Margibi County Liberia
REFERENCE LOG #:	P2Y5JDESMOND03
PROJECT TITLE:	PREDICT-2 Liberia (Ebola Host Project)
PERIOD:	01 OCTOBER 2018 30 SEPTEMBER 2019
PHONE:	(b)(6)
E-MAIL:	
FUNDING SOURCE:	07-306-7119-52039
CONTRACT AMOUNT:	US $146,000

Amendment to the Original Terms & Conditions:

Item 1 Agreement Amount is revised as follows:

a) delete $150, 203.16
b) replace with $150,727.15 to include 523.99 to cover additional Y5 expenses.

Item 2 – All other terms and conditions of this Subward Agreement that are not inconsistent with this Amendment remain unchanged and in full force and effect.

(b)(6)

Dr. Peter Daszak
President, EcoHealth Alliance

Consultant

DATE

December 3, 2019
DATE

15

Bag

[redacted]

Computer (with AppleCare), mouse and keyboard unit: $2126 each

Here's what's in your bag.

Get free shipping and free returns on all orders.

Magic Keyboard - US English 5 $495.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: [redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details

Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware.
Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: [redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



Magic Mouse 2 - Silver 5 $395.00

Remove

NATIONAL PUBLIC HEALTH INSTITUTE OF LIBERIA
DOCUMENTATION TABLE OF CONTENTS

SALARIES 1

EQUIPMENT 2

LAB/SAMPLING COSTS 4

TRAVEL 15

National Public Health Institute Of Liberia

Preventing and Controlling Public Health Threats

March 2, 2020

Eco Health Alliance
460 West 34 Street
17th Floor,
New York City
USA

Re: **Confirmation of Incentives to be paid Key and other personnel working on the DTRA Grants**

Dear Sir/Madam
I extend compliments as I write you this communication verifying salaries of Key personnel enlisted and budgeted for in the DETRA grant proposal.

The salaries proposed in the budget are percentages of their individual base salaries. The key staffs on the project will be working on a Full Time Equivalent bases.

Thanks so much for your kind consideration and please be assured that our office is willing at all times to provide you additional clarifications as may be required.

Best Regards,

(b)(6)

Deputy Director General for Administration (Acting)

Print Back

Printed from VWR Website
User (b)(6)
Date: 06-14-2019 Time: 12:51

Shipping Account Number: Ecohealth Alliance
80626633460 West 34th Street
17th Floor
New York ,NY
, 10001
United States
Edit Address

Shopping Cart

Item Subtotal : $29,884.66

Cart Preferences Save as a Shopping List Share Your Shopping Cart

This order has exceeded its Total Order Limit of $20,000.00.

Expand All / Collapse All

Standard Products

Update

STIRLING ULT FREEZER SU780XLE 120V/240V	**75845-814**	**Direct from Supplier**	**EA**	1	**$22,958.40**	**$22,958.40**	✕

SBE

Availability: **Shipped directly from GLOBAL COOLING, INC.**, If availability is critical, please call VWR Customer Support at 1 800 932 5000

Line Item Comments Search / Add a Value Use for all items in cart

Update Other

Charges:

LN2 BACK-UP SYSTEM FACTORY INSTALLED	**75846-036**	**Direct from Supplier**	**EA**	1	**$3,439.37**	**$3,439.37**	✕

SBE

Availability:- **Shipped directly from GLOBAL COOLING, INC.**, If availability is critical, please call VWR Customer Support at 1-800-932-5000

Line Item Comments Search / Add a Value

Charges:

SKELETON RACK SOLUTION 2 INCH BOXES	**75845-886**	**Direct from Supplier**	**EA**	1	**$3,486.89**	**$3,486.89**	✕

SBE

Availability:- **Shipped directly from GLOBAL COOLING, INC.**, If availability is critical, please call VWR Customer Support at 1-800-932-5000

Line Item Comments Search / Add a Value

Charges:

Expand All / Collapse All

Item Subtotal : $29,884.66

Have a promotion code?

Update

Apply Promotion Code

Build your cart from:

- Shopping Lists
- Frequently Ordered Items
- Upload Products to Cart

Please note that you will receive an order acknowledgment after order placement that contains updated product delivery information.

Choose File No file chosen Upload

Print Back

National Public Health Institute Of Liberia

Preventing and Controlling Public Health Threats

March 22, 2020

(b)(6)
EcoHealth Alliance
460 West 34th Street
17th Floor,
New York City
USA

Re: Laboratory test cost confirmation

Dear (b)(6)

I am writing to confirm the laboratory testing costs associated with the project titled: *Reducing the threat from high-risk pathogens causing febrile illness in Liberia.*

Based on an analysis of previous costs associated with testing biological samples in similar projects, we estimate a cost of $33.74 per sample.

Thanks so much for your kind consideration and please be assured that our office is willing at all times to provide you additional clarifications as may be required.

Best Regards.

(b)(6)

Deputy Director General for Administration (Acting)

BD Syringe with Sub-Q Needle

Syringe; Becton Dickinson;; With Sub-Q needle; 1mL, 26 gauge; Slip Tip; 100/Pk.

Manufacturer: BD 309597

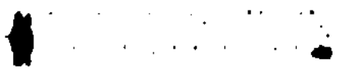


Catalog No. 14-829-10F

$35.25 / Pack of 100

$213.21 / Case of 8 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.



BD Disposable Syringes with Luer-Lok™ Tips

Unique integrated BD Luer-Lok™ tip syringe with clear barrel. BD Medical™ Disposable Syringes with Luer-Lok™ Tips are sterile and disposable.

Manufacturer: BD 309657

◀ View more versions of this product

Catalog No. 14-823-435

$33.25 / Pack of 200

$98.88 / Case of 4 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.



BD Vacutainer™ Eclipse™ Blood Collection Needle

Provides fast, easy needle-tip protection. BD Vacutainer™ Eclipse™ Blood Collection Needle is a multi-sample blood collection needle with an integrated safety shield that offers a simple, effective way to collect blood while reducing the possibility of needle stick injuries.

Manufacturer: BD 368607

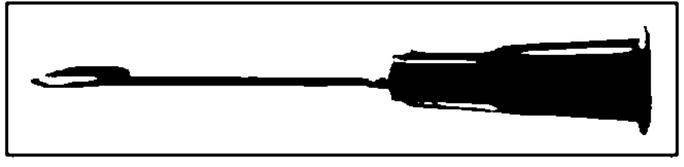
◀ View more versions of this product

Catalog No. 02-683-101

$42.55 / Pack of 48

$339.50 / Case of 10 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.



BD General Use and PrecisionGlide Hypodermic Needles

Fit any Luer-Lok™, slip tip, or eccentric tip syringe

Manufacturer: BD 305165

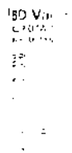
◀ View more versions of this product

Catalog No. 14-826C

$19.25 / Pack of 100

$150.38 / Case of 10 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.



BD Vacutainer™ Plastic Blood Collection Tubes with K_2EDTA: Hemogard™ Closure

Evacuated blood collection tubes for whole blood hematology determinations

Manufacturer: BD 367899

◀ View more versions of this product

Catalog No. 13-680-61

$43.30 / Pack of 100

$337.00 / Case of 10 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.

Puritan™ Polyester-Tipped Applicators

Ideal for specimen collection, testing and screening

Manufacturer: Puritan™ 25806 2PD

◀ View more versions of this product

Catalog No. 22-029-574

$30.00 / Pack of 200

$231.23 / Case of 10 PK

Qty Check Availability



Fisherbrand™ Extended Cuff Nitrile Exam Gloves

Choose a glove with exceptional durability and added protection. The Fisherbrand™ Extended Cuff Nitrile Gloves are extra-thick, fully textured for a superior grip and are tested for use with chemotherapy drug exposure.

$39.05

Specifications

Certifications/Compliance	ASTM D6319, FDA 21 CFR 177-2600, 10993-1 2003, FDA 510(k), Tested for use with chemotherapy drugs
Coating Material	Textured
Color	Teal
Length (English)	12 in.
Length (Metric)	30.5 cm

View More Specs

Thermo Scientific™ Nunc™ Biobanking and Cell Culture Cryogenic Tubes GSA/VA

Store samples from general cold storage to the vapor phase of liquid nitrogen with Thermo Scientific™ Nunc™ Biobanking and Cell Culture Cryogenic Tubes.

Manufacturer: Thermo Scientific™ 368632

◀ View more versions of this product

Catalog No. 12-565-171N

$546.00 / Pack of 450

$1,614.00 / Case of 4 PK

Qty Check Availability



BD Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper

Use for serum determinations in chemistry, serology and immunohematology

Manufacturer: BD 368660

◀ View more versions of this product

Catalog No. 23-021-012

$35.00 / Pack of 100

$281.19 / Case of 10 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.

Tablets and case: $228.98 each

Try Prime All

Hello, Melinda
Account & Lists Orders Try Prime Cart

Ecohealth Alliance Inc
Whole Foods Browsing History Melinda's Amazon.com

Shop new HoliDeals

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Your order qualifies for FREE Shipping.
Choose this option at checkout. See details

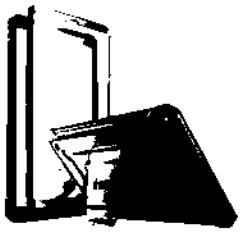
Subtotal (13 items): $1,225.87

This order contains a gift

Proceed to checkout

Shopping Cart

Price



SupCase Unicorn Beetle Pro Series Designed for Galaxy Tab A 10.1 (2019 Release), Full-Body Rugged Heavy Duty Protective Case with Built-in Screen Protector for Galaxy Tab A 10.1 Inch 2019 (Black) $26.99

In Stock
Eligible for FREE Shipping
This is a gift Learn more
Qty: 8 Delete Save for later
Compare with similar items



Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) $201.99

In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 5 Delete Save for later
Compare with similar items

Note we will order 8, only 5 were allowed to be ordered at a time. This adds another $605.97 to the total

Subtotal (13 items): $1,225.87
Updated Subtotal (16 items): $1,831.84

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Sponsored Products related to items in your cart



Fire HD 10 Case 2017... 26
$29.99
See all buying options



Galaxy Tab A 10.1 Case... 14
$16.99
See all buying options



Amazon Fire 7 Tablet... 1,625
$14.99
See all buying options



Soke Galaxy Tab A... 296
$19.99
See all buying options

Customers who shopped for SupCase Unicorn Beetle Pro Series Designed for... also shopped for:

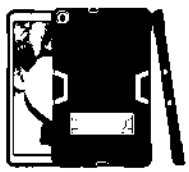
Page 1 of 4



SupCase [Unicorn Beetle... 675
$26.99
Add to Cart



Galaxy Tab A 10.1 2019... 122
$26.95
Add to Cart



Cartis Galaxy Tab A 10.1"... 123
$13.99
Add to Cart

Gift ideas inspired by your shopping history



BD Vacutainer™ Tube Holder

Low-cost, single-use holder compliant with OSHA regulations

Manufacturer: BD 364815

Catalog No. 22-289-953

$23.05 / Pack of 250

$91.90 / Case of 4 PK

Due to product restrictions, please Sign In to purchase or view availability for this product.

SOCIETY FOR THE CONSERVATION OF NATURE OF LIBERIA (SCNL)

BirdLife Partner

Tubman Boulevard, Congo Town, CARE Compound
P.O. Box 2628 Monrovia, Liberia, West Africa
☎ (+231)886-573-612/886-511-138
Website:www.scnlib.net
E-mail:scnliberia@yahoo.com

BirdLife INTERNATIONAL

CHECK PAYMENT VOUCHER

NO.

Project (s): Predict Date: June 14, 2019

Pay to. Golden Gate (Liberia) Inc

Check Number: 00923713

Account Code	Budget code	Description payment or Narrative	Amount	
		Payment to Golden Gate (Liberia) Inc. to acquire workshop and Catering Service for the launch of the forest Health Futures Project on June 19, 2019	USD 2,255	00
Total			USD 2,255	00

Amount in words Two thousand two hundred fifty five united State dollars

Prepared by: (b)(6) Date: June 14, 2019

Approved by: Date: June 14, 2019

Received by: Date: 14/06/19

Help Conserve Liberia's Natural Resources

利比里亚金门集团公司

GOLDEN GATE (LIBERIA) INC

S. K. Doe Sports Complex, Paynesville Tel: 0555111001 0770286700
Montserrado County, Monrovia, Liberia E-mail: goldengateli@gmail.com

28th May, 2019.

To: ECOHealth Alliance,

QUOTATION # 2019/0528/0916

DATE	DESCRIPTION	QTY	DURATION	RATE(USD)	OFFER(USD)
19th June, 2019	Breakfast, Lunch & 2 Coffee Break	50 Pers.	1 Day.	32/Pers	$1,600.00
	Hall	1	1 Day.	400/Day	$400.00
	Extra water	50		1/Bottle	$50.00
	10% GST				$205.00
TOTAL					$2,255.00

Amount in words: Two Thousand Two Hundred And Fifty Five United States Dollars Only.

(b)(6)

GOLDEN GATE HOTEL

13362

17/06/2019

SCNL

~~Two Thousand Two Hundred~~ Five United States Dollars

~~Fifty~~ Workshop Invoice

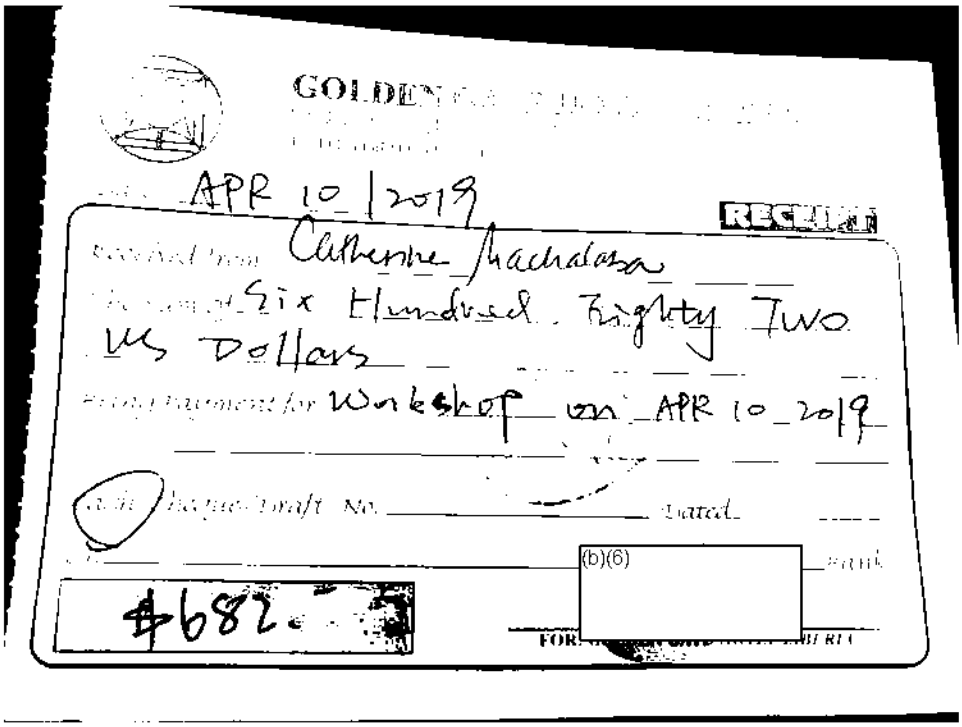
14/06/19

00923713

~~ECOBANK~~

(b)(6)

$2,255:00



GOLDEN

APR 10 | 2019

RECEIVED

Received from Catherine Machadoss

Six Hundred Eighty Two

US Dollars

For Payment for Workshop on APR 10 2019

Cash/Cashier's Draft No. Dated

(b)(6)

Bank

$682.

FOR

利比里亚金门集团公司

GOLDEN GATE (LIBERIA) INC

INVOICE #2019/0410/0944

DATE	DESCRIPTION	TOTAL(USD)
10th April 2019	Tea Breakfast & Lunch (20)	$420.00
	Min. Conference Room	$200.00
	10% GST	$62.00
TOTAL		$682.00

Amount in words: Six Hundred And Eighty Two United State Dollars Only

(b)(6)

SOCIETY FOR THE CONSERVATION OF NATURE OF LIBERIA
DOCUMENTATION TABLE OF CONTENTS

SALARIES 1

VEHICLE EQUIPMENT/TRAVEL 2

OTHER DIRECT COSTS 19

Society for the Conservation of Nature of Liberia (SCNL)

Birdlife Partner

Tubman Boulevard, Congo Town, CARE Compound

P.O. Box 2628 Monrovia, Liberia, West Africa

(+231) 886-573-612/0777544611

Website: www.scnlliberia.org

E-mail: scnlliberia@yahoo.com

(b)(6)

Executive Director
Society for Conservation of Nature of Liberia
Congo Town, Monrovia

March 2, 2020

To: DTRA C-WMD Thrust Area 6 Program

This letter is intended to confirm the salary levels for following positions for the project, *Reducing the threat from high-risk pathogens causing febrile illness in Liberia*: social scientist (1), field technician (3), field supervisor (1), driver (2), administrative assistant (1), accounting assistant (1).

Position	No. of Staff	Monthly Salary	Percent Covered	Annual Total
Social Scientist	1	$550.00	100%	$6,600.00
Field Technician	3	$550.00	100%	$19,800.00
Field Supervisor	1	$650.00	100%	$7,800.00
Administrative Asst.	1	$1,350.00	50%	$8,100.00
Accounting Asst.	1	$720.00	50%	$4,320.00
Driver	2	$330.00	100%	$7,290.00
Total	**9**	**$4150.00**	**NA**	**$54,540.00**

These salary levels are based on funding levels for previous projects of a similar nature, primarily the USAID funded PREDICT project. Please feel free to contact me if you have any questions or need additional information.

Sincerely yours,

(b)(6)

(b)(6)

Executive Director/SCNL

TOYOTA
GIBRALTAR STOCKHOLDINGS LTD
Agents for
Toyota Motor Europe NV/SA

20 ANNIVERSARY

TGS
MORE
THAN
JUST
CARS

P.O Box 176. 40 Dovi's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

TGS

Click here register or login to **myTGS**

An easy-to-use web app which allows registered users to create their own vehicle quotations.

Cover Letter - Batch Number 1 - HZJ79L DK TJMRS Service Pack HZJ79L DK TJMRS Serv. Pack for HZJ79L TJMRS A2 - TGS Workshop Fitted Options - TGS Compatible Parts Packages

To **Partners in Animal Protection and Conservation**
Attention (b)(6)
Subject Quotation
Client Reference 1 x HZJ79 SC - Liberia
E-Mail (b)(6)

Date: 8/05/2019
Our Ref: 144625
Account N°: 1226025

Dear Mr Desmond,

Thank you for your enquiry. We have pleasure in attaching our quotation as requested.

Freight Service Details - Consignment No 1 HZJ79L-TJMRS-A2

Shipped From	Gibraltar, Gibraltar
Destination	Monrovia, Liberia
Estimated Time of Sailing (ETS) Gibraltar	11/06/2019
Estimated Time of Arrival (ETA) Monrovia, Liberia	23/07/2019
Transit time in days	42
Costs	161,693 JPY
Frequency	Every 10 days
Freight Method	Monrovia, Liberia via Valencia RORO

Important Shipping Information

Alternate Routes Freight Service Details - Consignment No 1 HZJ79L-TJMRS-A2

Destination	Monrovia, Liberia
Estimated Time of Sailing (ETS) Gibraltar	11/06/2019
Estimated Time of Arrival (ETA) Monrovia, Liberia	30/06/2019
Transit time in days	19
Costs	227,332 JPY
Insurance	60,729 JPY
Frequency	Weekly
Freight Method	Monrovia, Liberia via Algeciras FCL
ALTERNATE ROUTE BATCH 1 TOTAL	4,919,031 JPY
ALTERNATE ROUTE INDICATIVE BATCH 1 TOTAL	45,547 USD

Important Shipping Information

Delivery
* Kindly note that the quoted ETS/ETA dates are subject to change and will be confirmed at the time of order. Shipping dates will depend on stock levels as well as on our workshop workload, both which change on a daily basis.

* If delivery is via Container, please note that off-loading and de-stuffing charges may apply at destination and are the responsibility of the buyer.

* Kindly also note that our vehicle stock is available on a first come first served basis and we recommend that you place your order as soon as possible to ensure availability.

Batch Summary

Batch 1 Summary	CIF Monrovia, Liberia via Valencia RORO (Incoterms 2010)	4,852,571	JPY
Batch 1 Summary		44,931.21	INDICATIVE USD

Vehicle & Fleet Insurance
TGS has partnered with the leading international insurance firm Clements, to offer its customers competitive world-wide insurance coverage specifically designed for Aid & Humanitarian organisations. Through this partnership, TGS can provide insurance cover on a global flat rate for your vehicle or fleet and includes towing, theft, rental reimbursements amongst other benefits, as listed below:

- Worldwide comprehensive cover
- A simple, fast and hassle-free claim procedure
- In addition to the physical damage cover, the policy may be adjusted to your needs and include optional modules (such as excess liability, political violence, personal accident, duty coverage)
- Customers will benefit from a unique premium discount structure if specific accessories or services are also purchased with your vehicle

P.O Box 176. 40 Dovi's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

If interested, please contact us for additional information or request for quotation - [illegible]

Download a copy of our insurance flyer on this link - [illegible]

Incoterms
Batch 1: CIF
Under CIF terms, the buyer is responsible for customs clearance at destination.

Payment Terms
Bank transfer with order

Batch 1: Warranty Service - Liberia:36 Months or 100000 Kms (whichever comes first)
Full Toyota warranty and after-sales service is included in the price of the vehicles supplied by Toyota Gibraltar Stockholdings Ltd (TGS). It's important to note that unauthorised traders cannot offer Toyota approved in-country warranty and after-sales service. A free pre-delivery inspection (PDI) and the issue of the Toyota Warranty Booklet will be carried out by the local Toyota Distributor. Please note that the local Toyota Distributor may charge for the installation of unassembled accessories, such as roof rack(s). The Distributor will also carry out a 1000 Km service check, free of charge except for lubricants, fluids or filters used, and will arrange the application of warranty if necessary. Please note that non-Toyota equipment fitted as a TGS option is not endorsed by Toyota and consequently shall not benefit from the Toyota warranty and warranty service. This non-Toyota equipment will be separately warranted by TGS who will match the conditions of the warranty of the original manufacturer. It is important that the Pre-Delivery Inspection is carried out by the Toyota Distributor before the vehicle is put into operational use.

Batch 1: Warranty Service - Note
Please note that any spare parts purchased from TGS may not be accepted or used by the local distributor during routine maintenance or servicing of your vehicle(s) at their premises.

Batch 1 - The Main Official Toyota Distributor is located in Monrovia

Validity
Prices are valid until the **7th June 2019**. this does not include indicative prices provided in alternative currencies). Please note that the freight price is only valid for the number of vehicles quoted. Any changes in quantities will require a revised quotation.

Spare Parts Service
We have enclosed details of Spare Parts Packages available for each model. Please note the service package is shown with and without tyres; the maintenance package includes tyres as standard. Please also note that when spare parts are shipped with vehicles, considerable savings can be made as the parts will be freighted inside the vehicle free of charge to the final destination.
We hope that our quotation is of interest and look forward to hearing from you. Should you have any queries or require more information, please do not hesitate to contact us quoting our reference.

Yours sincerely

(b)(6)
Sales Executive
Direct (b)(6)
E-Mail

TOYOTA
GIBRALTAR STOCKHOLDINGS LTD
Agents for
Toyota Motor Europe NV/SA

20 ANNIVERSARY

TGS MORE THAN JUST CARS

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

Land Cruiser 79 Single Cabin Pick-Up, 3 seater (Airbags, Air Conditioning, ABS), Model: HZJ79L-TJMRS SFX: A2

General Specifications (For use in extreme climatic and physical conditions)

Transmission	5 speed, Manual. Brakes: Front: Disc, Rear: Drum
Drive Type:	4x4
Tyres	Radial Front: 7.50R16-8 5.50F Rear: 7.50R16-8 5.50F. Steel
Suspensions	Front: Coil, Rear: Leaf
Wheelbase	LWB 3180 mm, Ground Clearance: 235 mm
Weight	Kerb Weight: 2140kg, Gross Vehicle Weight: 3200kg, Payload: 1060kg
Seats	3 Seater. Front: 1+2 Bench, Rear: - . Material: Vinyl
Dimensions	Length: 5195mm, Width: 1790mm, Height: 1975mm, Volume: 18.4m³ all excluding accessories
Colour	White
Country of Origin	Japan
Engine Model	1HZ - 4164cc, Diesel(Tank 90+90l), 6 cylinders, BHP: 129, KW: 96, Cooling (Water), electrics 12 Volts
No of doors	2

Standard Features:

Engine & Chassis
Air Cleaner: cyclone with snorkel
Battery: 65 amp-hour battery (12v)
Battery: 80D26 (12V)
Brake control valve (Load Sensing Pressure Valve)
Differential - rear 4.300 4P
Engine oil cooler
Fuel sedimenter w/fuel filter
Full-floating rear axle
High altitude compensator
Power steering
Stabiliser bar - front & rear
Transfer box protection

Exterior
Antenna
Bumper
Deck guard frame
Drop-down tail-gate with TOYOTA mark
High/Low 2-speed windshield wipers (inc. mist)
Lockable fuel cap
Mud guards: front & rear
Outside rear view mirror - Door
Rear step bumper
Semi-sealed halogen headlamps
Side steps
Towing hook: front (eye) with rear pintle hook
Windshield - green laminated

Interior
Air cleaner warning
Ashtray
Assist grips x 3
Bottle Holder (Front) + Back Panel (Pick-Up)
Brake fluid level warning
Cigarette lighter
Clock: digital
Dash silencer (interior only)
Door ajar warning
Floor mats: rubber mat (FR: D+P)
Floor silencer (under front seat)
Footrest - Driver
Fuel gauge
Fuel level warning light
Glove box: w/o lock
Headrests x 2
Heater: front
Interior light: centre
Interior rear view mirror (day and night)
Odometer: digital
Oil pressure warning light
One touch 2-4WD selector (H4 button)
Parking brake warning light
Pre-wiring for audio with 2 speakers and antenna
Seat belts: front x 3 (2 x 3 point & 1 x 2 point)
Speedometer km/h
Steering column-Tilt & Telescopic & Collapsible
Steering wheel lock
Sub fuel gauge
Sub fuel tank switch
Sun visors (D&P)
Timing belt replacement warning light
Transfer - 4WD lever & knob
Trip Meter
Vinyl floor covering
Voltage meter warning light
Water temperature gauge

Miscellaneous
Owner's manual - English
Owner's manual - French
Tool Kit & Jack

Security & Safety
Anti-lock braking system (ABS)
Central door locking w/ remote

Tyres
Spare wheel carrier: deck guard frame. w/lock

Basic Price	Ex-Works Gibraltar, Standard Vehicle	2,835,000	JPY

Factory Options Included In Price

Airbags / Driver & Front passenger
Air conditioning (non-CFC)
ABS Brakes

TGS Options

2nd battery with split diode and battery holder	110,800
Fuel pre-filter kit (incl. 2x spare filters) (W/SECOND BATTERY OPTION ONLY)	39,500
Supply 5x FS1001 Fleetguard spare diesel fuel filters	17,400
Pioneer AM, FM radio-cd, MP3 player, bluetooth, AUX jack & USB (remov.front)	25,600
Basic safety pack (Exting./Triangles/First A.Kit/Rope/Vest/Solar Flashlight	15,700
Emergency escape tool, USB charger	2,100
Set of locking wheel nuts (not fitted)	4,600
Transit safety box (to secure easily removable items)	22,100
2nd spare wheel - Michelin XS 750R16 (sand tyre)	50,700
Change tyres to Michelin XS 750R16 sand tyre	91,900
Original carrier extension for 2nd spare wheel (750R16)	5,300
Vinyl spare wheel cover with TGS logo	0
Axle (front and rear) and gearbox breather extension kit	20,700
Recovery point (fitted at the front)	28,900
Vehicle tool kit (7-piece tool kit/booster cables/solar flashlight/gloves)	41,600
12V LED Worklamp wih magnetic base	14,400
20L moulded plastic jerry can (diesel) with flexible spout	10,900
Electric 12V winch with synthetic rope and heavy duty bull bar	238,900
Front windscreen repair kit	2,300
High lift jack 120cm incl. fitting inside the cargo bed	38,600
Jerry can holder (single), externally mounted in load area	18,300
Platform for the high lift jack	9,500

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

	Pneumatic differential lock FR+RR incl. pump up kit 6m & air pressure gauge	428,300		
	Rear white PVC canopy with stainless steel frame and rear windows	154,300		
	Replacement rear bumper bar LC79, inc. Hi-Lift jacking points	125,500		
	Winch recovery accessories in storage bag	40,700		
TGS Options Total Price			1,558,600	JPY
Sub-Total Price	per unit		4,393,600	JPY
Parts packages included				
	HZJ79L-DK-TJMRS Service Pack HZJ79L-DK-TJMRS Serv. Pack		237,370	JPY
Freight	Monrovia, Liberia via Valencia RORO		161,693	JPY
Insurance	Please note that all claims have an Excess Clause (Deductable) applied. This means that the first £1,200 (or equivalent) of a claim is not payable by the insurance company.		59,908	JPY
Total Unit Price			4,852,571	JPY
Grand Total	**1 Unit CIF Monrovia, Liberia via Valencia RORO (Incoterms 2010)**		**4,852,571**	**JPY**
Grand Total	**1 Unit CIF Monrovia, Liberia via Valencia RORO (Incoterms 2010)**		**44,931.21**	**INDICATIVE USD**

Stock Availability

HZJ79L-TJMRS-A2 Availability: In Stock: 58 Units, MAY: 15 Units, JUN: 8 Units.

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

HZJ79L-DK-TJMRS Service Pack HZJ79L-DK-TJMRS Serv. Pack for HZJ79L-TJMRS-A2

Cover Letter - Batch Number 1 - HZJ79L DK TJMRS Service Pack HZJ79L DK TJMRS Serv. Pack for HZJ79L TJMRS A2 - TGS Workshop Fitted Options - TGS Compatible Parts Packages

Item	Description	Qty	Unit Price	Price
1	AIR FILTER	5	5,905	29,525
2	BRAKE FLUID DOT4 1L	2	1,829	3,658
3	BULB KIT H4 - TYPE1 KIT: H4	1	1,420	1,420
4	COOLANT 1L LLC CONCENTRATE	1	1,166	1,166
5	COOLER COMPRESSOR BELT	1	1,908	1,908
6	ENGINE OIL 15W40 5L	5	3,106	15,530
7	FAN & ALTERNATOR BELT	1	1,811	1,811
8	FLAP INNER-TUBE 750R16	4	1,440	5,760
9	FRONT BRAKE DISC PADS KIT	1	14,883	14,883
10	FRONT WIPER BLADE (LEFT)	2	2,101	4,202
11	FRONT WIPER BLADE (RIGHT)	2	1,943	3,886
12	FUEL FILTER	8	4,812	38,496
13	INNER TUBE 750R16	4	2,166	8,664
14	OIL FILTER	10	2,367	23,670
15	OIL SUMP PLUG GASKET	10	129	1,290
16	RADIATOR HOSE NO.1	1	2,206	2,206
17	RADIATOR HOSE NO.2	1	2,060	2,060
18	TYRE DUNLOP QUALIFIER TG21 750R16C 114/112S RBL TT	4	29,496	117,984
19	WINDSCREEN WASHER FLUID CONCENTRATE -50 C 0.25L	5	228	1,140

Total:	279,259
Discount 15%	41,889
Total: JPY	**237,370**
Total: INDICATIVE USD	**2,197.87**

P.O Box 176, 40 Devil's Tower Road, Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

TGS Workshop Fitted Options

HZJ79L-TJMRS-A2 - A2, Land Cruiser 79 Single Cabin Pick-Up, 3 seater (Airbags, Air Conditioning, ABS)

This is a partial list of the most frequently requested Options and Accessories that can be fitted by our Workshop. Most of these items are held in stock, but please check availability with our sales team prior to confirming your order. If an item that you require does not appear on this list, we will be happy to provide a full quotation on request.

IMPORTANT: Please note that the estimated shipment date may be affected if any further options are required other than those quoted. This would depend upon the number and type of options chosen, so please contact our sales team for further information.

Description		Price	
Options Category: Protection equipment			
SB8	8 x lap Type Seat Belts (Only to be used with JUM4 Option)	42,100	JPY
SG8	Aluminium 8mm skid plate LC70 series	46,400	JPY
FLP	Front acrylic light protectors	10,200	JPY
MB	Mesh barrier for factory deck guard LC79	58,100	JPY
RLP	Rear light protectors	16,300	JPY
REVCAM	Reversing camera & monitor system	78,300	JPY
EX1	1kg fire extinguisher, including fitting	5,200	JPY
SAFETY	Basic safety pack (Exting./Triangles/First A.Kit/Rope/Vest/Solar Flashlight	15,700	JPY
EET	Emergency escape tool, USB charger	2,100	JPY
HAMMER	Escape hammer for breaking side glass, inc. seat belt cutter	6,300	JPY
VEST	High visibility vest	500	JPY
REVBUZ	Reversing buzzer 97dB(A) @ 1m	17,200	JPY
BULSMT	SRS Heavy duty black smart bull bar including front bumper	185,600	JPY
BUL	SRS Heavy duty bull bar including front bumper	117,500	JPY
UJP	Universal joint protection, front and rear	58,800	JPY
TRI	Warning triangle	800	JPY
Options Category: Recovery & towing equipment			
JUMP	Heavy-duty jump leads	15,600	JPY
RRBTOW	50mm tow ball (REQUIRES REPLACEMENT REAR BAR)	14,600	JPY
AIR	Air jack (4,000kg rated)	52,400	JPY
BOGSTP	All terrain vehicle mobility bog strips	88,100	JPY
JACK	Bottle Jack 5tonne telescopic	9,800	JPY
RRBUNI	Combined ball & pin coupling (REQUIRES REPLACEMENT REAR BAR)	47,300	JPY
WIB6	Electric 12V winch with synthetic rope and heavy duty bull bar	238,900	JPY
SANDTR	Flexible sand tracks (1 pair)	22,800	JPY
SHOVEL	Folding shovel	8,400	JPY
WINHND	Hand winch (2400kg pull, 1600kg lift) + 20m rope	43,000	JPY
HIJ	High lift jack 120cm incl. fitting inside the cargo bed	38,600	JPY
HIJLFTMT	Lifting adapter for Hi-Lift jack	8,200	JPY
HIJBAS	Platform for the high lift jack	9,500	JPY
RECOV2	Recovery kit for recovery point in storage bag	15,700	JPY
RECOVTR	Recovery tracks (1 pair)	30,900	JPY
ROPE	Tow rope, 3000Kg rolling load capacity.	4,700	JPY
RECOV	Winch recovery accessories in storage bag	40,700	JPY
RECOVPFR	Recovery point (fitted at the front)	28,900	JPY
RECOVPRR	Recovery point (fitted at the rear)	35,200	JPY
Options Category: 4x4 equipment			
LAMPLED	12V LED Worklamp wih magnetic base	14,400	JPY
FOG2	2 x 55W fog lamps (ONLY WITH BULL BAR OPTION)	36,600	JPY
JERFUEL	20L moulded plastic jerry can (diesel) with flexible spout	10,900	JPY
JERWAT	20L moulded plastic water jerry can	5,600	JPY
SPO3	2x 100W rectangular spot/driving lights (ONLY WITH BULL BAR OPTION)	57,100	JPY
SPO3	2x 100W rectangular spot/driving lights (ONLY WITH SMART BAR OPTION)	64,000	JPY

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

SPO2	2x 65W round spot lights (ONLY WITH BULL BAR OPTION)	52,900	JPY
LAMPINS1	Cordless LED rechargeable inspection lamp	4,000	JPY
WIBSMT2	Electric 12V winch with synthetic rope fitted onto SRS Smart bull bar	316,600	JPY
WL3	Flashing LED warning lights blue (pair) at the front	44,100	JPY
JEHDF	Jerry can holder (double), externally mounted	16,900	JPY
HRR	Heavy duty roof rack (NOT FITTED)	65,000	JPY
JEHD	Jerry can holder (double), extern. mountable (Not fitted)	11,900	JPY
JEH	Jerry can holder (single), externally mounted in load area	18,300	JPY
JEH2	Jerry can holder (single), roof rack mountable	8,300	JPY
DIFFRRPKT	Pneumatic differential lock (rear only) incl. pump up kit 6m & air pressure gauge	236,600	JPY
DIFFPKT	Pneumatic differential lock FR+RR incl. pump up kit 6m & air pressure gauge	428,300	JPY
TAR	Rear white PVC canopy with stainless steel frame and rear windows	154,300	JPY
RRBAR	Replacement rear bumper bar LC79, inc. Hi-Lift jacking points	125,500	JPY
TORCH	Solar flashlight	2,300	JPY
GPS64	Garmin GPSMAP 64 navigator with dashmount & 12V socket adapter	49,600	JPY
MAP	Map lamp on 195mm flexible fitting	19,600	JPY
MAGLIT	Rechargeable MagLite torch (NOT FITTED)	25,500	JPY
ROLBAR	Hi-over bar	128,100	JPY
AXLBRE	Axle (front and rear) and gearbox breather extension kit	20,700	JPY
GTK	Garage tool kit with 21 assorted tools	78,500	JPY
VTK	Vehicle tool kit (7-piece tool kit/booster cables/solar flashlight/gloves)	41,600	JPY
WTK	Workshop tool kit	153,600	JPY
Options Category: Tyres & accessories			
SWC	Roof rack mountable carrier for 2nd spare wheel	9,300	JPY
TYRPG	Tyre air pressure gauge	1,700	JPY
COMP	12v air compressor (fitted) w/tyre inflator kit & gauge	74,500	JPY
LEVER	2 x tyre levers 60cm long.	9,600	JPY
SW1	2nd spare wheel - Michelin XS 750R16 (sand tyre)	50,700	JPY
SWZ	2nd spare wheel as per standard specs. (Dunlop)	50,100	JPY
TYM	Change tyres to Michelin 7.50R16 4X4 O/R XZL (MUD)	100,000	JPY
TYX	Change tyres to Michelin AGILIS HD 750R16	89,600	JPY
TYS	Change tyres to Michelin XS 750R16 sand tyre	91,900	JPY
PUNTUB	Inner tube repair kit	1,500	JPY
STIRUP	Manual air pump with manometer	19,500	JPY
SWC2	Original carrier extension for 2nd spare wheel (235/85R16)	5,600	JPY
SWC2	Original carrier extension for 2nd spare wheel (750R16)	5,300	JPY
COMKIT	Portable 12V air compressor kit - incl. inflation kit	49,100	JPY
SNO	Snow chains 750x16 (2 pairs)	48,800	JPY
Options Category: Communications			
BRK	Antenna bracket for Codan radio (w/o bull bar) (SRS airbag compatible)	38,100	JPY
CODCLM	Codan CALM option (requires a Codan radio)	158,100	JPY
CODENV1	Codan HF mobile radio Envoy X1 with 3040 antenna, 100 channels	599,200	JPY
CODENV2	Codan HF mobile radio Envoy X2 with 3040 antenna, 1000 channels	729,300	JPY
NVIS2	Codan NVIS 3040 antenna kit (placed inside the vehicle)	51,400	JPY
GPSENB	Enable GPS capability (CODAN Envoy)	34,000	JPY
CODTPS	Envoy programming software including USB & memory stick cables	52,700	JPY
GPSENV	GPS receiver/antenna for Codan Envoy/NGT SRx radio (Fitted)	83,900	JPY
SATIRD1	Iridium PTT 9575 Extreme satellite phone with vehicle docking adapter (NO SIM CARD)	443,900	JPY
VHFDM1	Radio VHF Motorola DM4601, 1,000 channels, 1-25W, 136-174MHz w/keypad	141,200	JPY
Options Category: General equipment			
BEDAL1	Aluminium bed liner (floor and tailgate only)	229,500	JPY
JUM4	Supply and fit 4 inward facing folding seats for 8 persons	195,800	JPY
FILTFG	Fuel pre-filter kit (incl. 2x spare filters)	53,000	JPY
FILTFGB	Fuel pre-filter kit (incl. 2x spare filters) (W/SECOND BATTERY OPTION ONLY)	39,500	JPY
FLAGPO	Flag pole holder mounted on the passenger side of vehicle	15,400	JPY
WRK	Front windscreen repair kit	2,300	JPY
RCDP	Pioneer AM, FM radio-cd, MP3 player, bluetooth, AUX jack & USB (remov.front)	25,600	JPY
COOL14	Portable cool box 14L, 12V	21,600	JPY
SECFI	Seat covers LC79 Scb LHD 3 seater (fitted)	27,100	JPY

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

JUM4	Supply and fit 4 inward facing folding seats for 8 persons	0	JPY
CASE1	Aluminium case	7,500	JPY
FLAGM	Ambassador magnetic flag holder	11,500	JPY
OWF	Owner's manual in French	4,400	JPY
WSMCDE	Repair manual in English CD format HZJ7# 08/2014>	53,800	JPY
Options Category: Ambulance			
WRAP	Emergency First Aid blanket	1,200	JPY
FAK	First aid kit, recommended by British Red Cross	1,400	JPY
RB	Rescue blanket 150x200cm	2,900	JPY
Options Category: Power solutions			
BATIBS	2nd battery with IBS battery management and battery holder	148,300	JPY
BAT	2nd battery with split diode and battery holder	110,800	JPY
BATT	Battery reinforcement (for factory battery)	8,200	JPY
POWERPACK	Emergency vehicle power pack 12V/200HP	158,600	JPY
SOCKRR	12V 2nd lighter socket mounted in rear	21,000	JPY
WINISO	Isolator Switch, Winch	14,700	JPY
INVER	Power Inverter 600W (12V D/C to 220V A/C)	35,100	JPY
Options Category: Packages			
RECOVPE	Recovery package (electric)	0	JPY
RECOVPM	Recovery package (manual)	0	JPY
SANDP	Sand package	0	JPY
VEP	Vehicle Emergency package	0	JPY
VSP	Vehicle security package	0	JPY
Options Category: Fleet Management			
TRACKHYB	Global Satellite and GSM Vehicle Tracking Device 2226 (with non-activated SIM card)	155,600	JPY
TRACKPORT	Global GSM Portable Vehicle Tracking Quick-Fit Device 6731 (with activated SIM card)	31,300	JPY
TRACKGSM	Global GSM Vehicle Tracking Device 6141 (with non-activated SIM card)	58,500	JPY
TPMPOR1	Tracpoint monthly fee and portable GSM Quick-Fit subscription package (1 year)	39,900	JPY
TPMGSM1	Tracpoint online management software (including security) and GSM subscription package (1st year) <100 assets	47,700	JPY
TPMGSM2	Tracpoint online management software (including security) and GSM subscription package (1st year) >100 assets	42,100	JPY
TPMHYB1	Tracpoint online management software (including security) and HYBRID subscription package (1st year) <100 assets	90,500	JPY
TPMHYB2	Tracpoint online management software (including security) and HYBRID subscription package (1st year) >100 assets	84,900	JPY
TPSGSM1	Tracpoint online security software and GSM subscription package (1st year) <100 assets	44,000	JPY
TPSGSM2	Tracpoint online security software and GSM subscription package (1st year) >100 assets	38,400	JPY
TPSHYB1	Tracpoint online security software and HYBRID subscription package (1st year), <100 assets	86,800	JPY
Options Category: Security equipment			
GZVSG1	Vehicle Security Grille - Front Windscreen, headlights & taillights	138,200	JPY
FOGF	Fog lamps for factory LC70 series front bumper	88,000	JPY
RLB	External roll cage, 6 point fixing	559,400	JPY
IMMOB	Ignition immobiliser key switch.	12,500	JPY
MUL	MUL-T-LOCK transmission (gear) lock	44,200	JPY
ALM	Remote control alarm with siren and engine immobilizer	69,800	JPY
NUT	Set of locking wheel nuts (not fitted)	4,600	JPY
TUBO	Steering wheel lock "FURBOLOCK" - theft deterrent	9,000	JPY
LOC	Steering wheel/pedal lock	6,300	JPY
TSB	Transit safety box (to secure easily removable items)	22,100	JPY
ETCH	Window etching on all vehicle windows (maximum 7 figures)	21,300	JPY
KEYMASTER	Additional Master Key 70#	4,600	JPY
KEYSUB	Additional Sub Key 70#	5,100	JPY
KEYTRANS	Transmitter, Door Control 70#	30,700	JPY
Options Category: Decals			
CROBLUS	Blue Cross on White Background on Front Doors & Bonnet	9,800	JPY
Options Category: Customized Option			

P.O Box 176. 40 Dovi's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

GZMCP	MOBILE COMMAND POST CONVERSION LC79 SCB	3,772,900	JPY
CONV2	Personnel Carrier - Conversion LC79 Scb	0	JPY

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

TGS Compatible Parts Packages

TGS recommends the following genuine spare parts but if you require greater or lesser amounts of any of the parts mentioned, or wish to change specific parts, we are entirely flexible and will tailor the package to your exact instructions.

HZJ79L-TJMRS (ABS + DRUM) Maintenance Pack: HZJ79L-TJMRS (ABS + DRUM) Maint. Pack for HZJ79L-TJMRS-A2 - A2

This Spare parts Package contains parts which are required for normal maintenance requirements during the first two years or 50,000kms of ownership. In addition it contains a comprehensive selection of emergency parts.

Item	Description	Qty	Unit Price	Price
1	ABSORBER, SHOCK, FR	2	7,725	15,450
2	ABSORBER SET, SHOCK,	2	7,699	15,398
3	GASKET KIT, ENGINE	1	13,668	13,668
4	SHOE KIT, BRAKE, RR	1	15,371	15,371
5	FRONT/REAR AXLE HUB SEAL	2	2,443	4,886
6	OIL SUMP PLUG GASKET	10	129	1,290
7	WINDSCREEN WASHER FLUID CONCENTRATE -50 C 0.25L	5	228	1,140
8	CLUTCH RELEASE CYLINDER REPAIR KIT	1	2,855	2,855
9	FRONT BRAKE DISC PADS KIT	1	14,883	14,883
10	ENGINE OIL 15W40 5L	5	3,106	15,530
11	ENGINE COOLANT LIQUID CONCENTRATE 5L	1	4,345	4,345
12	CYLINDER HEAD COVER GASKET	1	1,730	1,730
13	WATER PUMP	1	16,780	16,780
14	THERMOSTAT GASKET	1	435	435
15	RADIATOR HOSE NO.1	1	2,206	2,206
16	RADIATOR HOSE NO.2	1	2,060	2,060
17	EXHAUST CUSHION	4	1,028	4,112
18	AIR FILTER	5	5,905	29,525
19	GLOW PLUG	6	3,512	21,072
20	INJECTOR NOZZLE	6	9,338	56,028
21	WHEEL 5.50F-16 TYPE H STEEL LC70	1	23,111	23,111
22	STEERING DAMPER	1	26,719	26,719
23	FRONT WIPER BLADE (RIGHT)	2	1,943	3,886
24	FRONT WIPER BLADE (LEFT)	2	2,101	4,202
25	REAR AXLE SHAFT OIL SEAL (LEFT/RIGHT)	2	579	1,158
26	OIL FILTER	10	2,367	23,670
27	FAN & ALTERNATOR BELT	1	1,811	1,811
28	THERMOSTAT	1	4,567	4,567
29	WHEEL NUT	10	666	6,660
30	COOLER COMPRESSOR BELT	1	1,908	1,908
31	BULB KIT H4 - TYPE1 KIT: H4	1	1,420	1,420
32	BRAKE FLUID DOT4 1L	2	1,829	3,658
33	FUEL FILTER	8	4,812	38,496
			Total:	380,030
			Discount 15.00%	57,005
			TOTAL: JPY	**323,025**
			Total: INDICATIVE USD	**2,991.00**
34	FLAP INNER-TUBE 750R16	1,440	4	5,760
35	TYRE DUNLOP QUALIFIER TG21 750R16C 114/112S RBL TT	29,496	4	117,984
36	INNER TUBE 750R16	2,166	4	8,664
			Total:	132,408
			Discount 15.00%	19,861
GRAND TOTAL including tyres			**TOTAL: JPY**	**435,572**
			Total: INDICATIVE USD	**4,033.00**

P.O Box 176. 40 Devil's Tower Road. Gibraltar
Tel: +350 200 59100 or +44 207 906 1745
Fax: +350 200 46262 or +44 208 090 3780
E-mail: sales@toyota-gib.com
www.toyota-gib.com

HZJ79L-DKMRS (ABS + DRUM) Maintenance Pack: HZJ79L-DKMRS (ABS + DRUM) Maint. Pack for HZJ79L-TJMRS-A2 - A2

This Spare parts Package contains parts which are required for normal maintenance requirements during the first two years or 50,000kms of ownership. In addition it contains a comprehensive selection of emergency parts.

Item	Description	Qty	Unit Price	Price
1	ABSORBER, SHOCK, FR	2	7,725	15,450
2	ABSORBER SET, SHOCK,	2	7,699	15,398
3	FRONT/REAR AXLE HUB SEAL	2	2,443	4,886
4	SHOE KIT, BRAKE, RR	1	15,371	15,371
5	GASKET KIT, ENGINE	1	13,668	13,668
6	WINDSCREEN WASHER FLUID CONCENTRATE -50 C 0.25L	5	228	1,140
7	CLUTCH RELEASE CYLINDER REPAIR KIT	1	2,855	2,855
8	FRONT BRAKE DISC PADS KIT	1	14,883	14,883
9	ENGINE OIL 15W40 5L	5	3,106	15,530
10	ENGINE COOLANT LIQUID CONCENTRATE 5L	1	4,345	4,345
11	CYLINDER HEAD COVER GASKET	1	1,730	1,730
12	WATER PUMP	1	16,780	16,780
13	THERMOSTAT GASKET	1	435	435
14	RADIATOR HOSE NO.1	1	2,206	2,206
15	RADIATOR HOSE NO.2	1	2,060	2,060
16	EXHAUST CUSHION	1	1,028	1,028
17	AIR FILTER	5	5,905	29,525
18	GLOW PLUG	6	3,512	21,072
19	INJECTOR NOZZLE	6	9,338	56,028
20	WHEEL 5.50F-16 TYPE H STEEL LC70	1	23,111	23,111
21	STEERING DAMPER	1	26,719	26,719
22	FRONT WIPER BLADE (RIGHT)	2	1,943	3,886
23	FRONT WIPER BLADE (LEFT)	2	2,101	4,202
24	OIL SUMP PLUG GASKET	10	129	1,290
25	REAR AXLE SHAFT OIL SEAL (LEFT/RIGHT)	2	579	1,158
26	OIL FILTER	10	2,367	23,670
27	FAN & ALTERNATOR BELT	1	1,811	1,811
28	THERMOSTAT	1	4,567	4,567
29	WHEEL NUT	10	666	6,660
30	COOLER COMPRESSOR BELT	1	1,908	1,908
31	BULB KIT H4 - TYPE1 KIT: H4	1	1,420	1,420
32	BRAKE FLUID DOT4 1L	2	1,829	3,658
33	FUEL FILTER	8	4,812	38,496
			Total:	376,946
			Discount 15.00%	56,542
			TOTAL: JPY	**320,404**
			Total: INDICATIVE USD	**2,967.00**
34	FLAP INNER-TUBE 750R16	1,440	4	5,760
35	TYRE DUNLOP QUALIFIER TG21 750R16C 114/112S RBL TT	29,496	4	117,984
36	INNER TUBE 750R16	2,166	4	8,664
			Total:	132,408
			Discount 15.00%	19,861
GRAND TOTAL including tyres			**TOTAL: JPY**	**432,951**
			Total: INDICATIVE USD	**4,009.00**

Society for the Conservation of Nature of Liberia (SCNL)

Birdlife Partner

Tubman Boulevard, Congo Town, CARE Compound

P.O. Box 2628 Monrovia, Liberia, West Africa

(+231) 886-573-612/0777544611

Website: www.scnlliberia.org

E-mail: scnlliberia@yahoo.com

(b)(6)

Executive Director
Society for Conservation of Nature of Liberia
Congo Town, Monrovia

March 20, 2020

Dear (b)(6)

This letter is intended to confirm the approximate costs for field sampling per animal. These costs are based on extensive field operations for the USAID funded PREDICT project in which nearly 6000 animals (bats and rodents) were sampled. We estimate that the field costs for consumables is approximately $27.03 per animal sampled.

We are using this rate for the proposed project: *Reducing the threat from high-risk pathogens causing febrile illness in Liberia*. Please feel free to contact me if you have any questions or need additional information.

Sincerely yours,

(b)(6)

(b)(6)

Executive Director/SCNL

Society for the Conservation of Nature of Liberia (SCNL)

Tubman Boulevard, Congo Town, CARE Compound

P.O. Box 2628 Monrovia, Liberia, West Africa

(+231) 886-573-612/0777544611

Website: www.scnlliberia.org

E-mail: scnlliberia@yahoo.com

Birdlife Partner

(b)(6)

Executive Director
Society for Conservation of Nature of Liberia
Congo Town, Monrovia

March 20, 2020

Dear (b)(6)

Due to difficult road conditions in Liberia and the age of the vehicle, a White Toyota Land Cruiser (2012 – model: HZJ76L-RKMRS; JTEEB71J407015751), our vehicle costs per month over the past 12-months have been approximately $428.00 for a total of $5136 annually. This costs were incurred during extensive field work under the USAID funded PREDICT project. In addition, in order to make this vehicle roadworthy for fieldwork it will require an investment of $670. The annual total for year 1 is $10,942.00 notwithstanding the purchase of a new vehicle, also included in the budget.

Sincerely yours,

(b)(6)

(b)(6)

Executive Director/SCNL

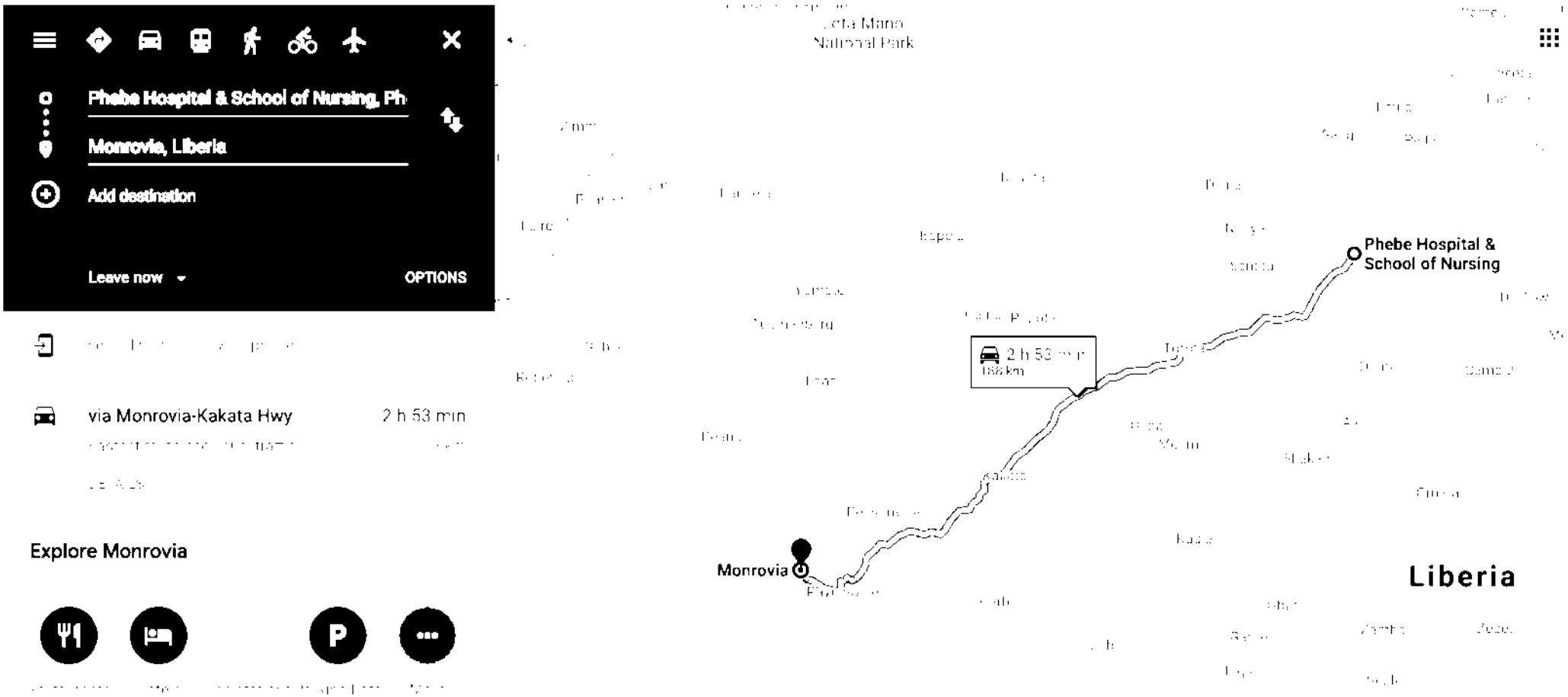
	Type	Vehicle Registration number	Year	Registration number	Model	Make	Model	Current Value	Purchase Price	Color	Property Location	Supervisor Assigned To	Fuel	Odometer Reading	Comments	Status	Purchased Value	Color	Annual Registration Cost (RM)	Valid Registration Card	Valid Registration Expires	Insurance Company	Insurance Type	Insurance Price	Insurance Start Date	Insurance Expiry Date	Total Service Cost	Fuel Consumption per Litre	Total Mileage Run

General Service @ every 5,000KM (Frequency of Service)

Description	Qty	Unit Price	Line Total
Engine Oil	10 LTR	$ 45.00	$ 450.00
Oil Filter	1PCS	$ 20.00	$ 20.00
Fuel Filter	1PCS	$ 25.00	$ 25.00
Air Filter	1PCS	$ 30.00	$ 30.00
Front Brake Pad	1SET	$ 75.00	$ 75.00
Rear Brake Shoes	1SET	$ 70.00	$ 70.00
Front Shock Absorber Bushings	4PCS	$ 5.00	$ 20.00
Rear Shock Absorber Bushings	4PCS	$ 5.00	$ 20.00
Front Stabilizer Link Bushing	2PCS	$ 5.00	$ 10.00
Rear Stabilizer Link Bushing	2PCS	$ 5.00	$ 10.00
Labour Charges	1Unit	$ 75.00	$ 75.00
		TOTAL	$ 425.00

Repairs between 10,001km to 50,100km

Front & Rear Differential Oil	2PCS	$ 15.00	$ 30.00
Front & Rear Differential Oil Seals	4SEALS	$ 15.00	$ 60.00
Front Shock Absorber	1PCS	$ 70.00	$ 140.00
Rear Shock Absorber	1PCS	$ 70.00	$ 140.00
Front & Rear Engine Mount Bush	1PCS	$ 75.00	$ 150.00
Alternator Belt	1SET	$ 15.00	$ 45.00
A/C Belt	1PCS	$ 20.00	$ 20.00
Labour Charges (Engine Mount & Differential Oil Seal)			$ 75.00
		TOTAL	$ 695.00


Phebe Hospital & School of Nursing, Ph
Monrovia, Liberia
Add destination
Leave now
OPTIONS
via Monrovia-Kakata Hwy
2 h 53 min
Explore Monrovia
Phebe Hospital &
School of Nursing
2 h 53 min
188 km
Monrovia
Liberia

Robertsport, Liberia

Monrovia, Liberia

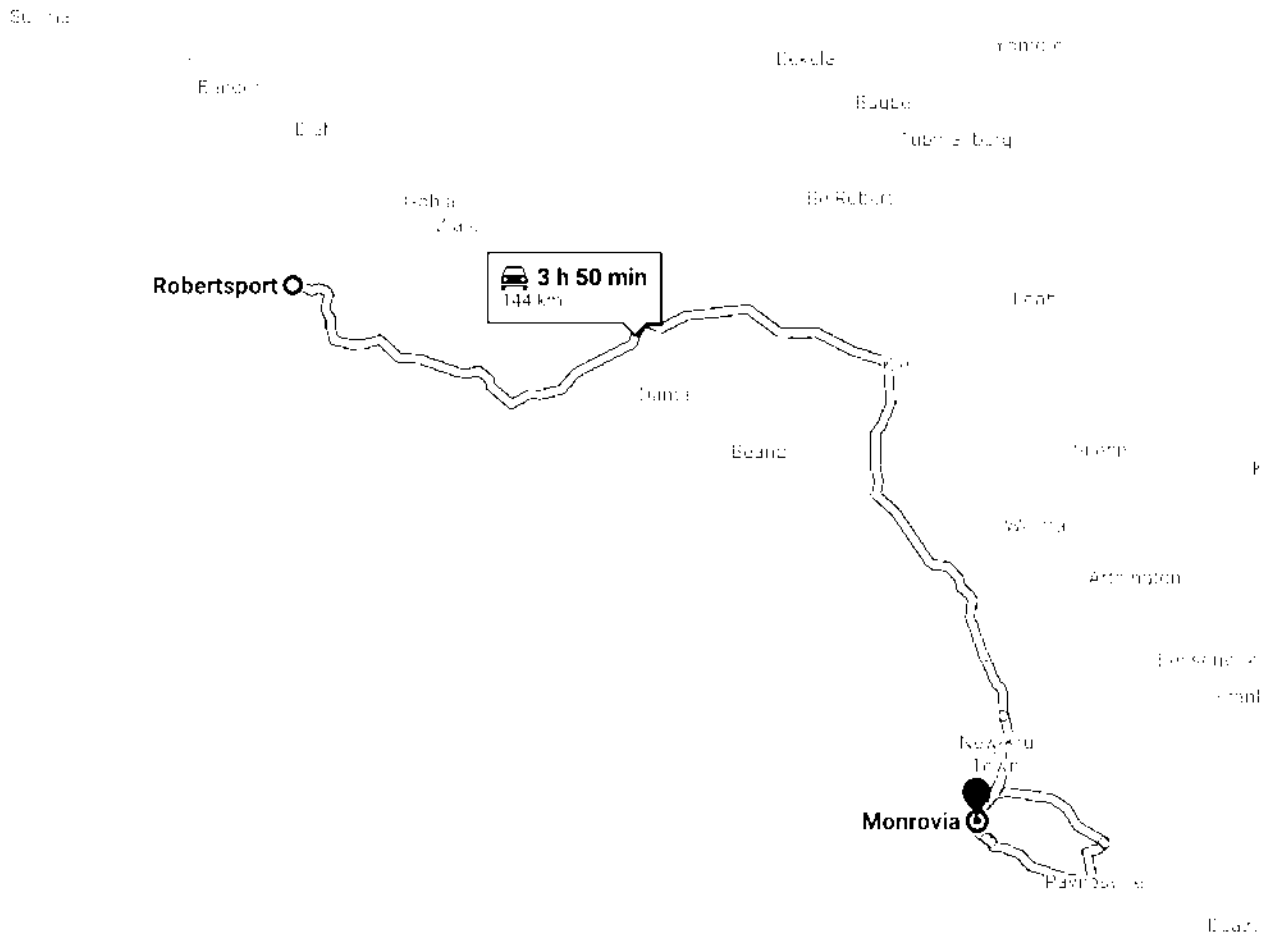
Add destination

Leave now

OPTIONS

via Somalia Dr 3 h 50 min

Explore Monrovia



Tablets and case: $228.98 each

Try Prime All

Hello, Melinda
Account & Lists Orders Try Prime Cart

Ecohealth Alliance Inc
Whole Foods Browsing History Melinda's Amazon.com

Shop new HoliDeals

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Your order qualifies for FREE Shipping.
Choose this option at checkout. See details

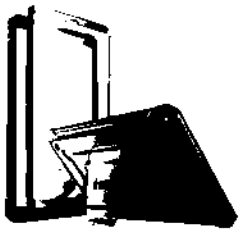
Subtotal (13 items): $1,225.87

This order contains a gift

Proceed to checkout

Shopping Cart

Price



SupCase Unicorn Beetle Pro Series Designed for Galaxy Tab A 10.1 (2019 Release), Full-Body Rugged Heavy Duty Protective Case with Built-in Screen Protector for Galaxy Tab A 10.1 Inch 2019 (Black) $26.99

In Stock
Eligible for FREE Shipping
This is a gift Learn more
Qty: 8 Delete Save for later
Compare with similar items



Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) $201.99

In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 5 Delete Save for later
Compare with similar items

Note we will order 8, only 5 were allowed to be ordered at a time. This adds another $605.97 to the total

Subtotal (13 items): $1,225.87
Updated Subtotal (16 items): $1,831.84

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Sponsored Products related to items in your cart



Fire HD 10 Case 2017... 26
$29.99
See all buying options



Galaxy Tab A 10.1 Case... 14
$16.99
See all buying options



Amazon Fire 7 Tablet... 1,625
$14.99
See all buying options



Soke Galaxy Tab A... 296
$19.99
See all buying options

Customers who shopped for SupCase Unicorn Beetle Pro Series Designed for... also shopped for:

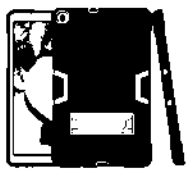
Page 1 of 4



SupCase [Unicorn Beetle... 675
$26.99
Add to Cart



Galaxy Tab A 10.1 2019... 122
$26.95
Add to Cart



Cartis Galaxy Tab A 10.1"... 123
$13.99
Add to Cart

Gift ideas inspired by your shopping history



Fisherbrand™ Portible Centrifuge Kit

Fisherbrand Portible Centrifuge Kit offers a convenient way to spin down and prepare samples outside of a convential laboratory environment

Catalog No. 14-127-556

$442.00 / Each

Qty Check

Availability

Includes:

- Fisherbrand Standard Centrifuge
- 6 Place 1.5/2.0mL tube rotor
- 16 Place 0.2mL tube rotor (singles or 2 x 8 strip)
- 6 tube adaptors (0.2mL)
- 6 tube adaptors (0.5mL)
- 4 Replacement O-Rings
- Storage case for rotors and adapters
- 16 place tube rack
- Low voltage, double insulated power adapter with 4 interchangable plugs
- Fisherbrand Transport Box
- 16 place tube rack insert
- Transport Box dividers
- Centrifuge cradle
- 12V Car Adapter

Description

Features:

- Enables the processing of samples before deterioration can take place
- Can be used in remote enviorments where a normal electrical supply is not an option
- Kit enables immediate on-site testing for faster results
- Kit includes its own 12V car adapter and a 12V DC power adapter
- Carry the centrifuge and its components securely in the Fisherbrand Transport Box
- Fisherbrand transport box is transparent so samples contained can be viewed and their integrity checked

Compliance

Meets all global certifications. Suitable for worldwide voltages 100 to 240 VAC 50/60 Hz

Warranty and Services

2-Year warranty

Specifications

Capacity	6 x 1.5/2mL tubes (rotor 1: adapters for 0.5mL and 0.2mL tubes)	Max. Speed	6000rpm
		Hertz	50 to 60Hz
Max. RCF	2999 x G	Type	Mini-centrifuge kit
Voltage	100/240V	Electrical Requirements	Universal plug; Car adapter
Includes	Mini Centrifuge, 12V car adapter, 12V DC power adapter, transport box, 16-place micro tube rack	Refrigerated	No
For Use With (Equipment)	Mini centrifuge		
Product Line	Centrifuges and Microcentrifuges		

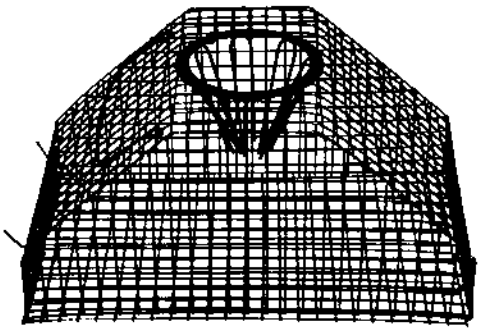
A Message to Our Customers — Our Response to COVID-19 Learn More

We're Open and Ready to Help Learn More

NORTHERN TOOL + EQUIPMENT NorthernTool.com | 1-800-838-0516 | Call Your Local Store To Confirm Availability

Grip Catch and Release Rodent Trap — 12 1/2in. x 8in. x 6 1/2in., Model# 54257

Item# 68611 New — Write a Review



Reg. $14.99

Sale $11.99 *Order today to guarantee this price*

Save $3.00

Ship It
Backordered Online — will ship in 30 or more Business Days

- Multi-catch technology allows you to catch multiple pests at one time without the need to reset the trap again and again
- Size of the opening can be adjusted to accommodate the size of the rodent being trapped
- Simple hinged bottom makes for easy removal and reuse
- Steel construction resists rust and corrosion
- Easy-to-use design

Product Summary

This non-mechanical Grip Catch and Release Rodent Trap with multi-catch technology is the ideal and humane way to trap and relocate larger rodents, rats, squirrels, chipmunks and other similarly-sized gnawing rodents and animal pests. Fully assembled and ready to use. 12 1/2in.L x 8in.W x 6in.H.

What's Included
(1) Live catch mouse trap

Features + Benefits

- Multi-catch technology allows you to catch multiple pests at one time without the need to reset the trap again and again
- Size of the opening can be adjusted to accommodate the size of the rodent being trapped
- Simple hinged bottom makes for easy removal and reuse
- Steel construction resists rust and corrosion
- Easy-to-use design

Key Specs

Item#	68611	**Includes**	1 trap
Brand	Grip	**Assembly Required**	No
Manufacturer's Warranty	3 month parts/no labor	**Dimensions L x W x H (in.)**	12 1/2 x 8 x 6 1/2
Ship Weight	2.0 lbs	**Product Weight (lbs.)**	2
Indoor/Outdoor Use	Indoor/outdoor		
Material Type	Steel		

Compare with Most Popular Rodent Control

	Item# 168919	Item# 375360	Item# 168433	Item# 68611 (Currently Viewing)	Item# 68670
					
	Victor Sonic Pest Chaser Rodent Repeller — Model# M792	Around the Home Metal Mole Trap, Model# EMT	Sonic Molechaser Pest Repeller — Aluminum, Covers 11,250 Sq. Ft., Model# 7900	Grip Catch and Release Rodent Trap — 12 1/2in. x 8in. x 6 1/2in., Model# 54257	Bird-X Pest-X Electronic Pest Chaser — Model# PX-110
	(17)	(24)	(73)	(Not Yet Rated)	(Not Yet Rated)
	Reg. $44.99 **Sale $39.99** Save $5.00	Reg. $29.99 **Sale $24.99** Save $5.00	Reg. $19.99 **Sale $17.99** Save $2.00	Reg. $14.99 **Sale $11.99** Save $3.00	Reg. $9.99 **Sale $2.50** Save $7.49
Indoor/Outdoor Use	Indoor	Outdoor	Outdoor	Indoor/outdoor	Indoor
Coverage	-	-	11,250 sq. ft.	-	500 sq. ft.
Material Type	Plastic	Steel	Aluminum	Steel	Plastic
Includes	110 dB signal	-	Irritating sonic pulse	1 trap	One plug-in repeller
Power Source	Electric	-	Battery	-	110V AC
Assembly Required	No	No	No	No	No
Dimensions L x W x H (in.)	3 1/2 x 5 1/2 x 3 1/2	6 x 6 x 12	-	12 1/2 x 8 x 6 1/2	3 x 2.5 x 1.5
Product Weight (lbs.)	-	-	-	2	-

Uline WOVEN POLY TARP 40X60IN

Manufacturer: Uline S8401

This product was recently added by customer request, and is available for your convenience. We strive to provide our customers with a one-stop shop for the entire scientific supplies category. More relevant content may be added as customer demand increases.

Catalog No. NC1754350

$109.47 / Each

Qty Check

Availability

Budget Documentation for EHA Prime Budget for FRBAA14-6-2-0356
Crimean-Congo Hemorrhagic Fever: Reducing an Emerging Health Threat in Tanzania

Table of Contents

EHA Salary documentation....2
Comparison of Rental car vs purchase....3
Shipping Invoice....8
Label printer labels....9
Label printer, resin and software for printer....10
Computers, mouse and keyboard....11
Arc GIS software....14
Field Supplies and Items to Build Capacity at TVLA....16
    Field supplies....16
    Biosafety Equipment....20
    Items to build capacity at TVLA....23
Tablets and cases....26
Tomahawk Traps....27
Tattoo equipment for marking hares......30
Rodent ear tages....31
Portable anesthesia machine, carrying case and anesthetic drugs....32
Equipment....36
Documentation of HummingbirdIRB costs....49
Documentation of price of ethical clearance in Tanzania....51
Documentation of cost of conducting research in Tanzania....53
Documentation of costs associated with Y3 workshop supplies....57
Documentation of Open Access journal publication fees....60
Documentation of Software fees....61
Fringe Benefit Policy....65
Negotiated Indirect Rate....67
Documentation of example of domestic conference registration rate (APHA)....69
Documentation of example of domestic conference flight (APHA)....70
Documentation of example of international conference registration rate (ICEID)....71
Documentation of example of international conference flight (ICEID)....70
Documentation of Recruitment costs for Tanzanian Post-doctoral fellow....74
Documentation of hotel conference rental for the annual stakeholders' meeting and the OY2 symposium....78
Documentation of portion of Internet/Communications applied to this grant....81
Documentation of example of Internet/Communications bill....82
Documentation of server costs....84
Documentation of Consumer Price Index for NYC/Newark/Jersey City....85

EcoHealth Alliance Salaries

Paygroup: 5D7 Paygroup Name: Ecohealth Alliance Inc Report: Earnings Record Check Dates From : 07/11/2019 To: 06/30/2020

07/01/2019- 06-30-2020	Andre, Amanda	000083	Regular	55,706.00
07/01/2019- 06-30-2020	Karesh, William	100015	Regular	284,108.00
07/01/2019- 06-30-2020	Rostal, Melinda	100014	Regular	101,556.00
07/01/2019- 06-30-2020	Zambrana Torrelio, Carlos	100011	Regular	119,070.00
07/01/2019- 06-30-2020	Research Assistant TBD		Regular	58,500.00
07/01/2019- 06-30-2020	Post Doc/Field Coord TBD		Regular	65,000.00

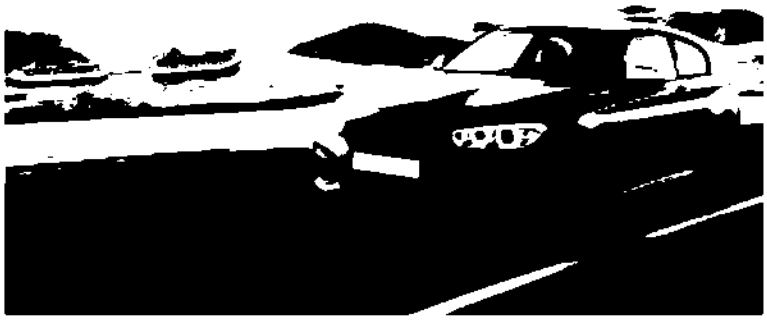
Rental car vs purchase of vehicles

Holiday Autos
Your car hire to Dar International Airport - complete your booking
November 4, 2019 at 12:39 PM

holiday autos

Book now

Book now



$103.74 per day

Total: $3112.27

Toyota Prado or similar



Pick-up date:
Dar International Airport
Thu, 14 Nov 2019 12:00
Return date:
Dar International Airport
Sat, 14 Dec 2019 12:00

first

5 5 5

Pick-up location:
In terminal counter, shuttle to car

Fuel Policy:
Fuel: Pick up and return full.

Important information

Popular Driver Payment Insurance Supplier

Fuel policy

Full to Full

Your vehicle will be supplied with a full tank of fuel. To avoid incurring fuel charges, you will need to return it with the same amount of fuel as it had when you collected it. You may be required to leave a fuel deposit reserved or charged on your credit card, this will be released or refunded when you return the car full. Missing fuel will be charged on your return. The price per litre charged by the rental agent may be significantly higher than the price at the local service station. A refuelling charge may also be applicable.

Fuel charges are payable at the rental desk unless otherwise stated in the top section of rate details.

Mileage policy

Limited

Charge: 0.8 per kilometer. (Includes tax)

Kilometers included per day: 120

Special equipment/optional extras

Booster seat: 10 USD (Excludes tax); On request

Child toddler seat: 10 USD (Excludes tax); On request

Infant child seat: 10 USD (Excludes tax); On request

GPS: 10 USD per day. Includes 14% tax; On request

Special equipment/optional extras may be requested at the time of booking, but they are not included in the rental price. They are paid in the local currency at the rental desk.

Conditions of optional extras

Please note the following: The price of optional extras is subject to change without notice.

We use cookies to give you the best experience on our website. By using our website you agree to our use of cookies in accordance with our .

Accept



Kilometers included per day: 120

Special equipment/optional extras

Booster seat: 10 USD (Excludes tax): On request

Child toddler seat: 10 USD (Excludes tax); On request

Infant child seat: 10 USD (Excludes tax); On request

GPS: 10 USD per day. Includes 14% tax; On request

Special equipment/optional extras may be requested at the time of booking, but they are not included in the rental price. They are paid in the local currency at the rental desk.

Conditions of optional extras

Please note the following: The price of optional extras is subject to change without notice. Optional extras are subject to availability. Charges made at the desk may be subject to local/airport surcharges.

Travel Restrictions

All international/State cross-border travel is disallowed.

Vehicles are prohibited to enter or be driven through the National Parks and Game Reserves within Tanzania. Should the renter drive the rented vehicle into the national park, a penalty of $1000 (non-refundable) will be charged. For a comprehensive list of all National Parks and Game Reserves kindly visit the Tanzania National Parks website.

Car types

The vehicle displayed and models listed are the most common vehicles used by our car rental partners. We cannot

JAPAN TIME: Nov / 26 / 2019 07:17 AM (JST)

Hi Your Name

tradecarview tradecarview Sign up Log in +81 3 4570 4354 Language English Currency USD

Search from Stock Useful Links Need Help

tradecarview™

Japan's largest online used car marketplace.

Need Help?

Japan Used Car > Japanese Used Car > Toyota > Land Cruiser Prado > 2018 > Toyota Land Cruiser Prado 2018







Specific Information Option Seller's Information Catalog

Specific information

VIN (vehicle certification Number) /Serial No	TRJ150-0084***	Full VIN/Serial No will be shown on Proforma Invoice and Invoice
Model Code	TRJ150W	
Registration Year / Month	2018/03	

2018 Toyota Land Cruiser Prado

TX

TOYOTA LAND CRUISER PRADO TX 4WD

24,205 km | Automatic | No Accident Gasoline/Petrol 2,700cc

STOCK 1 inquiries for this car

Car Price (FOB) **US$32,216**

Estimated Total Price **US$34,098**

*The price is not fixed. Let's try to negotiate!

Selected C&F + Pre-ship inspection

Nearest port DAR ES SALAAM

Change destination

1 Click "Send" for free inquiry

Contact syuei trading (

I want to negotiate the best price

I want to know the shipping schedule

I want to know about the condition of the car

★ Add to Favorite

Send

If you do not have a login ID, please register for free first

I want to receive special promotions by emails

By clicking 'Send' button, you agree to the following terms

> Tradecarview Terms of Use

> Privacy Policy

Manufacture Year / Month	Confirm with the Seller
Mileage	24,200 km
Transmission	Automatic
Engine Capacity (Displacement)	2,700cc
Fuel	Gasoline/Petrol
BodyStyle1	SUV
BodyStyle2	-
Steering	Right
Exterior Color	Black
Interior Color	Black
Drive Type	4wheel drive
Door	5
Number of Seats	5
Dimension	476cm×189cm×185cm=16.64m³
Condition	Used
ID	5/2150 191124120615
Remarks (Any Problems)	-
Comment	Very clean interior Looks & runs great Low mileage
Expiry Date	Dec / 24 / 2019 (JST)



Options

Safety

Driver Airbag	**Anti-Lock Brakes**	**Passenger Airbag**	Alarm
Side Airbag			

Comfort

Power Steering	**A/C:front**	**Remote Keyless Entry**	Navigation System
A/C:rear	**Cruise Control**	**Digital Meter**	**Tilt Steering**

Sound System

CD Player	AM/FM Radio	AM/FM Stereo	DVD
CD Changer	Aftermarket Speaker	Hard Disc	Satellite Radio

Windows

Power Windows	**Rear Window Defroster**	**Tinted Glass**	**Rear Window Wiper**

Other Features

Power Door Locks	**Alloy Wheels**	**Power Mirrors**	Sunroof
Third Row Seats	Power Slide Door		

Other selling points

No Accident history	**Maintenance Records Available**		**One Owner**
New Tires	**Non-Smoker**	Fully Loaded	Performance Tires
Turbo	Upgraded Sound System	Custom Wheels	**Repainted Car**

Seat

Leather Seats	Power Seats	Child Seat	Bucket Seat

EcoHealth Alliance, Inc.

Materials and Supplies - Example of shipping supplies to Africa

18087

Payee DHL Airways
Vendor ID DHL

Account #:

18087
8/7/2019

Invoice	Description	Discount	Amount
ZYP0004758177	Shipping for AL to Brazzaville	$0.00	$5,010.78
	Total :	$0.00	$5,010.78

DHL Express
OUTBOUND INVOICE

DHL Express USA INC
16416 Northchase Dr
Houston TX 77060

ECOHEALTH ALLIANCE
ACCOUNTS PAYABLE
460 W 34TH ST FL 17
NEW YORK NY 10001

Invoice Number:	ZYP0004758177
Account Number:	854613698
Invoice Date:	07/31/2019
Payment Due Date:	08/15/2019
Number of Pages:	1 of 1

For Invoice Inquiries:
Telephone: 1-800-722-0081
Website: www.mybill.dhl.com

Waybill Account Ship Date	Prod Cd	Origin Shipper	Destination Receiver	Pcs / Wgt Cd	Tend Wgt	Billed Wgt	Extra Charge Description	Total Charge
5034891110	P	ZYP	[redacted]	4	140.00	178.00	EXPRESS WORLDWIDE NONDOC	4,537.22
854613698		[redacted]			lb	lb	DUTIES TAXES PAID	15.00
07/17/2019		Ecohealth Alliance					NON STANDARD P CKUP	4.40
		460 W 34TH ST FL 17					FUEL SURCHARGE	454.16
		NEW YORK NY 10001	[redacted]	V				
			Brazzavil e Brazzaville 00000					

Description of Contents: Solar Panel Donations
Dimensions: 44.00 x 30.00 x 4.00, 44.00 x 30.00 x 4.00, 4.00 x 13.00 x 13.00, 31.00 x 23.00 x 19.00

[redacted]

BRAZZAVILLE

[redacted]

Total Due (USD): $ 5,010.78

Weight Code: A – Customer Actual Weight V = Customer Volumetric Weight B = DHL Actual Weight W = DHL Volumetric Weight

Remit To: DHL Express - USA, 16592 Collections Center Drive, Chicago IL 60693

Federal ID: 94-3380425

Electronic Imaging Materials, Inc.
20 Forge Street Keene, NH 03431
603.357.1459 Fax: 603.357.1542
www.barcode-labels.com

Date Wed, Nov 6, 2019
Estimate No.* 756164
*This is not your part number. It will be given at first order
Account No. 33361

Here is Your Custom Quotation

Customer

Mindy Rostal (212) 380-4489
EcoHealth Alliance, Inc.
460 West 34th Street
17th Floor
New York, NY 10001
US

Printer Labels

Application- 685 2.75" x 0.6875" clear Sens-A-Mark® CryoLabel®, 1.0" x 0.6875" silver

Product Size- 2.75 X 0.6875 Rectangle with 0.078125 C. Radius

Colors- Silver

Materials- Stock#685 2.0 mil Gloss Clear TT CryoLabel® Plastic W/Permanent Acrylic Adhesive
Best Used Within 12 Months Of Manufacture

See Notes.....

Finishing- Finished in Rolls of 5,000, 1 Across, on a 3" Core.
See Note, 6.2" OD

Notes-

Quantity	**50,000**
Price (1000):	$26.69
Total	$1,334.50
Grand Total	$1,334.50

SHIP DATE: 7-10 business days ARO (After Receipt of Order). Prep fees may change when design received. Valid 30 days. E-mailed POs requested; Confirmed by e-mail. All EXW (Ex Works) Keene, NH. Qty may vary +/-10% w/order considered complete. End-User responsible for thorough Product testing. **Customer is responsible for paying all applicable shipping charges, sales/use taxes and for all applicable import taxes/duties/customs fees.**

ALL SALES ARE EXPRESSLY LIMITED TO THESE TERMS AND THE TERMS AND CONDITIONS AT BARCODE-LABELS.COM/TERMS. SELLER OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS.

Thank You,
Ed August
Account Manager

Electronic Imaging Materials, Inc.
20 Forge Street Keene, NH 03431
603.357.1459 Fax: 603.357.1542
www.barcode-labels.com

Estimate

Prepared: 11/6/2019

Estimate No. 831471
Customer PO No.

Printer, Resin and Software

Ordered By -
EcoHealth Alliance, Inc.
Attn: Mindy Rostal (212) 380-4489
460 West 34th Street
17th Floor
New York NY 10001 US

Ship To -
EcoHealth Alliance, Inc.
460 West 34th Street
17th Floor
New York, NY 10001
US
Attn: Mindy Rostal

We Would Like To Confirm Your Estimate With The Following:

Ordered	Product Number	Description	Price		Prod. Total
1	95123	Zebra ZT230 printer, 300dpi, USB & serial ports ZPL, US power cord & plug, tear bar, USB cable, 6ips, 4.09" print width	$1,290.20	Each	$1,290.20
1	95131	Zebra ZT230 printer, 300dpi, USB/parallel & Ethernet ZPL, USB cable, tear bar, US power cord & plug, 6ips, 4.09" print width	$1,625.45	Each	$1,625.45
4	T68433300	4.33" x 300 meter EIMINC® T68 premium resin ribbon note: 1 ribbon per 14,537 (685 2.75" x 0.6875") labels	$28.89	Each	$115.56
1	SEA-BTP-1	Seagull BarTender® 2019 Professional Application license plus one Printer license, includes one-year standard support	$450.45	Each	$450.45
1	MISC2	FREE, FAST, FUN, FRIENDLY & FLEXIBLE TECH SUPPORT techsupport@eiminc.com or (800) 535-6987	$0.00	Each	$0.00
1	MISC5	Shipping & handling not included. Customer is responsible for paying all applicable sales/use taxes and import taxes/duties/ customs fees.	$0.00	Each	$0.00

ALL SALES ARE EXPRESSLY LIMITED TO THESE TERMS AND THE TERMS AND CONDITIONS AT BARCODE-LABELS.COM/TERMS. SELLER OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS.

(b)(6)
Sales Representative

(b)(6)
Customer Service

15

Bag

[redacted]

Computer (with AppleCare), mouse and keyboard unit: $2126 each

Here's what's in your bag.

Get free shipping and free returns on all orders.

Magic Keyboard - US English 5 $495.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: [redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details

Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware.
Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: [redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



Magic Mouse 2 - Silver 5 $395.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: 1000[redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 1000[redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 1000[redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 10001

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 10001

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores

Subtotal	$10,630.00
Shipping	FREE
Estimated tax for: 10001††	$943.41

Have a promo code? Enter it now

Total **$11,573.41**

Get 3% Daily Cash with Apple Card, or get special financing ›

A few recommendations.

Products

Solutions

Support & Services

News

About

Buy Now

ArcGIS Pro

cGIS Pro

onal use

Non-commercial use

ArcGI
Type
with t
inclu
Apps
GI

Professional User
ir team members
. GIS Professional
ArcGIS Essential
0 Service Credits.
els: Advanced,

Basic

- Create beautiful maps
- Visualize in 2D and 3D
- Analyze geographic information
- Edit and manage geospatial data
- Publish and share

$700 / year

Quantity – 0 +

Standard

- Create beautiful maps
- Visualize in 2D and 3D
- Analyze geographic information
- Enable multiuser editing
- Perform advanced geospatial data management
- Publish and share

$2,750 / year

Quantity – 0 +

Advanced

- Create beautiful maps and advanced cartographic products
- Visualize in 2D and 3D
- Analyze geographic information with advanced tools
- Enable multiuser editing
- Perform advanced geospatial data management
- Publish and share
- Utilize extensive database management tools

$3,800 / year

Quantity – 0 +

Field Supplies

Cart

Account: 884930003 EcoHealth Alliance

	Item	Price	Qty	Subtotal
	Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper Catalog number 23-021-018 **by BD 368045** Regulated **Diameter (Metric) Outer:...**	**$42.25 / Pack of 100** **$331.66 / Case of 10 PK**	9	**$2,984.94**
	Nunc™ Biobanking and Cell Culture Cryogenic Tubes Catalog number 12-565-171N **by Thermo Scientific™ 368632** **Capacity (Metric): 1.8mL, Thread Style: Internal, Length (Metric): 49mm, Desc...**	**$241.93 / Pack of 450** **$967.73 / Case of 4 PK**	9	**$8,709.57**

In Stock (4) - Estimated delivery 11/08/2019

On Order (5) - Estimated delivery 11/20/2019

In Stock (3) - Estimated delivery 11/07/2019

On Order (6) - Estimated delivery 11/20/2019

Order Summary

Subtotal	$61,326.04
▲ Shipping and Handling *	$1,134.08
Hazardous material charge	$23.25
Shipping fuel surcharge	$4.45
Shipping charge	$1,106.38
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this? | FAQ

	Item	Price	Qty	Subtotal
	Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper Catalog number 02-657-27 **by BD 366668** Regulated **Diameter (Metric) Outer:...**	**$34.00 / Pack of 100** **$261.62 / Case of 10 PK**	3	**$784.86** ●
	In Stock (3) - Estimated delivery 11/07/2019			
	PC MTUBE 1.3ML SERUM/PK100 Catalog number NC9444309 **by Sarstedt Inc** **41.1501.105**	**$36.50 / Pack of 100**	10	**$365.00**
	Ships from manufacturer - Usually Ships in 2 Business Days			
	Vacutainer™ Tube Holder Catalog number 22-289-953 **by BD 364815** Regulated **HLDR 1-USE NOSTCKBL 250/PK RX**	**$22.99 / Pack of 250** **$91.90 / Case of 4 PK**	5	**$459.50** ●
	In Stock (5) - Estimated delivery 11/07/2019			
	Vacutainer™ Eclipse™ Blood Collection Needle Catalog number 02-683-101 **by BD 368607** Regulated **Gauge: 21g, Includes: Built-in safety shield, Color: Green hub**	**$42.55 / Pack of 48** **$339.50 / Case of 10 PK**	5	**$1,697.50** ●

Item	Price	Qty	Subtotal
	In Stock (5) - Estimated delivery 11/07/2019		
 Monoject™ Supra/Hone™ Thin Wall Blood Collection Needles Catalog number 22-030573 **by Covidien 8881216066** Regulated **Needle Gauge: 22 G**	**$31.83 / Pack of 100** **$270.89 / Case of 10 PK**	2	**$541.78**
	On Order (2) - Estimated delivery 12/13/2019		
3cc Syringes Catalog number 14-840-77 **by Exel International 26200** Regulated **Termination: Luer-lock**	**$24.00 / Pack of 100** **$196.73 / Case of 10 PK**	3	**$590.19**
	In Stock (2) - Estimated delivery 11/07/2019		
	On Order (1) - Estimated delivery 11/21/2019		
 Monoject™ Softpack Hypodermic Needles with Polypropylene Hub Catalog number 05-561-22 **by Covidien 8881250222** Regulated **Needle Gauge: 22 G, Length (English) Needle: 1 in., Length (Metric) Needl...**	**$25.86 / Pack of 100** **$218.36 / Case of 10 PK**	3	**$655.08**

	Item	Price	Qty	Subtotal
		In Stock (1) - Estimated delivery 11/11/2019 **On Order** (2) - Estimated delivery 11/26/2019		
	Syringe with Sub-Q Needle Catalog number 14-829-10F **by BD 309597** Regulated **SYRINGE TB 26GX58 1CC 100PK RX**	**$35.25 / Pack of 100** **$213.21 / Case of 8 PK**	2	**$426.42**
		In Stock (2) - Estimated delivery 11/07/2019		
	Graham Field Thumb Dressing Forceps Catalog number 19-027503 **by Graham-Field™ 2750** **Length (English): 5 in.,** **Length (Metric): 127 mm**	**$9.00 / Each**	4	**$36.00**
		On Order (4) - Estimated delivery 12/13/2019		
[redacted]	Fisherbrand™ 50mL Graduated Polypropylene Centrifuge Tube Catalog number 14-375-150 **CENT TB FREESTNDNG 50ML 500/CS**	**$415.00 / Case of 500**	6	**$2,490.00**
		In Stock (6) - Estimated delivery 11/07/2019		

Biosafety Equipment

	Item	Price	Qty	Subtotal
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170D **Size: X-Large**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	5	**$1,662.50**
	In Stock (5) - Estimated delivery 11/07/2019			
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170B **Size: Medium**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	7	**$2,327.50**
	On Order (7) - Estimated delivery 11/15/2019			
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170A **Size: Small**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	4	**$1,330.00**
	In Stock (4) - Estimated delivery 11/07/2019			
	Sharps Disposal Containers Catalog number 14-830-124 **by Covidien 8970** **Capacity (English): 2 gal.,** **Capacity (Metric): 7.6 L,** **Closure Type: Rotor Lid**	**$228.33 / Case of 20**	3	**$684.99**

Item	Price	Qty	Subtotal

In Stock (3) - Estimated delivery 11/07/2019



Red Color Polyethylene Liner Printed with BioHazard Symbol, 2 mil Thick, 16 x 14 x 36 Inch Bags, 50 per Package
Catalog number 50-998-764
by Research Products International Corp 246107

$38.13 / Pack of 50 | 3 | **$114.39**

Ships from manufacturer - Usually Ships in 1 Business Days



KleenGuard™ A60 Bloodborne Pathogen and Chemical Splash Protection Coveralls
Catalog number 19-057-404B
by Kimberly-Clark Professional™ 45023
Closure Type: Zipper front, Description: Hooded, seamless zi...

$470.00 / Case of 24 | 22 | **$10,340.00**

On Order (22) - Estimated delivery 12/10/2019

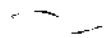


KleenGuard™ A60 Bloodborne Pathogen and Chemical Splash Protection Coveralls
Catalog number 19-057-404A
by Kimberly-Clark Professional™ 45022
Closure Type: Zipper front, Description: Hooded, seamless zi...

$470.00 / Case of 24 | 23 | **$10,810.00**

In Stock (10) - Estimated delivery 11/07/2019

On Order (13) - Estimated delivery 12/10/2019

	Item	Price	Qty	Subtotal
	Comfort Plus Disposable Filtering Facepiece Respirator, N95 Catalog number 19-120-299 **by 3M™ 8211** **Certifications/Compliance: NIOSH 42 CFR Part 84, N95, NIOSH TC-84A-1299, Design T...**	**$44.41 / Pack of 10** **$314.00 / Case of 8 PK**	14	**$4,396.00**
	In Stock (3) - Estimated delivery 11/07/2019 **On Order** (11) - Estimated delivery 11/27/2019			
	Qualitative Fit-Test Kit, Bitter Catalog number 19-002-720 **by 3M™ FT30** **Product Type: Bitter Fit Test Kit, Quantity: 1**	**$436.00 / Each**	1	**$436.00**
	In Stock (1) - Estimated delivery 11/11/2019			
	Metaliks™ Eyewear Catalog number 19-810-520 **by 3M™ 115540000020** **Frame Color: Bronze, Lens Type: Anti-fog, Lens Tint: Clear**	**$32.30 / Each** **$282.50 / Case of 20 EA**	10	**$323.00**
	On Order (10) - Estimated delivery 12/06/2019			

	Item	Price	Qty	Subtotal
	Ethanol, 70% Solution, Molecular Biology Grade, Denatured, Fisher BioReagents™ Catalog number BP82031GAL **Quantity: 1 gal., Packaging: Poly Bottle**	**$82.00 / Each** **$264.00 / Case of 4 EA**	1	**$82.00** ●

On Order (1) - Estimated delivery 11/11/2019

Items for Building TVLA Capacity

	TSG Series Countertop Refrigerator Catalog number TSG205SA **by Thermo Scientific™ TSG205SA** **TSG CT SOLID DOOR, 5-15P**	**$2,740.00 / Each**	1	**$2,740.00**

Ships from manufacturer - Usually Ships in 3 Business Days

	Fisherbrand™ Traceable™ Refrigerator/Freezer Plus Thermometer Catalog number 15-077-721 **5ML VACCN THRMTR .5 DEG 1EA**	**$101.00 / Each**	1	**$101.00**

On Order (1) - Estimated delivery 11/21/2019

	Lamp Assembly for FLx800™ Microplate Reader Catalog number BT7080500 **by BioTek™ 7080500** **LAMP ASSEMBLY FOR FLX800**	**$174.10 / Each**	1	**$174.10**

This item is not returnable. View return policy

Ships from manufacturer - Usually Ships in 5 Business Days

	Item	Price	Qty	Subtotal
	LMC-2000 Series Compound Microscope Catalog number LMC2PH1 **by Laxco™ LMC2PH1** **Head Style: Binocular, Lighting Type: 3w LED, Phase Contrast, Magnification Power: 10X, 20X, 4...**	**$3,347.30 / Each**	1	**$3,347.30**
		Ships from manufacturer - Usually Ships in 18 Business Days		
	[DW-20] Deionized Water Distiller with Gauge Catalog number 50-187-1175 **by Labomed Inc DW20**	**$2,458.50 / Each**	1	**$2,458.50**
		Ships from manufacturer - Usually Ships in 40 Business Days		
	24006 ISFET POCKET PH METER Catalog number NC1478483 **by Deltatrak Inc 24006**	**$257.92 / Each**	1	**$257.92**
		Ships from manufacturer - Usually Ships in 2 Business Days		

Add all items to a list

CappWash™ Microplate Washer, APS BE

APS BE

CappWash™ s the ideal washing too for smal scale immuno assays

- Compact and made for smal l-scale work
- Unique two-in-one des gn
- S mp e washing matches all wel types
- No programming and no e ectrica wiring connection requ red

The vacuum pump is ava lab e for 115V connections

Fitting into even the tightest budget, CappWash™ s a perfect a ternative for washing micro p ates and str ps.

Order Now

ORDER G and A

Add to Cart

	Description	Supplier No.	VWR Catalog Number	Unit	Availability	Price	Quantity
	CappWash™ K t, Inc udes W-12 WP-115V WB-1, WB-3, WB-4, and W-1000 (3 meters)	W-12KIT-115V	490015-894	Each	Ordered Upon Request	$2 5"3.46	0

Add to Cart

Barcode Label Format: Avery 5161 1" x 4

Add to Shopping List Add to Quote

Existing List New List

Enter List Name:

Tablets and case: $228.98 each

Try Prime All

Hello, Melinda
Account & Lists Orders Try Prime Cart

Ecohealth Alliance Inc
Whole Foods Browsing History Melinda's Amazon.com

Shop new HoliDeals

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Your order qualifies for FREE Shipping.
Choose this option at checkout. See details

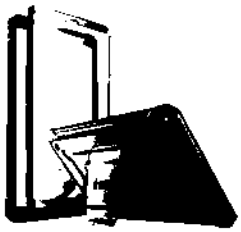
Subtotal (13 items): $1,225.87

This order contains a gift

Proceed to checkout

Shopping Cart

Price



SupCase Unicorn Beetle Pro Series Designed for Galaxy Tab A 10.1 (2019 Release), Full-Body Rugged Heavy Duty Protective Case with Built-in Screen Protector for Galaxy Tab A 10.1 Inch 2019 (Black) $26.99

In Stock
Eligible for FREE Shipping
This is a gift Learn more
Qty: 8 Delete Save for later
Compare with similar items



Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) $201.99

In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 5 Delete Save for later
Compare with similar items

Note we will order 8, only 5 were allowed to be ordered at a time. This adds another $605.97 to the total

Subtotal (13 items): $1,225.87
Updated Subtotal (16 items): $1,831.84

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Sponsored Products related to items in your cart



Fire HD 10 Case 2017... 26
$29.99
See all buying options



Galaxy Tab A 10.1 Case... 14
$16.99
See all buying options



Amazon Fire 7 Tablet... 1,625
$14.99
See all buying options



Soke Galaxy Tab A... 296
$19.99
See all buying options

Customers who shopped for SupCase Unicorn Beetle Pro Series Designed for... also shopped for:

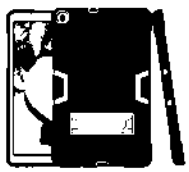
Page 1 of 4



SupCase [Unicorn Beetle... 675
$26.99
Add to Cart



Galaxy Tab A 10.1 2019... 122
$26.95
Add to Cart



Cartis Galaxy Tab A 10.1"... 123
$13.99
Add to Cart

Gift ideas inspired by your shopping history

Traps

Tomahawk Live Trap

All categories > Search products

Home > Cart contents

Ordering multiple items? We may be able to reduce shipping cost for your order. Please read this memo. Thank you!

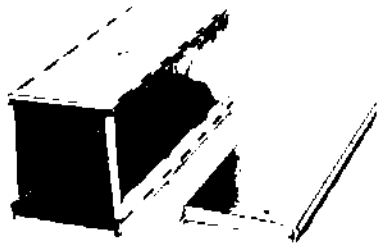
If you are ordering many different items our website may not accurately calculate shipping for you. We can combine products and ship them together in boxes to save shipping cost. During the final stage of the checkout process select the "Double Check My Shipping Cost" option as your payment method. We will contact you with a quote for reduced shipping. You can also call us at 800-272-8727 and we can quote you by phone.

CART CONTENTS

CONTINUE SHOPPING

CLEAR CART

PROCEED TO CHECKOUT



LFAHD - 9 x 3 x 3.5 - Folding, Aluminum Trap ⊗

CODE: LFAHD

$27.23

- 33 +

$898.59



200 - Collapsible Squirrel Trap with Two Trap Doors ⊗

CODE: 200

ADD POWDER COATING. :

(+15%)

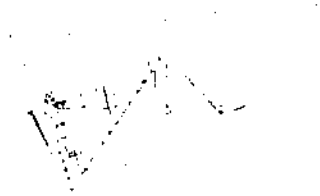
ADD A PLASTIC TRAP COVER FOR THIS TRAP. ❓:

(+$16.45)

$44.82

- 40 +

$1,792.80



205 - Collapsible Cat, Opossum, Rabbit Trap with One Trap Door ⊗

CODE: 205

ADD POWDER COATING. :

(+15%)

ADD A PLASTIC TRAP COVER FOR THIS TRAP. ❶:

(+$25.95)

$63.45

− 60 +

$3,807.00

Gift certificate or promo code [redacted]

Subtotal	$6,498.39
FedEx (✈ CHANGE)	$357.54
TOTAL COST	**$6,855.93**

Tattoo kit to mark hares

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Add $17.68 of eligible items to your order to qualify for FREE Shipping. See details

Subtotal (3 items): $85.32

Proceed to checkout

Shopping Cart

Price



Speedball 2-Ounce India Ink, Super Black $7.32
In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 1 Delete Save for later
Compare with similar items



Grand Champion 1/4 inch Tattoo 0-9 $15.00
In Stock
Shipped from: BUNNYRABBITcom
Gift options not available. Learn more
Qty: 1 Delete Save for later



Grand Champion 1/4 inch Tattoo Kit with Case $63.00
Only 10 left in stock - order soon.
Shipped from: BUNNYRABBITcom
Gift options not available. Learn more
Qty: 1 Delete Save for later

Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) was removed from Shopping Cart.

Subtotal (3 items): $85.32

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Your recently viewed items



Samsonite Ripstop 179
$113.87
Add to Cart



Samsonite Solyte DLX //
$109.12
Add to Cart



Samsonite Solyte DLX //
$166.99
Add to Cart



American Tourister Belle 278
$92.36
Add to Cart

Sponsored Products related to items in your cart What's this?

Page 1 of 3



ZZKOKO Calligraphy Ink Bottle, 12 Colors Dip



Daveliou Pink Calligraphy Pens Set - 17 Piece Kit

Kent Scientific

Rodent Ear tags

Products

Items (1)



Laser Etched Ear Tags, One-Sided

1,000 Laser Etched Ear Tags (Custom Specified Numbering)

Item #: INS1005-1LSZ

$315

1

× Remove

Save for later

$315

Update Cart

Summary

Subtotal: $315

Shipping and tax will be calculated when we process your order and will be added to the amount you are charged.

Total: **$315**

email

password

Login To Checkout

Forget your password?

Checkout as Guest ›

Discount Code

Apply

© 2006 - 2019 Kent Scientific Corporation. All rights reserved.

Anesthesia Machine

Shopping Cart

	Product Name	Move to Quote	Unit Price	Qty	Subtotal
(https://www.harvardapparatus.com/universal-rebreathing-anesthesia-f-circuit-1.html)	Universal F Circuit, 60 in (https://www.harvardapparatus.com/universal-rebreathing-anesthesia-f-circuit-1.html)		$30.00	1	$30.00
 (https://www.harvardapparatus.com/tabletop-anesthesia-systems.html)	Harvard Apparatus Single Animal Tabletop Isoflurane Anesthesia System with Small Induction Box (https://www.harvardapparatus.com/tabletop-anesthesia-systems.html)		$2,963.00	1	$2,963.00
 (https://www.harvardapparatus.com/cat-anesthesia-masks.html)	Cat Ventilation/Anesthesia Mask, Small, 5.1 cm (2 in) diameter, molded on 15 mm standard male connections (https://www.harvardapparatus.com/cat-anesthesia-masks.html)		$15.00	1	$15.00

Continue Shopping Update Shopping Cart

Estimate Shipping and Tax

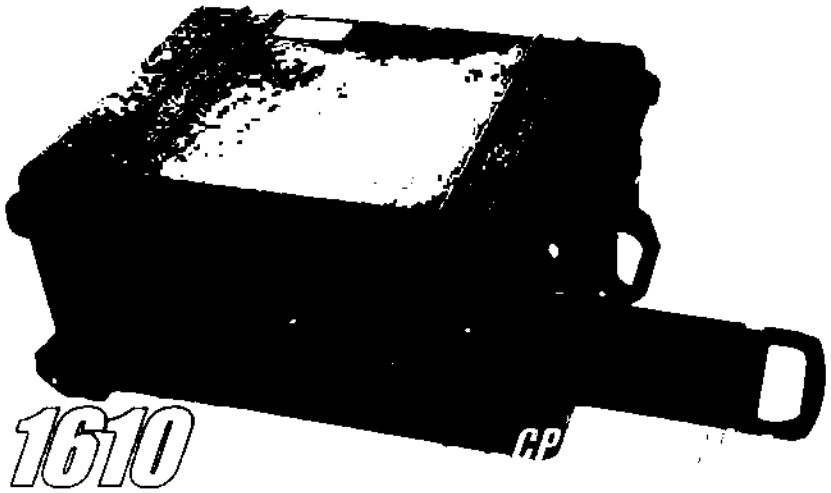
Discount Codes

Enter your coupon code if you have

Subtotal	$3,008.00
Grand Total	**$3,008.00**

Pelican Case 1610

Order your pelican case now! 1-800-882-4730



22.25"L x 17.12"W x 2" Lid over 8.5" Base

24.56"L x 19.31"W x 11.93"H

Empty 20 lbs. Case with Foam: 22.5 lbs

120 lbs

AVAILABLE COLORS

BLACK DESERT TAN OD GREEN

TAN & OD GREEN PLEASE CHECK AVAILABILITY

Pelican 1610 roll model case

With Fold Down Handle & Wheels. Available in **Black and** ready for shipping in 24 hrs. or less. **Desert Tan** and **OD Green** colors are available upon request (longer lead time and minimum quantities apply)

SMALLER Click LARGER

Case to carry anesthesia machine

1610 Case Part Numbers:

1

APP-1610E
Price $215.95

BUY!

IN STOCK

Empty case, no foam (E suffix) (No re stocking charge applies)



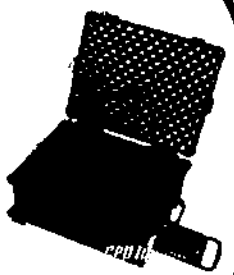
Strongest case on the market, suitable for rugged equipment that does not require additional foam protection.

2

APP-1610F
Price $256.95

BUY!

IN STOCK



Foam Filled (F suffix) Pick "N" Pluck
Polyurethane
layers, 3 pcs are Pick "N" Pluck 2.38" thick one base pad and one convoluted egg crate foam lid pad.
(No re stocking charge applies)

3

APP-1614PD
Price $332.14

BUY!

Pelican case 1610 with **Padded Dividers** (No re stocking charge applies)



Accessories to organize your gear. Made of durable nylon and foam. Individual compartments are adjustable using a hook and loop Velcro® system.

Anesthesia Medications

CHECKOUT

1 SHOPPING CART — 2 PROMOTIONS (/MY-ACCOUNT/CHECKOUT?S=PROMOTIONS) — 3 PAYMENT & DELIVERY OPTIONS (/MY-ACCOUNT/CHECKOUT?S=CONFIRMATION) — 4 COMPLETED

Load Items from Saved Order

Navigate to Saved List

SAVE ORDER (/MY-ACCOUNT/CHECKOUT?S=SAVE) CLEAR CART

CHECKOUT (/MY-ACCOUNT/CHECKOUT?S=PROMOTIONS)

Estimate total: **$3,072.98**



(/Product?sku=029405)

ISOTHESIA (ISOFLURANE) SOLUTION

Availability This item is scheduled to arrive the next business day. It is not for transportation by air.

Brand Products
Practice Preferred

Unit Price $27.83
Unit Total $1,141.03

41 REMOVE ()

SKU	029405
Size	250mL
Case Qty	6
In Stock	In Stock: 1620

CONSUMER COMMODITY ORM-D



(/Product?sku=029404)

ISOTHESIA (ISOFLURANE) SOLUTION

Availability This item is scheduled to arrive the next business day. It is not for transportation by air.

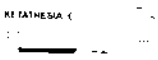
Brand Products
Practice Preferred

Unit Price $17.82
Unit Total $1,283.04

72 REMOVE ()

SKU	029404
Size	100mL
Case Qty	6
In Stock	In Stock: 116

CONSUMER COMMODITY ORM-D



KETATHESIA INJECTION, 100MG/ML C3N



DIAZEPAM INJECTION, 5MG/ML, C4

Equipment

Cart

Account: 884930003 EcoHealth Alliance

	Item	Price	Qty	Subtotal
	Sorvall™ ST 16 Centrifuge Series Catalog number 75-004-240 **by Thermo Scientific™ 75004240** **Description: Sorvall ST 16 Centrifuge, Capacity: 4 x 400mL, Electrical Requirements: 230V 50/60Hz**	**$6,680.00 / Each**	1	**$6,680.00**
		Ships from manufacturer - Usually Ships in 27 Business Days		
[redacted]	Fisherbrand™ Isotemp™ -86°C Ultra-Low Temperature Chest Freezers, 20 cu. ft. Catalog number I920CD **Electrical Requirements: 208 - 230 V 60 Hz**	**$15,630.00 / Each**	1	**$15,630.00**
		Ships from manufacturer - Usually Ships in 35 Business Days		

Add all items to a list

Order Summary

Subtotal	$22,310.00
▲ Shipping and Handling *	$424.99
Shipping charge	$424.99
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this?| FAQ

Melinda Rostal DVM, MPH
Senior Research Scientist

PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
www.ecohealthalliance.org

November 20th, 2019

Generator

Genset Model
C22 D5, 22kVA Standby, 20kVA , Diesel, Open

Bill of Material

Emergency Standby Power (ESP)
Emissions Level : No Certification
Local Codes and/or Regulation : CE
Output Voltage : 200/115, 3 Phase, Wye, 4 Wire
Engine
X2.5G2
Engine Air Cleaner - Duty Rating : Heavy Duty
Engine Oil Heater : None Supplied
Engine Speed Governing : Mechanical Droop Governor
Engine Coolant Heater : None Supplied
Sub-Base Anti-Vibration Mounts
None Supplied
Main Generator
S0L2G1, 50 Hertz (Hz), 200V and 400V, 163C, Emergency Standby Power (ESP)
Generator Accessories
Voltage Regulator - Torque Match
Main Generator Heater : None Supplied
Exhaust System
Silencer Grade : Residential, Flange On Connection Inlet 3 Inch, Outlet 3 Inch, Side Entry
Exhaust System Accessories : Bellows, System Fixing Kit
Cooling System
Genset Mounted Radiator, 50C / 122F, Genset Mounted
Engine Coolant Mixture : 50% Antifreeze, 50% Water
Primary Electrical Isolation Device
One Circuit Breaker
Primary Electrical Isolation Device
80A MCB, 440V IEC, 4 Pole, 100%, Left
Entrance Box / Terminal Housing
Cable Entrance Box Required : None Supplied
Control System Options
PowerStart 0600
Control Panel Mounting (Viewed From Generator End) : Left Facing

Control Language : English
Warning - Low Battery Voltage
Emergency Stop Switch - External
Control Cabinet Heater : None Supplied
Starting Batteries
Pure Lead-Tin Thin Plate Valve Regulated Lead-Acid (VRLA) Battery - Maintenance Free
Battery Charger
Set Mounted, 6A, 110 - 240 V
Genset Testing
Genset Testing : Standard Factory Test
Test Records : Certified Test
Warranty
Standby, 40 Months, 800 Hours
Literature Language
English
Packing
Cover - Shipping

Net package price, ... $ 7.900.00 + applicable taxes

Notes:

1. Spec sheet provided to quote
2. Price includes freight Factory via standard ground to nearest port of generator manufacturer, Shipping to final destination Tanzania by others and not included in this quote.
3. Price does not include field connections, installation or rigging.
4. This proposal is based on information supplied to Cummins which may or may not have been correct or complete. The customer is responsible for reviewing this proposal for compliance with the complete and final drawings and specifications.
5. All quotations automatically expire thirty (30) days from date issued.

We thank you for giving us the opportunity to quote this equipment. If you need any further assistance or clarification, please do not hesitate to contact us

Sincerely,

(b)(6)

Senior Sales Representative

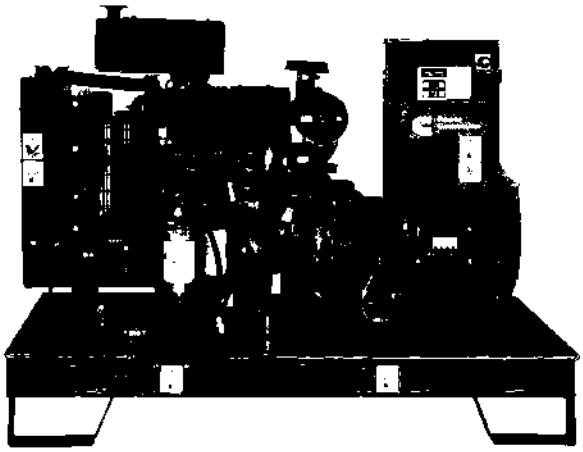
Specification sheet

BOM for our standard C22D5 Open type @50Hz using the X2.5 engine.

Diesel generator set X2.5 series engine

15 kVA - 28 kVA 50 Hz

10.8 kW - 20 kW 60 Hz



Description

This Cummins® commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for Stationary Standby, Prime Power, and Continuous Duty applications.

Features

Cummins heavy-duty engine - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

Optional excitation boost system (EBS) - Offers enhanced motor starting and fault clearing short circuit capability.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads and fault clearing short-circuits capability.

Cooling system - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Control system - PowerStart control, microprocessor-based generator set monitoring and control system provides a simple operator interface to the generator set, manual and remote start/stop control and shutdown fault indication.

Enclosures - Optional weather-protective and sound-attenuated enclosure.

Warranty - Backed by a comprehensive warranty and worldwide distributor network.

	3-Phase ratings				1-Phase ratings*				
	Standby rating		Prime rating		Standby rating		Prime rating		Data sheet
Model	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	
C17 D5	16.5 (13)		15 (12)		13 (13)		11.8 (11.8)		DS338-CPGK
C22 D5	22 (18)		20 (16)		17 (17)		15.5 (15.5)		DS340-CPGK
[illegible]	[illegible]		25 (20)		22 (22)		20 (20)		DS342-CPGK
C12 D6		12 (15)		10.9 (13.6)		12 (12)		10.9 (10.9)	DS339-CPGK
C16 D6		16 (20)		15 (18)		16 (16)		14.5 (14.5)	DS341-CPGK
C20 D6		20 (25)		18 (22)		20 (20)		18.1 (18.1)	DS343-CPGK

*1.0 PF

Generator set specifications

Governor regulation class	ISO 8528 G2
Voltage regulation, no load to full load	± 2.5%
Random voltage variation	± 2.5%
Frequency regulation	Droop
Random frequency variation	± 0.75 %
Radio frequency emissions compliance	BS EN 61000-6-1 / BS EN 61000-6-3

Engine specifications

Design	4 cycle, in-line, naturally aspirated
Bore	91.4 mm
Stroke	127 mm
Displacement	2.5 liter (153 in^3)
Cylinder block	Alloy cast iron, in-line, 3 cylinder
Battery charging alternator	36 A
Starting voltage	12 volt, negative ground
Fuel system	Direct injection
Fuel filter	Spin on fuel filters with water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin on full flow filter, filtration efficiency 25 micron 99% (min)
Standard cooling system	122 ºF (50 ºC) ambient radiator with coolant recovery system

Alternator specifications

Design	Brushless, single bearing
Stator	2/3 pitch
Insulation system	Class H
Standard temperature rise	125-163 ºC
Exciter type	Self excited
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	No load to full linear load < 5%. For any single harmonic < 2.5%
Telephone Influence Factor (TIF)	< 75 (for 60 Hz)
Telephone Harmonic Factor (THF)	< 2% (for 50 Hz)

Available voltages

50 Hz Line–Line/Line-Neutral			60 Hz Line–Line/Line-Neutral		
3-phase		1-phase	3-phase		1-phase
• 416/240	• 208/120	• 230	• 480/277	• 220/127	• 240
• 400/230	• 200/115	•	• 440/255		•
• 380/220	• 190/110		• 416/240		

Note: Consult factory for other voltages.

Generator set options

Engine
- Electronic engine governing
- Coolant heater 120/240 V

Cooling
- Antifreeze 50/50 (Ethylene glycol)

Enclosure
- Optional silent power canopy

Base frame
- Dual skin fully contained fuel tank
- 500 litre fuel tank
- Set mounted battery

Alternator
- Alternator heater
- Control panel
- PowerCommand 1.1
- 2/4 pole main circuit breaker
- Aux 101

Warranty
- 2 years for Prime application
- 5 years for Standby application

- 1500/3000 hours service kit
- Optional language literature
- Engine oil heater 120/240 V
- External fuel fill (3 way valve)

Note: Some options may not be available on all models - consult factory for availability.

Control system

Generator set control PowerStart 600 – The PowerStart contol is a microprocessor-based generator set monitoring and control system. The control provides a simple operator interface to the generator set, auto/ manual and remote start/stop control and shutdown fault indication. The integration of all control functions into a single control provides enhanced reliability and performance compared to conventional generator set control systems. This control has been designed and tested to meet the harsh environment in which gensets are typically applied.

- The PowerStart generator set control is suitable for use on a wide range of generator sets in non-paralleling applications. It is suitable for use with reconnectable or non-reconnectable generators, can be configured for either 50 Hz or 60 Hz and voltage and power connection from 190-600 VAC line-to-line.
- This control includes an intuitive operator interface that allows for complete genset control as well as system metering, fault annunciation, maintenance alarm, over imbalance current, configuration and diagnostics. The interface includes seven generator set status LED lamps with both internationally accepted symbols and English text to comply with customer needs. The interface also includes an LED backlit LCD display with tactile-feel soft-switches for easy operation and screen navigation. The manual/auto/stop switch function is integrated into the interface panel.
- All data on the control can be viewed by scrolling through screens with the navigation keys. The control displays the current active fault and a time-ordered history of the five previous faults.
- Power for this control is derived from the generator set starting batteries and functions over a voltage range from 8VDC to 16 VDC.

Major Features

- Integrated 128x64 Pixel monochrome graphic LCD Display
- 12 and 24V battery operation
- Genset monitoring-monitor status of all critical engine and alternator functions
- Digital genset metering (AC and DC)
- Genset battery monitoring system to warn against a weak battery connection
- Configurable for single phase or three phase or split phase AC metering
- Engine starting includes solid state output to operate external relay to start the engine, fuel shut off (FSO) and glow Plug
- Genset Protection: protects engine and alternator
- Real time clock for fault and event stamping
- Fuel level measurement using 4-20mA input sensor
- Exerciser clock and time of delay start/stop initiate a test without load.
- Maintenance due alarm based on engine running time and real time clock
- Auto Main Failure (AMF) Provides load transfer operation in open transition mode
- AMF Test with or without load options
- Utility Voltage monitoring and protection
- Remote start capability in Auto mode
- Advanced service ability using Inpower™ a PC based Software service tool
- Modbus interface for interconnecting to customer PLC/BMS
- Configurable Inputs and Outputs
- Environmental protection: The Control is designed for reliable operation in harsh environment
- Warranty and service backed by a comprehensive warranty and worldwide distributor service network
- Certification-suitable for use on generator sets that are designed, manufactured, tested and certified relevant ISO, IEC and CE standards.

Base control functions

LCD capability

LED INDICATING LAMPS

- For Genset Running, Remote Start, AMF Test Active, Genset Shutdown, Warning, Load connected to Genset, Load connected to Utility, Manual Mode, Stop Mode and Auto Mode.

LCD display

- 128 x 64 Pixel Monochrome Graphics display

OPERATION INTERFACE

Six tactile-feel soft switches for LCD navigation, genset operation and control setup. These switches are indicated by internationally accepted symbols and English text.

OPERATOR ADJUSTMENTS

- The LCD includes provisions for necessary set up and adjustment functions.
- Data Log includes engine run time and controller ontime Fault History.
- Provides a record of the most recent fault Condition with Engine run time stamp, RTC stamp and occurances
- Up to 5 events are stored in the control non-volatile memory.

AMF FUNCTIONALITY

When Auto Mains Failure is enabled and controller is in Auto Mode and if utility goes off then control starts the Genset automatically and transfers load onto Genset. If Utility returns and is healthy then load again gets retransferred onto Utility. AMF provides load transfer operation in Open Transition transfer mode.

FUEL LEVEL FEATURE

The Control will show the warning fault when the fuel level in the tank goes below the predefined threshold. Control includes time delays to prevent nuisance warning signals.

Exercise Scheduler

It is used only when genset is in Auto mode. It is used to start a Scheduler schedule at No Load condition. A trim Exercise Scheduler Enable is available to enable or disable the feature.

Maintenance

Maintenance due alarm based on Engine Running Time or Real time clock

Control data

Access to the control software part number and software version are provided from the LCD or InPower™.

Alternator data

- Voltage (single or three phase line-to-line and line-to- neutral)
- Current (single or three phase)
- kVA, kVAR, kW, Power Factor (Three phase and total)
- Frequency
- Totalized positive and negative kWH, kVARH, kVAH

Utility AC data

- Voltage (three/single phase LL and LN) - Frequency

ENGINE DATA

- Starting battery voltage
- Engine running hours
- Engine temperature
- Engine oil pressure

Service adjustments

- The control includes provisions for adjustment and calibration of generator set control functions. Functions include:
- Voltage selection
- Frequency selection
- Genset and Utility AC Meter Calibration

ENGINE CONTROL

- CT ratio, and Genset ratings setup
- Start/Stop time delay setup
- Real time clock setup with daylight saving
- AMF Setup with test mode and transfer/retransfer time delays
- Modbus baud rate, parity setup
- Exercise scheduler repeat interval, Day, time and duration setup
- Maintenance due setup
- LCD brightness and contrast control

Battery operation

- Control will operate on 12V/24V batteries

Auto start mode

Accepts a ground signal from remote devices to automatically start the generator set. The remote start signal will also wake up the control from sleep mode. The control can incorporate a time delay start and stop.

Emergency stop

The control annunciates when an emergency stop signal is received and the generator set immediately shuts down. The generator set is prevented from running or cranking with the switch engaged E-stop switch.

Sleep mode

The control includes a configurable low current draw state to minimize starting battery current draw when the genset is not operating.

Engine starting

The control supports automatic engine starting. Primary and backup start disconnects are achieved by battery charging alternator feedback or main alternator output frequency. The control also supports configurable glow plug control when applicable.

Cycle cranking

Configurable for the number of starting cycles (1 to 7) and duration of crank and rest periods. Control includes starter protection algorithms to prevent the operator from specifying a starting sequence that might be damaging.

Time delay start and stop (cooldown) Configurable for time delay of 0-300 seconds prior to starting after receiving a remote start signal and for

time delay of 0-600 seconds prior to shutdown after signal to stop in normal operation modes. Default for both time delay periods is 0 seconds.

Auto Mains Failure functions

AMF primarily means that the genset controller is controlling both the genset breaker and a utility breaker in a transfer pair arrangement. AMF is only for use in a single genset / single utility arrangement. AMF's primary job is to keep loads powered. AMF completely manages the system by automatically starting the genset and transferring load when it detects utility failure. AMF has numerous built-in configurable sensors to determine the availability of the utility and genset sources. Sensors include under voltage, overvoltage, over/under frequency and breaker failure. PS0600 control supports only open transition (Break before Make) AMF functionality.

AMF Test mode

AMF supports test mode with or without load options along with test mode duration.

Load Transfer Switch Type

AMF breaker outputs can be continuous (contact pair) or pulsed (GTEC) type based on load transfer switch selection.

Undervoltage sensor

- Three phase LL and LN undervoltage sensing for pickup 85-100% and dropout adjustable from 75-98% of nominal and dropout adjustable delay from 0.1-30 sec

Overvoltage sensor

- Three phase LL and LN overvoltage sensing for dropout adjustable from 105-135% of nominal and dropout adjustable delay from 0.5-120 sec

Over/under frequency sensor

- Underfrequency sensing for pickup 85-100% and dropout adjustable from 70-85% of nominal and dropout adjustable delay from 0.1-15 sec
- Overfrequency sensing for dropout adjustable from 105-115% of nominal and dropout adjustable delay from 0.1-15 sec

Timers

- Control provides transfer time delays including Time delay engine start (0-3600 sec), time delay normal to emergency (0-300 sec) and programmed transition delay (0-600 sec). impending failure.

- **Cranking lockout** - The control will not allow the starter to attempt to engage or to crank the engine when the engine is running.

- Control provides retransfer time delays including time delay emergency to normal (0-1800 sec) and programmed transition delay (0-600 sec), time delay engine cooldown (0-3600 sec)

Protective functions:

On operation of a protective function, the control will indicate a fault by illuminating the appropriate status LED, as well as display the fault code and fault description on the LCD. The nature of the fault and time of occurrence are logged in the control. The service manual and InPower™ Service Tool provide service keys and procedures based on the service codes provided. In Power is used to configure settings.

Configurable alarm input

The control accepts maximum three alarm inputs (contact closed to ground) to cause a shutdown or warning response from the control.

Emergency stop

- Annunciate whenever an emergency stop signal is received from external switch.

Engine protection

- **Low lube oil pressure warning/shutdown** - Level is pre-set to match the capabilities of the engine used. Control includes time delays to prevent nuisance shutdown signals.
- **High coolant temperature warning/shutdown** - Level is pre-set to match the capabilities of the engine used. Control includes time delays to prevent nuisance shutdown signals.
- **Low coolant temperature warning** - Indicates that engine temperature may not be high enough for 1 min. and start or proper load acceptance.
- **Sensor failure indication** - Logic is provided on the base control to detect analog sensor or interconnecting wiring failures.

General engine protection:

Low Fuel Level Warning - Indicates that engine fuel level reached the Low Fuel Level Warning Threshold (30% by default).

Charging Alternator Failure Warning - Indicates that engine charging alternator voltage reached the low/high charging alternator threshold when charging alternator enable trim is enabled.

- **Low and high battery voltage warning** - Indicates status of battery charging system (failure) by continuously monitoring battery voltage.
- **Weak battery warning** - The control will test the battery each time the generator set is signaled to start and indicate a warning if the battery indicates

- **Fail to start shutdown** - The control will indicate a fault if the generator set fails to start by the completion of the engine crack sequence.

ALTERNATOR PROTECTION

Battleshort Mode

- When enabled and Battle short switch is active, the control will allow non-critical shutdown faults to be bypassed. If a bypass shutdown fault occurs, the fault code and description will still be annunciated, but the genset will not shutdown. This will be followed by a fail to shutdown fault. Emergency stop critical shutdown faults are not bypassed.

Please refer to control service and operator manual for list of critical faults

High AC voltage shutdown (59)

- Output voltage on any phase exceeds pre-set values. Values adjustable from 105-125% of nominal voltage, with time delay adjustable from 1-10 seconds. Default value is 110% for 5 seconds.

Low AC voltage shutdown (27)

- Voltage on any phase has dropped below a preset value. Adjustable over a range of 50-95% of voltage, time delay 2-20 seconds. Default value is 90% for 5 seconds.

Under frequency shutdown (81 u)

- Generator set output frequency cannot be maintained. Settings are adjustable from 2-10 Hz below nominal governor set point, for a 500-2000 half cycles delay. Default: 5 Hz, 1000 half cycles.

Over frequency shutdown/warning (81 o)

- Generator set is operating at a potentially damaging frequency level. Settings are adjustable from 2-10 Hz above nominal governor set point for 100-2000 half cycles delay. Default: 5 Hz, 1000 half cycles.

Loss of sensing voltage shutdown

- Shutdown of generator set will occur on loss of voltage sensing inputs to the control.

Current Imbalance Warning Fault

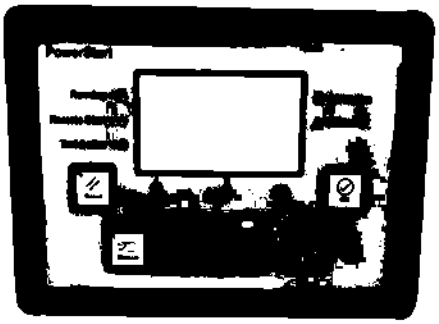
- Issues warning when current imbalance is observed per phase when genset is in running state.

High Current warning/shutdown (51)

- Implementation of the thermal damage curve with instantaneous trip level calculated based on current transformer ratio and application power rating.

Auto Mains Failure Protections:

- Breaker/ATS Switch fail to close warning - when the control signals a ATS switch to close, it will monitor the ATS switch feedback contacts and verifies that switch is closed. If the control does not sense ATS switch closure within an adjustable time period of ter the close signal, the fail to close warning will be initiated.
- Breaker/ATS Switch fail to open warning - when the control signals a ATS switch to open, it will monitor the ATS switch feedback contacts and verifies that switch is opened. If the control does not sense ATS switch opened within an adjustable time period after the open signal, the fail to open warning will be initiated.



Environment

The control is designed for proper operation without recalibration in ambient temperatures from -15 °C (5 °F) to +70° C (158 °F), and for storage from -20 °C (-4 °F) to +80 °C (176 °F). Control will operate with humidity up to 95%, non-condensing.
The control board is conformal coated to provide resistance to dust and moisture. The single membrane surface, which is impervious to effects of dust, moisture, oil and exhaust fumes. This panel uses a sealed membrane to provide long reliable service life in harsh environments. The control is specifically designed and tested for resistance to RFI/EMI and to resist effects of vibration to provide a long reliable life when mounted on a generator set. The control includes transient voltage surge suppression to provide compliance to referenced standards.

FIELD CONTROL INTERFACE

Input signals to the control include:

- configured to AMF specific outputs (Utility/ Genset CB Open/ Close driver) when Auto mains failure is enabled.

Communications connections include:

Control provides one RS-485 port which can be used either for PCTool interface or Modbus master interface based on protocol selection from LCD or Inpower™.

- Modbus RS485 port: Allows the control to communicate with external devices such as PLCs using Modbus protocol.
- PC tool interface: This RS-485 communication port allows the control to communicate with a personal computer running InPower™ software.
- Note — An RS-485 or USB to RS-232 converter is required for communication between control and PC.

Software

InPower (beyond 11.5.2.0 version) is a PC-based software service tool that is designed to directly communicate to Power Start generator sets and transfer switches, to facilitate service and monitoring of these products.

Certifications

PowerStart meets or exceeds the requirements of the following codes and standards:

- Remote start
- Emergency stop
- Configurable customer inputs:

Control includes (1 Control includes 3 input signals which can be configured for diagnostic inputs. Out of which 1st input can also be configured as Battle short input. 2nd and 3rd inputs gets configured to Utility CB status and Genset CB status when Auto mains failure is enabled.)

Output signals from the control include:

Control includes 6 configurable outputs which can be configured to Diagnostic Output, Glow Plug, Ready to load, L series governor.
Configurable output 3, Configurable output 4, Configurable output 5 and Configurable output 6 get

- CE marking: The control is suitable for use on generator sets to be CE-marked. EN 50081-1,2 residential/light industrial emissions or industrial emissions.
- EN 50082-1,2 residential/light industrial or industrial susceptibility.
- ISO 7637-2, level 2; DC supply surge voltage test.
- PowerStart control and generator sets are designed and manufactured in ISO 9001 certified facilities.

Warranty

All components and subsystems are covered by an express limited one year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available.

Ratings definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

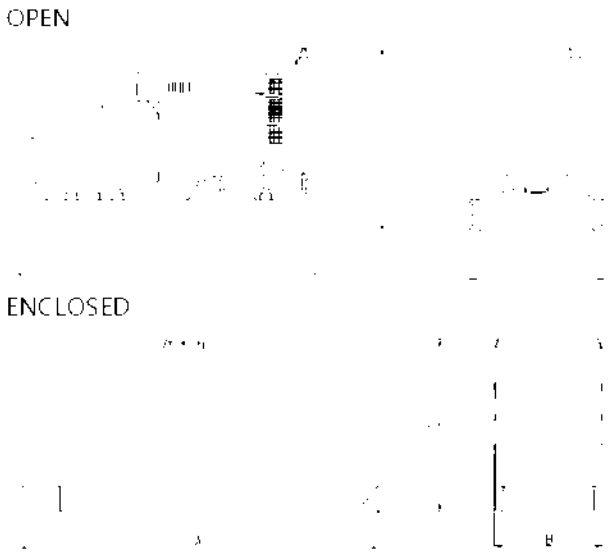
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is to provide representative configuration details for Model series only.

See respective model data sheet for specific model outline drawing number.

Do not use for installation design

	Open					Enclosed				
Model	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg
~~C17 D5~~	~~1667~~	~~930~~	~~1282~~	~~622.5~~	~~644.5~~	2082	987	1524	942.5	964.5
C22 D5	1667	930	1282	650.5	672.5	2082	987	1524	970.5	992.5
C28 D5	1667	930	1282	694.3	716.3	2082	987	1524	1014.3	1036.3
C12 D6	1667	930	1282	601.5	623.5	2082	987	1524	921.5	943.5
C16 D6	1667	930	1282	633.5	655.5	2082	987	1524	953.5	975.5
C20 D6	1667	930	1282	633.5	655.5	2082	987	1524	953.5	975.5

* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

ISO 9001	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.	CE	The 50 Hz generator sets are available with CE certification.

JAPAN TIME: Nov / 26 / 2019 07:17 AM (JST)

Hi Your Name

tradecarview tradecarview Sign up Log in +81 3 4570 4354 Language English Currency USD

Search from Stock Useful Links Need Help

Vehicle: Note this is the same quote as used to compare the rental car option to the purchase option

tradecarview™

Japan's largest online used car marketplace.

Need Help?

Japan Used Car > Toyota > Land Cruiser Prado > 2018 > Toyota Land Cruiser Prado 2018







Specific Information Option Seller's Information Catalog

Specific information

VIN (vehicle certification Number) /Serial No	TRJ150-0084***	Full VIN/Serial No will be shown on Proforma Invoice and Invoice
Model Code	TRJ150W	
Registration Year / Month	2018/03	

2018 Toyota Land Cruiser Prado

TX

TOYOTA LAND CRUISER PRADO TX 4WD

24,205 km | Automatic | No Accident Gasoline/Petrol 2,700cc

STOCK 1 inquiries for this car

Car Price (FOB) **US$32,216**

Estimated Total Price **US$34,098**

*The price is not fixed. Let's try to negotiate!

Selected C&F + Pre-ship inspection

Nearest port DAR ES SALAAM

Change destination

1 Click "Send" for free inquiry

Contact syuei trading ( )

I want to negotiate the best price

I want to know the shipping schedule

I want to know about the condition of the car

★ Add to Favorite

Send

If you do not have a login ID, please register for free first

I want to receive special promotions by emails

By clicking 'Send' button, you agree to the following terms

> Tradecarview Terms of Use

> Privacy Policy

Manufacture Year / Month	Confirm with the Seller
Mileage	24,200 km
Transmission	Automatic
Engine Capacity (Displacement)	2,700cc
Fuel	Gasoline/Petrol
BodyStyle1	SUV
BodyStyle2	-
Steering	Right
Exterior Color	Black
Interior Color	Black
Drive Type	4wheel drive
Door	5
Number of Seats	5
Dimension	476cm×189cm×185cm=16.64m³
Condition	Used
ID	5/2150 191124120615
Remarks (Any Problems)	-
Comment	Very clean interior Looks & runs great Low mileage
Expiry Date	Dec / 24 / 2019 (JST)



Options

Safety

Driver Airbag	**Anti-Lock Brakes**	**Passenger Airbag**	Alarm
Side Airbag			

Comfort

Power Steering	**A/C:front**	**Remote Keyless Entry**	Navigation System
A/C:rear	**Cruise Control**	**Digital Meter**	**Tilt Steering**

Sound System

CD Player	AM/FM Radio	AM/FM Stereo	DVD
CD Changer	Aftermarket Speaker	Hard Disc	Satellite Radio

Windows

Power Windows	**Rear Window Defroster**	**Tinted Glass**	**Rear Window Wiper**

Other Features

Power Door Locks	**Alloy Wheels**	**Power Mirrors**	Sunroof
Third Row Seats	Power Slide Door		

Other selling points

No Accident history	**Maintenance Records Available**		**One Owner**
New Tires	**Non-Smoker**	Fully Loaded	Performance Tires
Turbo	Upgraded Sound System	Custom Wheels	**Repainted Car**

Seat

Leather Seats	Power Seats	Child Seat	Bucket Seat

HummingbirdIRB payments are made every 6 months 1/2

Hummingbird IRB
c/o NEIRB, 197 1st Avenue, Suite 250
Needham, MA 02494 US
(855) 447-2123
ddennett@hummingbirdirb.com
http://hummingbirdirb.com

BILL TO
Melinda Rostal
EcoHealth Alliance (2)
460 West 34th Street - 17th floor
New York, NY 10001

INVOICE # 1088
DATE 12/16/2015
DUE DATE 12/31/2015
TERMS Net 15

Continuing Review (phase II-IV) Continuing Review for Sponsor: Defense Threat Reduction Agency, Investigator: William Karesh, D.V.M.	1	1,000.00	1,000.00

PAID

Thank you for your business.

PAYMENT 1,000.00
BALANCE DUE **$0.00**

HummingbirdIRB payments are made every 6 months 2/2

Hummingbird IRB
c/o NEIRB, 197 1st Avenue, Suite 250
Needham, MA 02494 US
(855) 447-2123
ddennett@hummingbirdirb.com
http://hummingbirdirb.com

BILL TO
Emily Hagan
EcoHealth Alliance
460 West 34th Street - 17th floor
New York, NY 10001

INVOICE # 1065
DATE 06/17/2016
DUE DATE 07/02/2016
TERMS Net 15

Initial Review (Phase II-IV) New Investigator (Karesh) & Site - Hummingbird IRB #2014-25/Defense Threat Reduction Agency - 2nd installment	1	1,000.00	1,000.00

PAID

Thank you for your business.

PAYMENT 1,000.00
BALANCE DUE **$0.00**

Ethical Clearance in Tanzania

For KCMC application the following is required:

1/ Pay Slip (500$ if it is an Ordinary study / 700 $ if it is a Clinical Trial.)
2/ Cover letter
3/ Application Form - CRERC FORM 2
4/ Full Protocol
5/ Questionnaires / Informed Consent forms (in English and Swahili)
6/ Investigators CVs - CRERC FORM 13

For NIMR application the following is required: (see next page)

1/ Pay Slip (600 USD if it is an Ordinary study / 2,100 USD if it is a Clinical Trial)
2/ Cover letter
3/ NIMR Application Form
4/ KCMC EC - Approval Certificate. (Approval from international collaborating institution if applicable)
4/ Full Protocol
5/ Investigators CVs - CRERC FORM 13
6/ Letter from RMO
7/ Material Transfer Agreement (if samples will be transferred)
8/ Data Transfer Agreement (if data will be transferred)
9/ Informed Consent forms (in English and Swahili)
10/ Questionnaires (in English and Swahili)

Please make sure to use the following format while preparing the submission to KCMC and NIMR:

1. Abstract
2. Introduction
3. Literature review
4. Problem statement
5. Rationale of the study
6. Broad Objective and specific objectives should clearly be stipulated
7. Methodology which should include 1. Study design, study area, study population, inclusion and exclusion criteria, sample size and sample size techniques, data collection methods and tools, study variables
8. Ethical considerations and limitation of the study
9. Dissemination of the results
10. The budget **(and Budget justification)** should have 10% - 25% overhead costs

National Health Ethics Review Committee (NatHREC)
Payment Rates as from October 2013

	TANZANIAN TSHS	**INTERNATIONAL US$**	**TANZANIAN TSHS**	**INTERNATIONAL US$**
Registration Fee	100,000.00	100	100,000.00	100
Clearance for Health Research Proposal (Ordinary)	300,000.00	500	150,000.00	250
Clearance for (Clinical Trial)	2,000,000.00	2,000	1,000,000.00	750
Renewal of Ethical Approval (Ordinary)	100,000.00	100	100,000.00	100
Renewal of (Clinical Trial)	200,000.00	200	200,000.00	200
Expedited Review (Ordinary)	600,000.00	1,000	-	-
Expedited Review (Clinical Trial)	3,000,000.00	4,000	-	-
Amendment (Ordinary)	200,000.00	300	100,000.00	150
Amendment (Clinical Trial)	500,000.00	500	250,000.00	250

- Always indicate the name of Principal Investigators and please attach the Deport Slip to your proposal on submission to the Secretariat National Ethics Review Committee

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF RESEARCH CLEARANCE AND PERMIT AT COSTECH

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	**Foreigners Affiliated to Local Research and Higher Learning Institutions**	**Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)**
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	50 USD	50 USD
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to apply for permit by presenting a proof of payment of research permit fees (300 USD) and three passport size photos.

b) All researchers granted research permit that involve collecting human, plant or animal materials / data that will be exported outside Tanzania must submit a signed Material Transfer Agreement (MTA) / Data Transfer Agreement (DTA) between Tanzania host institution and the foreign counterpart. The MTA/DTA will indicate terms for collecting, storing/managing, transporting, disposal or returning of the materials/DATA to Tanzania after the closure of the research project.

c) An Applicant who has been permitted to conduct research in Tanzania is obliged to submit soft and **two (2) hard copies** (printed) and soft copy of his/her research report /thesis with COSTECH on completion of research.

d) COSTECH will have an access to data and research premises of the permitted research projects.

e) A Principal Investigator (PI) permitted to conduct research in Tanzania is obliged to submit a quarterly/annually report.

f) Persons who have not submitted satisfactory final reports / thesis on previous research work in Tanzania may not be cleared for new projects. Attention will be drawn to the sponsoring institutions and referees on shared responsibility of making sure that researchers sponsored by them observe the foregoing regulations. A breach of the regulations could result in refusal of permits for other researchers sponsored by same institutions or referees.

g) Any patent or intellectual property and royalty emanating from any research approved by the National Research Registration Committee (NRRC) should be owned by the respective research institutions involved.

T218296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number:	99433080011101
Service Provider Code:	SP433
Payer Ref:	(b)(6)
Address:	DAR ES SALAAM
Payer Phone:	255754456555

General Description

Research fee for Data Bankester to undertake its research Project: Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
Research Fees/Ada TZ	1	3,800.00	3,800.00
Research Permit for Non-Tanzanians	1	200.00	200.00

Total: 3,800.00 USD

Amount in Words: Three Thousand Eight Hundred

Issued On:	20/04/2022 13:31:31
Expires On:	20/04/2023 23:59:59
Printed By:	(b)(6)
Printed On:	(b)(6)
Signature:	

(b)(6)

How to Pay

Use any Bank, Post Office or Mobile Money Agent to pay Bill. Use Control Number 99433080011101

Pay to Bank Account: TSHS or

- Bank Name: CRDB Bank PLC
- Branch: Corporate
- Bank's Name: CRDB Bank PLC
- Payer: 99433080011101 (b)(6)

Pay to Mobile Money Account: TSHS

- Select Mobile Money Service Provider: M-PESA
- Select Service: Lipa Kwa Simu
- Enter 99433080011101 (b)(6)

Supplies for Y3 Workshops

Cart

Account: 884930003 EcoHealth Alliance

Item	Price	Qty	Subtotal
Eppendorf Tubes™ 5.0mL with Screw Cap Catalog number 13-864-407 **by Eppendorf™** **0030122321** **Temperature Range (Metric): -86°C to 100°C, Color: Clear, Clean Claims: Pyrogen-, Dn...**	**$93.00 / Each**	3	**$279.00**
	On Order (3) - Estimated delivery 12/23/2019		
Pierce™ 96-Well Microplates Catalog number PI15042 **by Thermo Scientific™** **15042** **Description: Pierce 96-Well Polystyrene Plates, White Opaque**	**$138.40 / Pack of 25**	2	**$276.80**
	Ships from manufacturer - Usually Ships in 1 Business Days		
ART™ Barrier Specialty Pipette Tips Catalog number 21-402-185 **by Thermo Scientific™** **2770** **Tip Style: Ergonomic, Volume (Metric): 200µL, Compatibility: Thermo Scientific™ Finnp...**	**$191.70 / Pack of 960** **$846.00 / Case of 5 PK**	1	**$191.70**
	In Stock (1) - Estimated delivery 11/29/2019		

Order Summary

Subtotal	$1,413.60
▲ Shipping and Handling *	$105.59
Shipping fuel surcharge	$4.45
Shipping charge	$101.14
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this?| missing translation for 'faq'

Item	Price	Qty	Subtotal
ART™ Barrier Specialty Pipette Tips Catalog number 21-236-85 **by Thermo Scientific™ 2279** **Tip Style: Ergonomic, Volume (Metric): 1000µL, Compatibility: Thermo Scientific™ Finn...**	**$227.00 / Pack of 800** **$839.00 / Case of 4 PK**	1	**$227.00**
	In Stock (1) - Estimated delivery 11/29/2019		
ART™ Non-Filtered Standard Hinged Rack Pipette Tips Catalog number 13-811-159 **by Thermo Scientific™ 310105HR** **Volume (Metric): 1000µL, Description: ART Non-filtered Low Retention, Sterility...**	**$129.10 / Pack of 768** **$471.00 / Case of 4 PK**	1	**$129.10**
	On Order (1) - Estimated delivery 12/05/2019		
Fisherbrand™ Sure One™ Low Retention Non-Filtered Pipette Tips, 200 µL, Standard Length Catalog number 02-707-019 **Packaging: Hinged Rack, Sterility: Sterile**	**$79.00 / Pack of 960** **$356.00 / Case of 5 PK**	2	**$158.00**
	On Order (2) - Estimated delivery 01/03/2020		

Item	Price	Qty	Subtotal
Fisherbrand™ Sure One™ Low Retention Non-Filtered Pipette Tips, 10 µL, Micro Length Catalog number 02-707-011 **Packaging: Hinged Rack, Sterility: Sterile**	**$76.00 / Pack of 960** **$342.00 / Case of 5 PK**	2	**$152.00**

On Order (2) - Estimated delivery 01/03/2020

Add all items to a list

Open Access Publication Fees

Why Researchers Choose PLOS ONE
Scope
Criteria for Publication
Peer Review at PLOS ONE
Ready to Submit?
Contact
Give Feedback

See all Calls for Papers and learn more about publishing in a Collection.

Criteria for Publication

1. The study presents the results of original research.
2. Results reported have not been published elsewhere.
3. Experiments, statistics, and other analyses are performed to a high technical standard and are described in sufficient detail.
4. Conclusions are presented in an appropriate fashion and are supported by the data.
5. The article is presented in an intelligible fashion and is written in standard English.
6. The research meets all applicable standards for the ethics of experimentation and research integrity.
7. The article adheres to appropriate reporting guidelines and community standards for data availability.

PLOS ONE encourages researchers to share early versions of their manuscripts via preprint server, either before or after submission; posting to a preprint server will not preclude consideration of your manuscript.

Peer Review at PLOS ONE

PLOS ONE is a fully peer reviewed journal with a rigorous multi-stage editorial screening and assessment process.

First, we undertake an initial in-house quality check to identify potential issues such as competing interest, compliance with ethical standards for studies involving human and animal subjects, financial disclosures, data availability, and other scientific and policy requirements. Submissions may be returned to authors for changes or clarifications at this stage.

After passing quality control, each manuscript is placed with a member of the Editorial Board who conducts peer review and makes the decision to accept, invite revision, or reject the submitted manuscript. Read the detailed Editorial and Peer Review Process overview.

Ready to Submit?

Submission Guidelines | Submission System

About

Publication fees

PLOS ONE publication fees are US$1595 per manuscript and will be billed upon acceptance. Authors' ability to pay publication fees will never be a consideration in the decision whether to publish. Read more about publication fees and publication fee support.

Indexing and archiving

See publishing details for all PLOS journal titles, including ISSN and indexing and archiving information.

PLOS

PLOS is a nonprofit Open Access publisher, innovator and advocacy organization with a mission to advance progress in science and medicine by leading a transformation in research communication.

Contact

Visit the Contact page for details about whom to contact with different queries.

Give Feedback

Software Fees

Quotation

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

Quote #	115815
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Quote Date	8/19/2019
Expires	8/26/2019

Sales Rep: Tom Haven
tom.haven@ccbtechnology.com
p. (800) 342-4222

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Megan Walsh
460 W 34th St Fl 17
New York, NY 10001-2317
UNITED STATES
(212) 380-4460
walsh@ecohealthalliance.org

Adobe subscription renewal			Electronic Delivery

25	Adobe Acrobat Pro DC for Teams 12 month subscription renewal	$177.00	$4,425.00	2019-09-18	2020-09-17	
15	Adobe Creative Cloud for Teams 12 month subscription renewal	$370.00	$5,550.00	2019-09-18	2020-09-17	

Sub Total:	$9,975.00
Shipping and Handling:	$0.00
Tax Rate: (0.08875)	$0.00
Total	**$9,975.00**

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

Price is subject to change based on potential fluctuation of trade tariff regulation.

Dropbox Inc.
333 Brannan Street
San Francisco, CA 94107
United States
billing-support@dropbox.com

Invoice for EcoHealth Alliance

TO	DATE	INVOICE ID
Megan Walsh walsh@ecohealthalliance.org 10001 United States	February 25, 2019 6:50 AM GMT	SLSWTLNSKN5J

PRODUCT	PRICE	DISCOUNT	AMOUNT
Dropbox Business Advanced Plan (includes 3 licenses) + 60 Additional Licenses + Unlimited API Call Rate Limit + Unlimited Extended Version History (2/25/2019 to 2/25/2020)			
Dropbox Business Advanced Plan (includes 3 licenses)	$600.00	30%	$420.00
60 Additional Licenses	$12,000.00	30%	$8,400.00
Unlimited API Call Rate Limit	$0.00	30%	$0.00
Unlimited Extended Version History	$0.00	30%	$0.00
Total			$8,820.00

All amounts shown are in USD.

Clarivate
Analytics

Clarivate Analytics
Philadelphia, PA 19130
1500 Spring Garden Street, Suite 400
Philadelphia, PA 19130

To: Megan Walsh, Department Head, EcoHealth Alliance

Re: Your EndNote X9 Upgrade License Quote

Sent by e-mail: 10/16/2018

Thank you for your interest in our products. Please accept this letter (via e-mail) as our quote for Endnote X9.

License Type	Total Users	Total Price (excludes state tax, if applicable)
Endnote X9 Upgrade License (US$99.95 each)	40	US$3,998.00

Promotional Pricing Valid 11/16/2018

Purchasing Instructions:
If applicable, send (b)(6) your institution's Tax-Exempt Certificate for your state's tax to be excluded from your order

Contact (b)(6) at (b)(6) or (b)(6) to receive EndNote.

Premium access to EndNote Web – **Free**
Training and support - $0.00 – **Free**
Shipping – Digital Download - $0.00 – **Free**

You may place your order on a purchase order (terms are Net 30), by check/money order drawn on a U.S. bank or Visa/MasterCard/American Express.

Regards,

(b)(6)
Account Manager
(b)(6)

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

Invoice IN88282-1

Order #	88282
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Invoice Date	4/11/2018
Due Date	5/11/2018

Sales Rep: Tom Haven
tom.haven@ccbtechnology.com
p. (800) 342-4222

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
walsh@ecohealthalliance.org
(212) 380-4462

CCB Technology
Accounts Receivable
2823 Carlisle Ave.
Racine, WI 53404
(800) 342-4222

(10) Office 2016 Standard Edition licenses	Per Phone	

1	Microsoft Corporation	021-10552	10	Microsoft Office 2016 Standard Edition license	$94.00	$940.00

Sub Total:	$940.00
Shipping and Handling:	$0.00
Tax Rate: (0.00000)	$0.00
Total	**$940.00**
Credits/Payments:	$0.00
Total Due:	**$940.00**

Shipping Location

1	EcoHealth Alliance Megan Walsh 460 W 34th St Fl 17 New York, NY 10001-2317 UNITED STATES (212) 380-4460 walsh@ecohealthalliance.org	10	$940.00

Shipping Detail

4/10/2018	Microsoft Corporation	021-10552	

Tracking Numbers

4/10/2018	Other	*VIRTUAL (Unrecognized Number)*

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

Fringe Benefits Allocation Policy

Compensated absences, including vacations, sick, holidays and personal days are considered salaries and wages and, as such, are recorded as salaries and wages when used.

No separate claims are made for those costs under fringe benefits costs category. Compensated absences earned, but not used, are not carried over to the next fiscal year. There is a grace period of using the earned compensated absences by September 30.

All employees are covered for Social Security, NYC commuter taxes, payroll transit taxes, Worker's compensation insurance and unemployment.

Employees working 35 hours or more per week are eligible:

- Health Insurance, including medical, dental and vision;
- Life Insurance;
- 403(B) pension plan (After nine (9) months of employment);
- Short and long term disability.

Employees working more than 20 hours but less than 35 hours per week are eligible for the following fringe benefits:

- Life Insurance;
- Short-Term/long-Term Disability;
- 403(B) pension plan (After nine (9) months of employment).

Fringe Benefits are tracked by employees and charged directly or indirectly in the same manner as employees' salaries and wages.

Although, the costs principles policy for fringe benefits has not changed, effective fiscal year 2020 starting July 1, 2019, EcoHealth Alliance no longer negotiates a fringe benefits rate with the Department of Defense.

For funding proposals, fiscal year 2019 actual data will be used to budget fringe benefit costs. For billing, invoicing and reporting purposes to federal and non-federal donors the actual benefits will be allocated and requested.

ECOHEALTH ALLIANCE, INC.
YEAR ENDED JUNE 30, 2019

Schedule of Fringe Benefits

Categories		Amount	
Salaries and Wages	**$**	**4,426,650**	**A**
Fringe Benefits			
Health Insurance		782,523	
Health Insurance payments in lieu of benefit		11,898	
Vision Care		2,509	
Washington DC Family Leave Ins		218	
Washington Unemployment Insurance		133	
Life Insurance ST/LT Disability/Dental		121,563	
NYS Unemployment Ins (NYSUI)		9,483	
NYS Disability Insurance		2,276	
Pension Expense		305,704	
Tuition Reimbursement expense		12,834	
NYS Commuter Tax		14,145	
Payroll Transit Tax - Federal		12,734	
Payroll Transit Tax New York		5,457	
FSA Fees		32,723	
Social Security Employor Expense		295,392	
Washington DC Unemployment Tax		243	
Workers Compensation		19,173	
Total	**$**	**1,629,007**	**B**
Frindge Benefits Rate	**%**	**36.80**	**B/A**

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
875 NORTH RANDOLPH STREET
SUITE 1425
ARLINGTON, VA 22203-1995

Agreement Date: July 17, 2019

NEGOTIATION AGREEMENT

INSTITUTION: **ECOHEALTH ALLIANCE, INC.**
460 WEST 34TH ST. 17TH FLR
NEW YORK, NY 10001-2320

The Indirect Cost rate contained herein is for use on grants, contracts and/or other agreements issued or awarded to the EcoHealth Alliance, Inc. by all Federal Agencies of the United States of America, in accordance with the provisions and cost principles mandated by 2 CFR Part 200. The rate shall be used for forward pricing and billing purposes for the EcoHealth Alliance, Inc. Fiscal Year 2020. This rate agreement supersedes all previous rate agreements/determinations for Fiscal Year 2020.

Section I: RATES - TYPE: PROVISIONAL (PROV)

Indirect Rates:

TYPE	FROM	TO	RATE	BASE	APPLICABLE TO	LOCATION
Prov.	07/01/19	06/30/20	32.0%	(a)	All	All

DISTRIBUTION BASES

(a) Total direct costs excluding capital expenditures (buildings, individual items of equipment; alterations and renovations), the portion of each subaward in excess of $25,000, participant support costs, and flow-through funds.

SECTION II - GENERAL TERMS AND CONDITIONS

A. **LIMITATIONS:** Use of the rate set forth under Section I is subject to availability of funds and to any other statutory or administrative limitations. The rate is applicable to a given grant or contract or other agreement only to the extent that funds are available. Acceptance of the rate agreed to herein is predicated upon the following conditions: (1) that no costs other than those incurred by the organization were included in this indirect cost pool as finally accepted and that such costs are legal obligations of the organization and allowable under governing cost principles; (2) that the same costs that have been treated as indirect costs are not claimed as direct costs; (3) that similar types of costs have been accorded consistent accounting treatment; and (4) that the information provided by the organization which was used as a basis for acceptance of the rate agreed to herein, and expressly relied upon by the Government in negotiating and accepting the said rate is not subsequently found to be materially incomplete or inaccurate.

B. **ACCOUNTING CHANGES**: The rate contained in Section I of this agreement is based on the accounting system in effect at the time the agreement was negotiated. Changes to the method(s) of accounting for costs, which affect the amount of reimbursement resulting from the use of the rate require the prior written approval of the authorized representative of the cognizant agency for indirect costs. Such changes include but are not limited to changes in the charging of a particular type of cost from indirect to direct. Failure to obtain such approval may result in subsequent cost disallowances.

C. **PROVISIONAL RATES:** The provisional rate contained in this agreement is subject to unilateral amendment by the Government or bilateral amendment by the contracting parties at any time.

D. **USE BY OTHER FEDERAL AGENCIES**: The rate set forth in Section I is negotiated in accordance with and under the authority set forth in 2 CFR Part 200. Accordingly, such rate shall be applied to the extent provided in such regulations to grants, contracts, and other agreements to which 2 CFR Part 200 applies, subject to any limitations in part A of this section. Copies of this document may be provided by either party to other federal agencies to provide such agencies with documentary notice of this agreement and its terms and conditions.

E. **SPECIAL REMARKS**: The Government's agreement with the rate set forth in Section I is not an acceptance of the EcoHealth Alliance, Inc.'s accounting practices or methodologies. Any reliance by the Government on cost data or methodologies submitted by EcoHealth Alliance, Inc. is on a non-precedence-setting basis and does not imply Government acceptance.

Accepted:

FOR ECOHEALTH ALLIANCE, INC.:	FOR THE U.S. GOVERNMENT:
ARMINE ARUSTAMYAN	(b)(6)
Chief Financial Officer	Contracting Officer
07-17-19	7/17/19
Date	Date

For information concerning this agreement contact:

(b)(6)
Office of Naval Research
875 North Randolph Street
Arlington, VA 22203-1995

Phone (b)(6)
E-mai

APHA 2019 REGISTRATION FEES

Meals are not included in registration fees

Full Conference Registration Member perks! Members save up to $100 more on registration!	Early-Bird Aug. 8	Advance Sept. 12	Final After Sept. 12	Membership Dues
Regular Member	$546	$606	$665	$225
Company/Consultant Individual~	$546	$606	$665	$145
Agency Individual+	$546	$606	$665	$70
Discounted Regular (salary < $45,000)	$337	$372	$407	$110
Retired	$337	$372	$407	$100
Student*	$247	$282	$292	$85
Early-Career Professional**	$345	$390	$435	$135
Non-Member	$871	$931	$990	
Non-Member Student	$382	$417	$427	
Guest (Non-Public Health)***	$345	$380	$415	

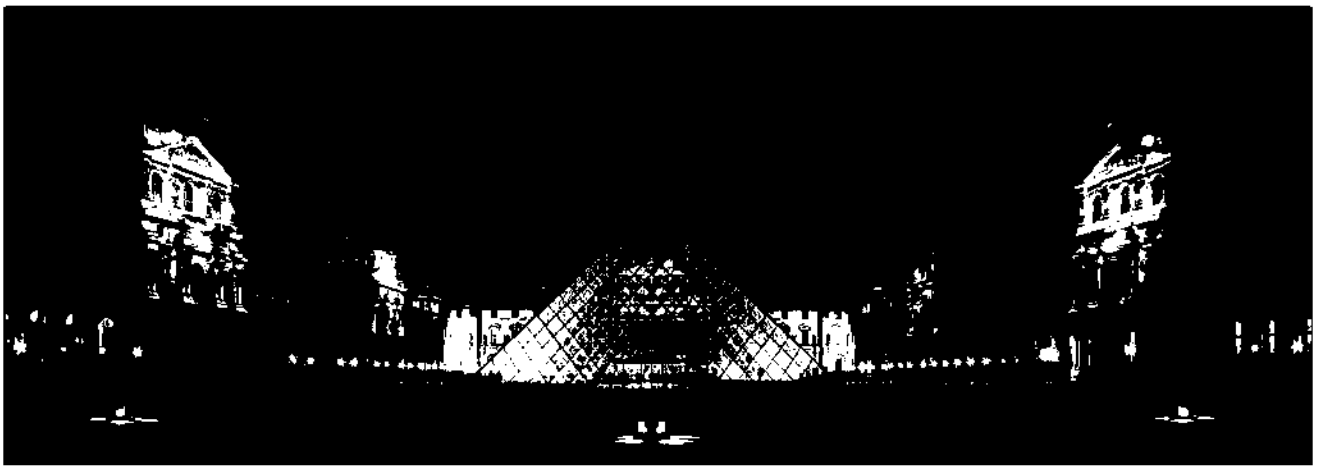
Example of cost of registration for domestic conference APHA it is either $546 + $225 or $871 - we used the former for our budget.

Example of cost of flight costs for domestic conference APHA.



ICEID 2020: 14. International Conference on Epidemiology and Infectious Diseases

July 20-21, 2020 in Paris, France



Conference Code: **20FR07ICEID**

Submit Your Paper | Author Registration | Listener Registration

About | Call For Papers | Important Dates | Committees | Registration Fees | Conference Photos | Flyer | Program

Participation Type	Early Registration Fees	Registration Fees
Non-Student Oral/Poster Presenter Registration	€ 450	~~€ 500~~
Student Oral/Poster Presenter Registration	€ 350	~~€ 400~~
Listener Registration	€ 250	~~€ 300~~
Additional Paper Publication	€ 100	

All conference materials and services will be delivered digitally to the participant with the online conference management system. Conference registration includes the following digital materials and services:

- e-certificates [for Authors: Certificate of Attendance and Presentation; for Listeners: Certificate of Attendance; for Chairs: Certificate of Attendance and Appreciation; for Presenters: Certificate of Best Presentation (if conferred based appraisal)]
- e-program
- e-book
- e-name badge
- e-receipt
- e-presentation

Presentation Types:

- **Physical presentation** is an oral conferencing presentation that is made using digital technology including embedded digital elements (texts, tables, graphs, or videos) for PowerPoint sharing.
- **Digital presentation** is a digital conferencing presentation that is made using digital technology including embedded digital elements (texts, tables, graphs, or videos) for PowerPoint sharing.

Early Bird Registration

Early Bird registration is valid until **2020-06-19 23:59:59**

Online Credit Card Processing

Online payment option available for author and listener delegates.
Conference participants can make online credit card payments for conference registration fees.

New York

Paris

Sat, Jan 4

Thu, Jan 9

Bags

Nonstop ×

Airlines

Travel Jan 6 10 for $540

irports

More

Best departing flights

	6:25 PM – 7:25 AM+1	7h 0m	Nonstop	
	5:29 PM – 6:35 AM+1	7h 6m	Nonstop	
	10:30 PM – 11:20 AM+1	6h 50m	Nonstop	$1,460
	5:50 PM – 7:20 AM+1	7h 30m	Nonstop	$1,480
AF 73	11:55 PM – 1:05 PM+1	7h 10m	Nonstop	$1,480

Invoice for legal services associated with an O-1 Visa

VISASERVE
Nachman, Phulwani, Zimovcak
Law Group, P.C.
Immigration and Nationality Law

Nachman Phulwani & Zimovcak
(NPZ) Law Group, P.C
487 Goffle Road
RIDGEWOOD, NJ 07450
(201) 670-0006x109
christoph_jenke@visaserve.com
http://www.visaserve.com

BILL TO
EcoHealth Alliance
460 West 34th Street
17th Floor
New York, NY 10001-2320

INVOICE # (b)(4)
DATE 12/29/2016
DUE DATE 01/28/2017
TERMS Net 30

ATTORNEY
(b)(6)

PARALEGAL
(b)(6)

O-1 Visa by EcoHealth Alliance for (b)(6)	4,500.00	4,500.00
(b)(6) Paid		
FEDEX International Shipping Charge 12/15/2016	142.26	142.26

For your convenience you can pay online at:
https://secure.lawpay.com/pages/npzlawgroup/operating

PAYMENT	4,500.00
BALANCE DUE	**$142.26**

Solo

Hotel in NYC while looking for appartment



Rates		Price per night
○ YOTEL member		
Pay later	Rate summary	$129.44
● Book now and save 30%		
Pay now	Rate summary	$133.44

Guests: 1 — Add

○ Flexible		
Pay later	Rate summary	$190.62

Premium Queen

Rates	Price per night

YOUR RESERVATION

Edit your booking

Price Check

Location:	YOTEL New York
Nights:	8
From:	Aug 01 2020
To:	Aug 09 2020
Room 1	Solo
Remove	1 x Guests
	Book now and save 30% $1067.50

Total cabin cost	$1067.50
Javits tax	$157.45
NYC sales and occupancy tax	$157.45
City and state tax	$157.45
Facility fee	$280.00
Total taxes and fees	$752.35
Total (including taxes and fees)	$1574.23

We can only hold you selected cabin(s) for twenty minutes in the online booking process, after that we will have to let them go.

Confirm Booking

Log In Sign Up Locations Tanzania - English My Profile

Search

Quick Start Tracking Shipping Services Customer Service

UPS Home > Shipping > Calculate Time & Cost

Parcel Delivery Quote

Log in and select a UPS account to receive the most accurate rate and delivery time information. Log In

Package | Freight

Print Find Locations

Please provide information about your shipment including destination, origin, shipment date, and weight. Required fields are indicated with * .

1 Where and When?

Ship To:
NEW YORK, 10001 United States
Residential

Ship From:
DAR ES SALAAM ILALA, 12101
Tanzania
Commercial

Shipment Date:
Friday 1 November 2019

Customs Value:
100 USD

Duty Type:
09 - Low value

2 Enter Detail to Show Cost

Packaging:
My Packaging
40 x 20 x 40 cm

Package Weight:
15 kg

Number of Packages:
1

Declared Value:
500 USD

Additional Resources / Tools
- Zones and Rates

Showing Results For:
DAR ES SALAAM ILALA, 12101, Tanzania to New york, 10001, United States

Service	Time	Cost (All Packages)
UPS Express Plus **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** 8:30 A.M. Tuesday 5 November 2019	513.71 USD Billable Weight: 15.0 kg View Details Ship Now
UPS Express **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** 10:30 A.M. Tuesday 5 November 2019	409.65 USD Billable Weight: 15.0 kg View Details Ship Now
UPS Express Saver **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** By End of Day Tuesday 5 November 2019	389.65 USD Billable Weight: 15.0 kg View Details Ship Now

Rate estimates are based on export rates from the origin (Ship From) country or territory.

Result estimates calculated by UPS: Friday 1 November 2019 1:15 P.M. Eastern Time (USA)

* Rate includes a fuel surcharge . For a breakdown of charges, select View Details beside each service.

Shipping costs for the move to NYC

- **Standard-sized 1st bag is free and 2nd bag fee applies when returning back to Cuba**

Charges

Region	Bag 1	Bag 2	Bag 3	Bag 4+
Domestic	$30	$40	$150	$200
Mexico	$30	$40	$150	$200
Haiti	$0	$40**/70**	$150	$200
Caribbean	$30*	$40/$70**	$150	$200
Panama	$0	$40	$150	$200
Central America (except Panama)	$30*	$40/$55**	$150	$200
Brazil	$0	$0	$150	$150
Colombia	$0/$30*	$55	$150	$200
Ecuador	$0	$40	$150	$200
Guyana	$30	$40	$150	$200
Venezuela	$0	$55	$150	$200
South America (except Brazil, Colombia, Ecuador, Guyana, and Venezuela)	$0	$0	$150	$200
Transatlantic	$0/$60^	$100	$200	$200
Transpacific	$0	$0	$200	$200

All published bag fees are base rates according to travel dates and destination; applicable taxes are not shown. Seasonal pricing applies for tickets issued on / before April 17, 2019 for travel on December 8 - 24, 2019 or for tickets issued on / after April 18, 2019 for travel on December 7, 2019 - January 12, 2020. Seasonal pricing also applies for tickets issued on / before August 19, 2019 for travel on June 15, 2020 - August 12, 2020 or for tickets issued on / after August 20, 2019 for travel on June 1, 2020 - August 19, 2020.

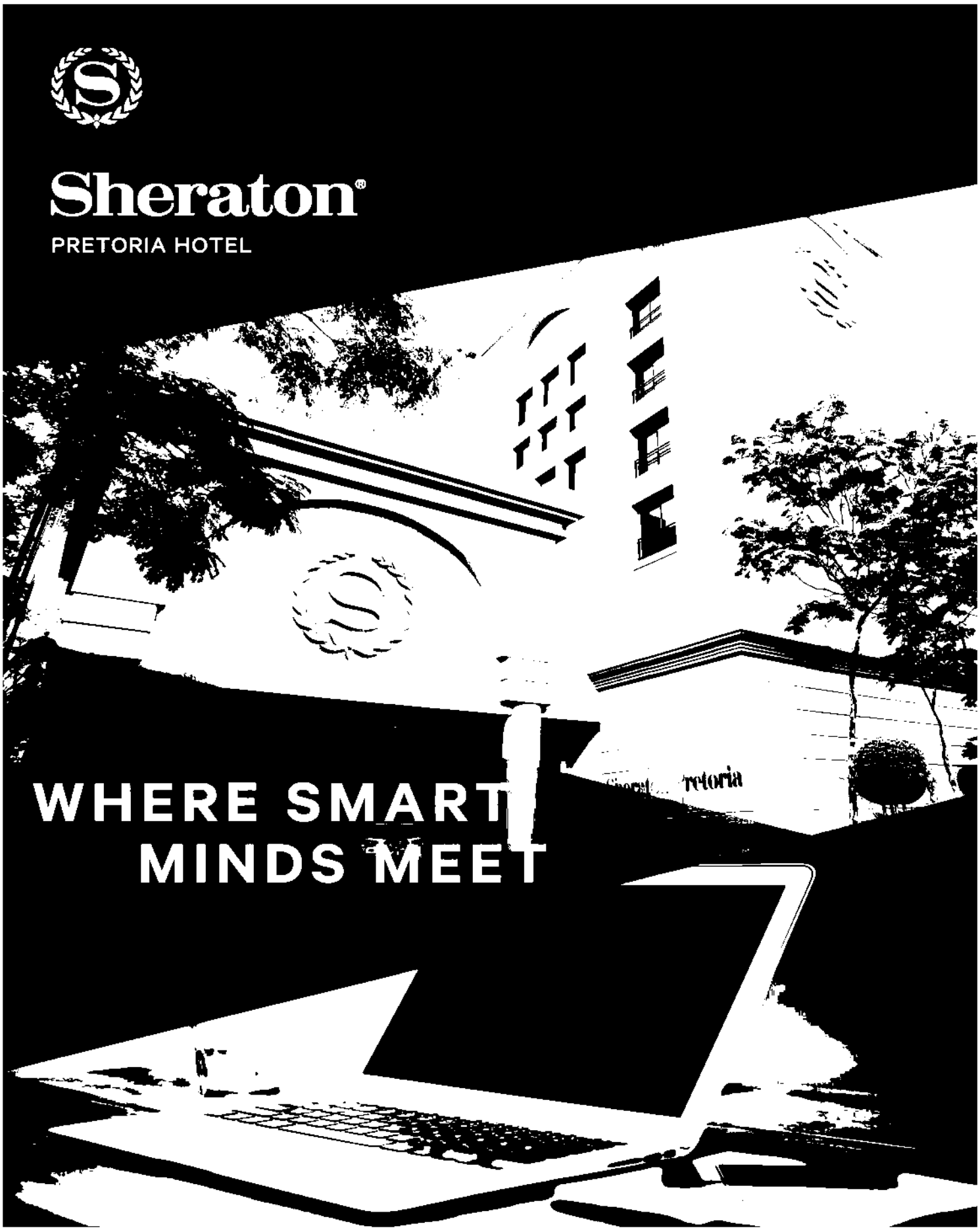
*For travel to / from El Salvador, the 1st bag fee of $30 applies seasonally. For travel to / from Cali, Colombia the 1st bag fee applies seasonally for tickets issued on or before April 2, 2019. There is no 1st bag fee to / from Cali, Colombia for tickets issued on or after April 3, 2019.

**For travel to / from Honduras, a $55 2nd bag fee applies seasonally. For travel to / from Port au Prince, Haiti a $55 2nd bag fee applies seasonally for tickets issued on / before November 12, 2018 (no seasonal increase for Cap Haitien) and a year-round 2nd bag fee of $70 applies for tickets issued on / after November 13, 2018 and for travel beginning January 14, 2019 for Port au Prince and Cap Haitien.

^$60 1st bag fee applies to Transatlantic Basic Economy tickets

Optional service fees »

Example of quote from stakeholders' meeting in Pretoria South Africa



T: +27 12 429 9999
E: groups@sheratonpretoria.com

Sheraton
PRETORIA HOTEL

Quotation

Attention:	Melinda Rostal DVM, MPH
Company:	EcoHealth Alliance
Telephone:	1.212.380.4489
Email:	rostal@ecohealthalliance.org
Quotation date:	07 October 2019

Quotation in respect of: EcoHealth Alliance

Dear Melinda,

Thank you for the opportunity and for considering the Sheraton Pretoria as a destination for your event.

I'm excited to share with you our proposal.

Attached a detailed quotation to ensure we deliver on all your goals and ideas. I'm looking forward to be working with you and should you require any additional information, please contact me directly.

Please note that no venue or rooms have been blocked off on your behalf and this quote is only valid for 48 hours.

Have an excellent day and I'm looking forward to your response.

Best regards,

(b)(6)

Sales and Marketing Coordinator

(b)(6)



T: +27 12 429 9999
E: groups@sheratonpretoria.com

Sheraton
PRETORIA HOTEL

Quotation

DATE	DAYS	PAX	DESCRIPTION	AMOUNT	DEBIT
			ACCOMODATION REQUIREMENTS		
16-21 NOV 2019	5	1	Classic King Room / Single occupancy	R1 050.00	R5 250.00
18-22 NOV 2019	4	3	Classic King Room / Single occupancy	R1 050.00	R12 600.00
19-20 NOV 2019	1	2	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R2 700.00
19-21 NOV 2019	2	1	Classic King Room / Double occupancy (Including Breakfast)	R1 750.00	R3 500.00
19-22 NOV 2019	3	2	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R8 100.00
20-21 NOV 2019	1	4	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R5 400.00
20-21 NOV 2019	1	1	Classic King Room / Single occupancy	R1 050.00	R1 050.00
				TOTAL	**R38 600.00**
			EVENT REQUIREMENTS		
20-Nov-19	1	80	Full Day Conference Package(Including Lunch) **Jacaranda 1**	R430.00	R34 400.00
19-Nov-19	1	6	Buffet Dinner (Magnolia Restaurant)	R330.00	R1 980.00
	1	6	1x Softdrink	R45.00	R270.00
19-Nov-19	1	1	Venue Hire for 12 PAX **MOPANI**	R3 500.00	R3 500.00
	1	1	Screen	R500.00	R500.00
20-Nov-19	1	2	Buffet Dinner (Magnolia Restaurant)	R330.00	R660.00
	1	2	1x Softdrink	R45.00	R90.00
21-Nov-19	2	1	Buffet Dinner (Magnolia Restaurant)	R330.00	R660.00
	2	1	1x Softdrink	R45.00	R90.00
22-Nov-19	2	2	Buffet Dinner (Magnolia Restaurant)	R330.00	R1 320.00
	2	2	1x Softdrink	R45.00	R180.00
			Classroom		
				TOTAL	**R43 650.00**

NOTE: The Day Conference Package Includes the following;

Arrival Tea/Coffee/Juice/Pastries
Mid-morning Tea/Coffee/Juice/Savoury Snacks
Buffet Lunch in Magnolia - Chef's Choice (12:30 - 14:00)
1 x Refreshment included with Lunch
Afternoon Tea/Coffee/Juice/Biscuits
Water, Mints, Pens, Paper
Parking
Venue Hire included
Wi-Fi, Screen, Data Projector, Flipchart and Markers
PA System & Microphone included

Rates are inclusive of VAT

TOTAL **R82 250.00**

TERMS & CONDITIONS

The Sheraton Pretoria Hotel reserves the right to change its rates without prior notification; to review rates and conditions offered in this quotation in instances where full disclosure on the conference/group booking is not given, example being - name of conference, type of conference, number of overall delegates attending the conference, specific dates, etc.

Venues are subject to availability. The allocation of a suitable venue for the event is to the discretion of the hotel.

Should you require me to reserve a venue on your behalf, kindly forward me written confirmation as soon as possible whereupon a contract and payment details will be sent to you. Please note that we work on a live system and availability changes on a daily basis.

Please note that no venue or rooms have been blocked off on your behalf and this quote is only valid for 48 hours.

CANCELLATION POLICY

Between 60 to 31 days prior to arrival, a charge of 50% of the contracted value will be levied.
Between 30 to 15 days prior to arrival, a charge of 75% of the contracted value will be levied.
Between 14 to 0 days prior to arrival, a charge of 100% of the contracted value will be levied.
(Full Cancellation Policy will be sent with the contract)

If you have any questions please call: Conferencing - +27 12 429 9999

Internet and Communication Services

EcoHealth Alliance

December 4th, 2019

To Whom it May Concern,

We estimate that the monthly proportion of the Altice Business bill that will be charged to the CCHF grant for communication and internet access is $333.33.

Sincerely,

(b)(6)

Human Resources and Office Manager

walsh@ecohealthalliance.org

212-380-4477

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE

Monthly Summary	Page 1 of 2
Account Number	52804
Invoice Date	11/01/19
Invoice Number	100207378
Previous Balance	$3,934.66
Current Charges	$3,931.54
Total Amount Due	**$3,931.54**

Total Amount Due December 1, 2019

Usage From: 10/01/19 - 10/31/19

To contact Altice Business, please call (866) 611-3434 or (516) 803-6000, or feel free to e-mail us at Care@AlticeUSA.com

Enhanced Caller ID!

Altice Businesses newest enhancement is now included in Altice Business Voice services at no additional cost. Not only do we help take the guesswork out of who?s calling you, but now we can help detect robocalls too.

Visit the Customer Portal

View your invoice, service inventory, pay online, see Call Detail reports and more. Simply go to portal.alticebusiness.com. New access is available through the Request Access button. In person payments can no longer be accepted.

Important Messages:

New! Call Recording is now available for Business Hosted Voice services. Contact your Account Executive for details.

New York Sales Tax Breakdown For Our Common Bundles
Internet/Voice Bundle
66% of the total charge is attributable to Internet access service and 34% is attributable to voice service. For purposes of calculating the NY sales tax, 24.5% of the voice fee is attributable to interstate/international service.

Toll Free Bundle or Audio Conference Bundle
For purposes of calculating the NY sales tax, 76% of the fee is attributable to interstate/international service.

Enterprise Voice Bundle
For purposes of calculating the NY sales tax, 24.5% of the fee is attributable to interstate/international service.

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE	Page 2 of 2
Account Number	52804
Usage From	10/01/19 - 10/31/19

PAYMENTS, CREDITS AND ADJUSTMENTS:

Description	Total
10/22/2019 Payment - Thank You	-3,934.66

SERVICES:

Description	From Date - To Date	Qty	Non-Recurring	Recurring	Total
Managed Router	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
100Mb/50K Internet/Voice Bundle	11/01/2019 - 11/30/2019	1	$0.00	$3,549.00	$3,549.00
Primary Rate Interface - ISDN	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
DID Reserve 20 Numbers - 3 yr	11/01/2019 - 11/30/2019	7	$0.00	$60.00	$60.00
TOTAL SERVICE CHARGES			**$0.00**	**$3,609.00**	**$3,609.00**

TAXES AND SURCHARGES:

Description	Total
911 Surcharge(s)	24.00
Federal Excise Tax	1.92
Local Utility Gross Receipt Tax	82.76
MTA Surcharges	27.71
State and Local Gross Receipts Taxes	112.22
Universal Service Fund Surcharge	73.93

system76

Server needs

Ibex Pro GPU

1

REMOVE FROM CART



modify configuration *REMOVE FROM CART*

Base Price	**$5,899.00**
Ubuntu Server **18.04** LTS (64-bit)	
1× 20 Cores Gold 6230 (2.1 up to 3.9 GHz - 40 Threads - Max memory speed 2933 MHz)	**$2,229.00**
1× 512 GB Quad Channel DDR4 @ 2933 MHz (8x 64GB)	**$2,699.00**
1× 20 Cores Gold 6230 (2.1 up to 3.9 GHz - 40 Threads - Max memory speed 2933 MHz)	**$2,519.00**
1× 512 GB Quad Channel DDR4 @ 2933 MHz (8x 64GB)	**$2,829.00**
1× 4,352 Cores 11GB GeForce RTX 2080 Ti with 4352 CUDA Cores	
1× 2 TB NVMe Install on PCI SSD	**$1,329.00**
1× 16 TB HDD *7200 RPM* (8x 2TB)	**$2,759.00**
10 Gb Dual Port Ethernet Network Adapter (Included)	
Limited 1 Year Labor and 3 Year Parts Warranty	
This product is custom built and non-cancellable, non-refundable.	

Product total: **$20,263.00**

84

UNITED STATES DEPARTMENT OF LABOR
A to Z Index | FAQs | About BLS | Contact Us | Subscribe to E-mail Updates | GO
BUREAU OF LABOR STATISTICS
Follow Us | What's New | Release Calendar | Blog
Search BLS.gov
Home | Subjects | Data Tools | Publications | Economic Releases | Students | Beta

New York–New Jersey Information Office
SHARE ON | Search New York New J | Go
NY-NJ Home | NY-NJ Geography | NY-NJ Subjects | NY-NJ Archives | Contact NY-NJ

Geographic Information > New York-New Jersey > Table

Consumer Price Index Overview Table – New York-New Jersey

Consumer Price Index for All Urban Consumers, all items, in the U.S., Northeast, Middle Atlantic, and a metropolitan area, not seasonally adjusted
(1982-84=100 unless otherwise noted)

Area (Links provide news releases)	Back data	Annual average 2018	Sep 2019	Oct 2019	Percent change: Annual average 2017 to 2018	Percent change: 12 months ended Sep 2019	Percent change: 12 months ended Oct 2019
U.S. City Average		251.107	256.759	257.346	2.4	1.7	1.8
Northeast region(1)		265.139	270.563	270.348	2.2	1.4	1.5
Northeast City Size Class (population)							
A (greater than 2,500,000)		268.112	274.058	273.930	2.0	1.5	1.5
B/C (2,500,000 or less)		156.258	159.106	158.912	2.5	1.4	1.4
Middle Atlantic(2)		101.578	103.535	103.518		1.3	1.4
Metropolitan area							
New York-Newark-Jersey City		273.641	279.338	279.255	1.9	1.4	1.5

Footnotes
(1) The Northeast region includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
(2) The Middle Atlantic division includes New Jersey, New York, and Pennsylvania.

Source: Consumer Price Index
The Consumer Price Index (CPI) measures changes in prices of all goods and services purchased for consumption by urban households.

KCRI Budget Justification

A. Senior Personnel

We request a total of S3 ,000 to support Key Personnel over the five years of the proposed project.

(b)(6) Co-PI, Epidemiologist, will commit 1.2 months per year. We request salary of $6,000 in Year 1- . Co-PI (b)(6) is the Research Director of KCRI and holds a PhD in Public Health and Epidemiology. Co-PI (b)(6) will contribute to the study design, lead the implementation of field work with human subjects and the laboratory analysis of human samples, provide training and mentorship, develop policy recommendations and facilitate collaboration with stakeholders.

B. Other Personnel

We request a total of S2 , to support Other Personnel over the five years of the proposed project.

Technicians. We request $2,000 per year in Y1-2 for a laboratory technician, who will commit 1 months per year to aliquot the serum samples that come in from the field and store them. laboratory technician will increase the time commitment to months , and laboratory technician will be hired committing 12 months per year, for which we are requesting per technician to complete the ELISA testing on the human sera collected in Y1, Y2 and OY1.

Nurses. We request S 4,000 over the five years of the project for two nurses. In Y1- , we request support for nurse who will commit months per year at a rate of $12,000 who will collect blood samples from participants in the serosurvey (Task 2). In OY1 of the project, we who will commit months for the year in order to collect blood samples for the incidence study .

Administrator. We request $2,400 in Y1 to support a Program Administrator who will assist co-PI (b)(6) in the administration of the project. We request a total of $12,000 over the five years of the project.

Anthropologist/Epidemiologist. We request S ,000 for an Anthropologist/Epidemiologist, with a 3% increase in subsequent years, who will commit 12.0 months Y1-2, OY1 and 6 months in Y3 to contribute to the development of the serosurvey and incidence studies, field data collection and data analysis.

(b)(6)

(b)(6)

We request $10,500 over the five years of the project to support a Finance Specialist who will commit .84 months per year for Y1-5. The Finance Specialist will work with project staff to ensure timely invoicing for all program expenses.

Deleted: 8
Deleted: Y5
Deleted: Co-PI (b)(6) will commit 2.8 months per year in OY1 as we will have both human field sampling and lab testing ongoing.
Deleted: 88
Deleted: 095.31
Deleted: In Y3 of project, the
Deleted: ir
Deleted: 12
Deleted: per year
Deleted: Y3
Deleted: Yr 4
Deleted: Y4
Deleted: a second
Deleted: $24,000 (
Deleted:) for Y3-4
Deleted: 8
Deleted: 32
Deleted: twoone
Deleted: s
Deleted: 6
Deleted: 6
Deleted: each
Deleted: per year
Deleted: request $24,000 for two nurses
Deleted: each
Deleted: 6
Deleted: 30
Deleted: co-investigator
Deleted: 3 and
Deleted: to
Deleted: Pro (b)(6)
Deleted: i
Deleted: physician
Deleted: 3 and
Deleted: to
Deleted: Prof (b)(6)
Deleted:

D. Travel

We request $3,500 , with a 3% annual increase, for travel. This will cover a travel stipend of $35 per day for 100 days in each of Y1 and Y2 for the original serosurvey 15 days in OY1 for the incidence study while they are working in the field. We request $18, over the five years.

E. Participant Support Costs

We request a total of $1,80 for a CCHFV Diagnostics Training Workshop Y3 of the project. We will host a workshop to train participants from local and national public health laboratories to conduct CCHFV ELISA and PCR testing as well as to understand the importance of including CCHFV as a differential diagnosis.

F. Other Direct Costs

We request a total of $8 , for other direct costs over the five years of the proposed project.

We request $2,4 for the storage of samples in Y1 of the project, and an increase of 5% in each subsequent year for a total of $13, over the five years of the project We request $14, for laboratory access and utilization for the processing of human IgG ELISA samples in Y3 of the project, and an increase of 5% in Y for a total of $29, over the five years of the project. There is a separate cost to perform the tests, for which we request a total of $42,656, $10,66 in Y3 to perform 800 tests and $31,99 in Y to perform 2400 tests all at a cost of 30,000 Tanzanian Shilling, or $13.33 USD, per test.

H. Indirect Costs

We request a total of $4 in overhead, a rate of 10% per year, over the five years of the proposed project.

Deleted: per yea

Deleted: r

Deleted: for Year 1 and 2 and $11,483 in OY1

Deleted:

Deleted: and

Deleted: 0

Deleted: .5

Deleted: for the nurse(s)

Deleted: 5

Deleted: 880

Deleted: 0

Deleted:
Meals 11 participant * 15 USD per meal (breakfast and lunch and evening tea) per day*5 days 900USD.
Transport 0.65 USD/km for local pick up.

Deleted: W

Deleted: and airport pick up

Deleted: USD

Deleted: Local transport 25 km per day 0.65USD*5days=81.25USD.
Venue 50 USD per day *5 = 500USD.
Stationaries pens, files and training material 125 USD

Deleted: 4

Deleted: 948 19

Deleted: 00

Deleted: 261.52

Deleted: 156.10

Deleted: 4

Deleted: 020.01

Deleted: 7

Deleted: 8

Deleted: 4

Deleted: 00.466484

Budget Documentation – Kilimanjaro Clinical Research Institute

1) Salaries ..... Pg. 2

2) Laboratory Access and Utilization ..... Pg. 3

3) Sample Storage ..... Pg. 4

4) Venue Cost ..... Pg. 5

5) Testing Costs ..... Pg. 6

6) Participant Support Cost Travel ..... Pg. 7

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions of the Good Samaritan Foundation

P.O.BOX 2236
Moshi,Tanzania
Telephone: 255-27-2754201
Fax: 255 27 2753368

Email: keriadmin@kcri.ac.tz
Website: http://www.kcmc.ac.tz
Website: http://www.kcri.ac.tz
Date: 20-11-2019

Dear Melinda Rostal

I am writing to confirm the salaries mentioned in Cremean Congo Hemorrhagic Fever study for KCRI personnel as listed below.

Personnel-KCRI	Annual salary	Monthly salary
Scientist – Local PI	$ 60,000.00	$ 5,000.00
Senior- Lab Technician 1	$ 24,000.00	$ 2,000.00
Lab Technician 2	$ 12,000.00	$ 1,000.00
Lab Technician 3	$ 12,000.00	$ 1,000.00
Nurse 1	$ 12,000.00	$ 1,000.00
Nurse 2	$ 12,000.00	$ 1,000.00
Administrator	$ 24,000.00	$ 2,000.00
Anthropologist/epidemiologist	$ 24,000.00	$ 2,000.00
Scientist 2 -Veterinary	$ 30,000.00	$ 2,500.00
Scientist 3-Physician	$ 30,000.00	$ 2,500.00
Finance	$ 30,000.00	$ 2,500.00

(b)(6)

CPA(T
Chief accountant - KCRI

Serial No: 1840

Laboratory Access/Rental Fee

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health
Institution of the Good Samaritan Foundation
P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (TSHS/US$/EU)
	SUB TOTAL	
	TOTAL	

Amount in words .....
.....

BANK DETAILS:
BANK NAME: .....
ACCOUNT NAME:.
ACCOUNT No. .....
BRANCH:.....
SWIFT CODE: .....
SORT CODE: .....

(b)(4)

Serial No: 209

Sample Storage Fee

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions
Institution of the Good Samaritan Foundation
P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (TSHS/US$/E/L)
	[redacted]	
	[redacted]	[redacted]
	[redacted]	
	[redacted]	[redacted]
	[redacted]	
	[redacted]	[redacted]
	(b)(6)	
	(b)(6)	
	SUB TOTAL	
	TOTAL	

Amount in words .....

.....

BANK DETAILS: (b)(4)

BANK NAME: .....

ACCOUNT NAME .....

ACCOUNT No. .....

BRANCH: .....

SWIFT CODE: .....

SORT CODE: .....

Serial No: 1838

Venue Fee for Workshop in Y3

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions
Institution of the Good Samaritan Foundation
P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (THS/US/E/L)
	SUB TOTAL	
	TOTAL	

Amount in words .....
.....

BANK DETAILS:

BANK NAME: ..(b)(4)

ACCOUNT NAM

ACCOUNT No. ..

BRANCH:.....

SWIFT CODE: ..

SORT CODE: ...

Cost per test and non-governmental daily stipend rate

KCRI Kilimanjaro Christian Medical Research Institute
Academic Centre for Evidence Based Health Interventions of the Good Samaritan Foundation

P.O.BOX 2236
Moshi, Tanzania
Telephone: 255-27-2754201
Fax: 255 27 2753368

Email: keriadmin@kcri.ac.tz
Website: http: www.kcmc.ac.tz
Website: http: www.kcri.ac.tz
Date: 24.11.2019

Dear Dr. Melinda Rostal,

I am writing to confirm the agreed upon testing and travel costs for the Crimean-Congo Hemorrhagic Fever: Reducing an Emerging Health Threat in Tanzania Project.

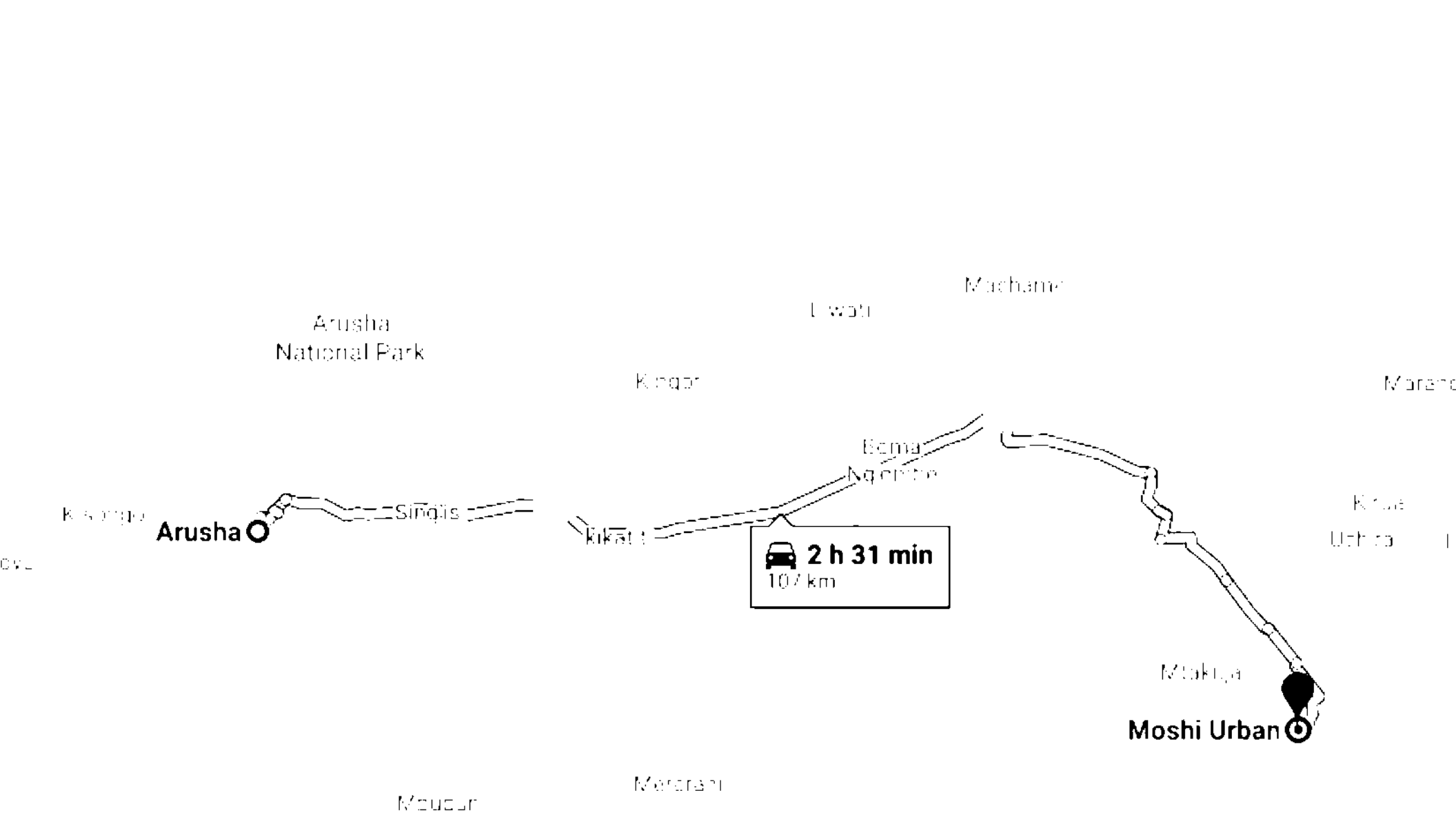
We have agreed to a fee of $13.33 per ELISA.

We have agreed to use the travel rate of $35 per day for our nurse while in the field.

Sincerely,

(b)(6)

CPA(T
Chief accountant – KCRI


Machame
Arusha
National Park
Kingori
Sinoni
Arusha
Bema
Ngarenaro
Kikatiti
2 h 31 min
107 km
Mbokuyo
Moshi Urban
Maroroni
Mauasi

99 7001 8426493 (b)(6)

99-001 02/08/2023 TGS/J/1

DESCRIPTION	BALANCE	AMOUNT
Basic Salary		3,360,000.00
PSSSF		-168,000.00
Income Tax		-809,460.00
Natl Health Ins FundEmployee		-100,800.00
NET AMOUNT DUE	31/10/2019	**2,281,740.00**

52 3001 10761068 (b)(6)

52 153 17/10/2040

TGHS/E/1

DESCRIPTION	BALANCE	AMOUNT
Basic Salary		1,490,000.00
Health Insurance Society		
Provident		300,000.00
Income Tax		74,000.00
National Health Ins. Fund Employer		74,480.00
NET AMOUNT DUE		1,041,020.00

One Health Coordination Desk (OHCD-PMO) Budget Justification

A. Senior Personnel

We request a total of S14, to support Key Personnel over the five years of the proposed project.

(b)(6) Research Scientist, Molecular Epidemiologist, will commit 0 months per year for which we request salary support of $2 in Year 1, with a 3% increase per annum (p.a.). (b)(6) is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk and will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, (b)(6) time will increase in Y for a total of $7,2 over the five years of the project.

(b)(6) Research Scientist, Public Health Specialist, will commit 0 months per year for which we request salary support of $25 in Year 1, with a 3% increase p.a. Dr. (b)(6) is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, (b)(6) s time will increase to months per year in - for a total of S7, over the five years of the project.

D. Travel

We request a total of S3,185 to support local travel for them in Tanzania over the five years of the proposed project.

We request $600 in Y1 so that both (b)(6) and (b)(6) may attend project meetings held in Tanzania and take other meetings to improve One Health stakeholder relationships.

Travel expenses will increase at a rate of 3% per year over the five years of the project.

H. Indirect Costs

We request a total of S , 5 in overhead over the five years of the project. The rate of overhead will be 10% each year, starting with S11 in Y1.

Deleted: 855

Deleted: 1.

Deleted: 50

Deleted: from 1 month to 12 months per year

Deleted: 4-5

Deleted: 4

Deleted: 7

Deleted: 1.

Deleted: 0

Deleted: from 1 month

Deleted: 12

Deleted: Y4

Deleted: 5

Deleted: 427

Deleted: for

Deleted: 3

Deleted: 18

Deleted: 0

Budget Documentation – Public Health England

1. Salaries.....2
   - [redacted] oject Manager
   - [redacted] Virologist
   - [redacted] irologist
   - [redacted] Technician
   - [redacted] echnician
2. Other Direct Costs (excluding facilities).....3
   - International Travel, London to Dar es Salaam, Tanzania
   - Materials and supplies
   - Sample shipment
3. Appendix 1.....5
   - Screen shot of international travel, London to Dar es Salaam, Tanzania
4. Indirect cost rate.....6
5. Rate agreement.....7
6. Facilities cost.....10
   - Overall cost
   - Cost allocation for BSL-4 laboratory

Public Health England

National Infection Services
Manor Farm Road
Porton Down
Salisbury, Wilts
SP4 0JG

T +44 (0)1980 612642

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift Valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th Floor
New York, NY 10001

Dear Melinda

Salary confirmation for DTRA CCHF Grant

I hereby confirm that the current per annum salary of our key personnel as of today's date is as follows:

(b)(6)	66,609.96
	- £94,889.04
	£75,891.24
	- £56,501.28
	£53,813.64

Above salaries include oncosts (NI & Pension). Please note the above salaries are subject to annual inflation.

Yours Sincerely

(b)(6)

Senior Finance Manager

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Other Direct Costs (exc. Facilities) confirmation for DTRA CCHF Tanzania grant:

PHE have costed £6,600 (which converted $7,119 in original justification) for materials and supplies to conduct 100 CCHFV virus neutralization assays to confirm the positive ELISA results on the wildlife samples

This budget is broken down as follows:

1. Travel Budget £1500
This would be for senior PHE scientist to attend meeting in the field in Tanzania. The costing is based on a projected flight cost of approx. £800 (see Appendix 1- page 3) with the remainder for travel to/from airports and accommodation and sustenance. PHE involvement would be in 2023/24 so it is not possible at this moment to forecast accurate costs for these items but any shortfall in budget will be covered by PHE.

2. Materials and supplies £3600

Agreed with to supply 100x CCHF virus neutralisation tests for £36 per test.

Materials include CCHF antibodies, IgG, cells and general laboratory consumables.

3. Postage of samples
Samples would be taken from the field laboratory and shipped on dry ice under UN packing code 3373 to PHE Porton Down site. The quotation provided by Dangerous Goods International for each delivery would be £525.60.

This postage cost is £1051.20.

The grand total for all other direct cost would be £6119.34. The costs of the items are based on the current prices. The reason to request the additional £~480 is to cover the inflationary costs over the 4 years between now and when we anticipate activity to start.

Your Sincerely,

(b)(6)

Senior Scientific Project Manager
Tel: +(b)(6)
Emai

Stop seeing this ad

Select your departure to Dar es Salaam Sat, Apr 11

Prices are roundtrip per person, include all taxes and fees, but do not include baggage fees.

1 Stop | Arrival time - Afternoon (12:00pm - 5:59pm) | LGW (London)

Sort & Filter | Clear | Show flexible dates

Sort by

Price (Lowest)

Stops | From:

1 Stop (31) $850

2+ Stops (70) $717

Airlines included | From:

9:45pm - 2:40pm +1
Emirates
Very Good Flight (8.2/10)
Details & baggage fees

14h 55m (1 stop)
LGW - 2h 40m in DXB - DAR

$1,066
roundtrip
Select

10:00am - 2:40pm +1
Emirates
Poor Flight (4.2/10)
Details & baggage fees

26h 40m (1 stop)
LGW - 14h 15m in DXB - DAR

$1,066
roundtrip
Select

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Briefing Note on current agreements and submissions with DCAA and DCMA for DTRA CCHF Tanzania grant:

PHE have an agreed rate of 37.8% for indirect costs for use on grants, contracts and other agreements with the Federal Government. This is enclosed with email dated 5th November 2019 (Public Health England RA). Please note this is an increase from the 37.5% rate the original costings were based upon, the rate has since been updated since the original proposal was submitted.

This agreement was with the US federal government on behalf of the Department of Health and Human Services. PHE is currently undertaking several contracts funded via US federal agencies NIAID, BARDA and FDA on a range of projects in the area of infectious disease research.

PHE also have a current submission for US-DTRA FRCWMD funding as follows:

Grant agreement: 12753455
Title: Ecological and Epidemiological Investigation of Crimean-Congo hemorrhagic fever virus (CCHFV) in Azerbaijan.
This application is in final stage and is still under consideration. The rate of 37.5% indirect costs was used in the submission.

Your Sincerely,

(b)(6)

Senior Scientific Project Manager
Tel: (b)(6)
Email:

NONPROFIT RATE AGREEMENT

EIN: 1900215920A1

ORGANIZATION:
Public Health England
Porton Down, Salisbury
Wiltshire, England SP4 0JG

DATE:08/05/2019

FILING REF.: The preceding agreement was dated 12/06/2017

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

	EFFECTIVE PERIOD				
TYPE	**FROM**	**TO**	**RATE(%)**	**LOCATION**	**APPLICABLE TO**
FINAL	04/01/2017	03/31/2018	37.80	On-Site	All Programs
PROV.	04/01/2018	03/31/2021	37.80	On-Site	All Programs

*BASE

Total direct costs excluding capital expenditures (buildings, individual items of equipment; alterations and renovations) and subawards.

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

Fringe benefits applicable to direct salaries and wages are treated as direct costs.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

In accordance with HHS Grants AAGAM, Part 3.01.101, no indirect cost is awarded on grants from the Department of Health and Human Services.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes, or $5,000.

Your next proposal for fiscal year ending 03/31/2019 is due in our office by 09/30/2019.

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its indirect cost pool as finally accepted; such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as indirect costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from indirect to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing indirect costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of indirect costs allocable to these programs.

BY THE INSTITUTION:	ON BEHALF OF THE FEDERAL GOVERNMENT:
Public Health England	DEPARTMENT OF HEALTH AND HUMAN SERVICES
(INSTITUTION)	(AGENCY)
(SIGNATURE)	(SIGNATURE)
(NAME)	(b)(6) (NAME)
(TITLE)	Deputy Director, Cost Allocation Services (TITLE)
(DATE)	8/5/2019 (DATE) 5552
	HHS REPRESENTATIVE: (b)(6)
	Telephone:

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Facilities cost confirmation for DTRA CCHF Tanzania grant:

PHE have costed £5,896 for two weeks use of the high containment biosafety level 4 laboratory at PHE Porton Down site. The standard laboratory rental rate is set at £2948 per week for this laboratory.

The laboratory recharges are generated from a model that allocates a cost based on the specific lab or portion of a lab for the specific time period of use. The cost is a proportion of the total costs of the site allocated to the labs based on the weighted cost of subjective headings.
Table 1 (overleaf, page 2) shows a breakdown of the percentage cost allocations to each heading.

Your Sincerely,

(b)(6)

Senior Scientific Project Manager
Tel: (b)(6)
Email:

Table 1. Cost allocations for PHE High Containment BSL-4 laboratory

	%
EMCOR base contract	44.12
Equip Rep & Maint	24.40
Other - Engineering services	14.61
Telecom charges	-
Rates	0.34
Gas Building 1	0.16
Gas Incinerator	-
Gas Process load / autoclave	6.09
Electricity share 1	0.55
Electricity share 2	0.47
Oil	-
Water	0.20
Accom hire	-
Waste Disposal	-
SubCont Fac Mgt	-
Other	-
Security	-
Soft Services Mgt	-
Capital Proj Mgt	2.36
FM Engineering	3.16
Site Mgt	-
Dep Alloc	-
Dep Site	0.40
Dep MB	2.34
Dep all but MB	-
Incinerator	0.50
Site share costs	0.28
	-
Total charge	100.00

Note: EMCOR are our Facilities managers

Public Health England-Porton Down Budget Justification

A. Senior Personnel

We request a total of $ to support Key Personnel (KP) during the project.

(b)(6) Research Scientist, Virologist will commit 0. months in OY2 of the project. KP (b)(6) will engage with project partners, supervise and collate scientific reporting from PHE. We request a total of $.

B. Other Personnel

We request a total of $ to support Other Personnel during the proposed project.

Technicians. Two CL4 laboratory will commit 1 month each in OY2 in order to confirm 100 wildlife samples using virus neutralization assays. CCHFV is a Hazard Group 4 pathogen necessitating work with infectious substances to be carried out at Containment Level 4, and the UK operates a dual worker or buddy system for all laboratory work with HG4 pathogens. We request $ per month for a total of for both

Project Manager. The project manager will commit 0. 5 months in OY2 in order to manage staff and ensure efficient project progress. We request $ in OY2. The project manager will also set up DEFRA license applications for sample transport and liaise with colleagues in Tanzania on sample details.

F. Other Direct Costs

We request a total of $1 ,1 for direct costs during the project.

Materials and Supplies

We will conduct 100 CCHFV virus neutralization assays to confirm the positive ELISA results on the wildlife samples, as this has not previously been assessed for this multispecies commercial ELISA. We request $ in OY2 to conduct the testing

Facility Rental

CCHFV is a Hazard Group 4 pathogen necessitating work with infectious substances to be carried out at Containment Level 4. We request $ in OY2 to support the use of the CL-4 laboratory for 2 weeks in order to complete the testing indicated above.

Deleted: 8.059

Deleted: 5

Deleted: 8.059

Deleted: 16,029

Deleted: virologists

Deleted: 6,000

Deleted: per person

Deleted: $11,808 12,000

Deleted: total for

Deleted: .

Deleted: 4.

Deleted: 029

Formatted: Normal, No bullets or numbering

Formatted: Font: Times New Roman, Bold

Formatted: Font: Not Italic

Deleted: 7

Deleted: 06

Deleted: This includes the cost of running the test as well as laboratory supplies such as petri dishes, culture media, reagents, tubes etc.

Deleted: 9,035

Deleted: procure these supplies and

Deleted: 6

Deleted: 8,071

H. Indirect Costs

We are requesting the federally agreed indirect cost of % on all direct costs during the project. We request $ in OY2.

Deleted: 50

Deleted: 20.

Deleted: 597

Deleted:

TAWIRI Budget Justification

Key Personnel

We request a total of $13,273 to support Key Personnel over the five years of the proposed project.

(b)(6) Research Scientist, Disease Ecologist, will commit 1.0 months per year. We request salary of $2, in Year 1, with a 3% increase for Y2-Y5, respectively. (b)(6) (b)(6) is a Chief Research Officer who holds a PhD in ecosystem and population health specifically on disease ecology. (b)(6) will support the wildlife sampling team, create the animal epidemiological study design, implementation and analysis and facilitate communication with stakeholders.

Other Personnel

We request a total of $ to support Other Personnel over the five years of the proposed project.

will will be paid $60 per day for food an accommodation , working for 0 days ($60 x 0 days) for a total of $7,200, for Year 1 and Year 2 of the project.

Travel

We request a total of $1,59 to support international travel over the five years of the proposed project request $300 in Y1. International travel expenses will increase at a rate of 3% per year throughout the project.

Deleted: 814

Deleted: 14,400

Deleted: There will be threa

Deleted: personnel, who

Deleted: . They'll/she

Deleted: each

Deleted: 4

Deleted: 4

Deleted: x 3 people

Deleted: 3

Deleted: .

We

Tanzania Wildlife Research Institute

Head Office P.O. Box 661, Arusha, Tanzania
Tel: +255 (0) 27 254 9571 / 254 8240, Fax: +255 (0) 27 254 8240
E-mail: [redacted]
Website: www.tawiri.or.tz

Our Ref: TWRI RG 22 VOL 69 88 68

Your Ref:

Date: 31 October 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance.
Rift Valley Fever Virus Project Manager.
EcoHealth Alliance.
460 West 34th Street – 17th floor.
New York, NY 10001

Dear Melinda.

RE: SALARY FOR DR. JULIUS D. KEYYU AND SUBSISTENCE (NIGHT OUT) ALLOWANCE DURING FIELD WORK

Please refer to the above heading and also to communications regarding implementation of the Crimean Congo Haemorrhagic Fever (CCHF) project.

The Tanzania Wildlife Research Institute (TAWIRI) is a parastatal organisation under the Ministry of Natural Resources and Tourism (TAWIRI) established by Act. No. 4 of 1980 of the Parliament (CAP 260 R.E. 2002), with the mandate to conduct, promote and oversee wildlife research in Tanzania.

This letter is to confirm that the monthly salary of (b)(6) is Five Million Eighty Hundred and Eight Thousand Tanzanian Shillings (TZS 5.808.000/=); and that the rate for daily subsistence (night out) allowance during field work as per the Government is TZS 120.000 (USD 60) per day to cater for accommodation and food.

Do not hesitate to contact me in case you need any clarification

Yours sincerely.
TANZANIA WILDLIFE RESEARCH INSTITUTE

(b)(6)

FOR: DIRECTOR GENERAL



TVLA Budget Justification

A. Key Personnel

We request a total of S , to support Key Personnel over the five years of the proposed project.

(b)(6) Co-PI, Entomologist, will commit 1 month per year. We request salary of $5,000 in Year 1, with a 3% increase for Y2- Y , respectively. Her time increase in Y3 to 6.0 months in order to support the testing of samples in the TVLA laboratory. Co-PI (b)(6) is the Chief Executive of TVLA and holds a PhD in medical entomology. Co-PI (b)(6) will conduct or supervise the identification and diagnostic testing of animals and ticks, oversee the design, implementation and analysis of the animal study and facilitate communication with stakeholders.

B. Other Personnel

We request a total of $23, to support Other Personnel over the five years of the proposed project.

Laboratory Technicians.

There will be three technicians, who will who commit months per year in Y1 and Y2 to assist with the installation of the equipment purchased for the TVLA laboratory in Arusha (e.g. generator for the building, an ultrafreezer – see the EcoHealth Alliance Y1 part C for a full list of items to be installed), for which we are requesting $. Salaries will increase 3% in subsequent years. They will commit to months for Y3 in order to assist with the diagnostic testing of samples. For this we are requesting S over the five years of the project.

During Year 3 we will hire three additional technicians to conduct the diagnostic testing of samples and tick identification. This includes one ELISA technician and one PCR technician that will be based in Arusha and who will commit 12 months per year for Y3 to assist with sera and ticks, respectively, for which we request $5, 00 per technician . The technician hired to identify ticks will be contracted for 12 months from the TVLA lab in Tanga, for which we request .

D. Travel

We request a total of S to support travel over the five years of the proposed project.

In order to complete the tick identifications in Y3 of the project, we request $ 0 that will cover -day trips to Arusha. Transportation is calculated at $50 per day ($50/day x trips $ 00) and overnights are calculated at an average cost of S per day , for trips of days each (S /day x days x trips = S).

Co-PI (b)(6) will require one trip per year during Y1, Y2, OY1, and OY2 for project meetings and to visit stakeholders, calculated at $50 per day for transportation, and S per day for days for field visit ($1 per year). During Y3 when there is active laboratory work and tick identifications ongoing, co-PI (b)(6) will make trips to visit the laboratory in Arusha.

(b)(6)

Deleted: 28
Deleted: 563
Deleted: s
Deleted: 5
Deleted: with
Deleted: 842
Deleted: 1
Deleted: 450
Deleted: of
Deleted: 12
Deleted: per year
Deleted: 6,642.36
Deleted: 0
Deleted: $7,200
Deleted: 2,51800
Deleted: 14
Deleted: six
Deleted: 14
Deleted: 6
Deleted: 3
Deleted: 10
Deleted: 6
Deleted: 14
Deleted: 10
Deleted: 14
Deleted: 6
Deleted: 840
Deleted: 10
Deleted: 7
Deleted: 20
Deleted: 3
Deleted: additional
Deleted: . for which we are requesting $480 in Y3
Deleted: Y3 for

E. Participant Support Costs

We request a total of $1,800 for a CCIIF Diagnostics Training Workshop held at TVLA during Y3 of the project. These funds will be used to support the travel costs of trainees during 5-day workshop .

F. Other Direct Costs

We request a total of $13 , for other direct costs over the five years of the proposed project.

We request $123,89 for testing during Y3 of the project, including PCR testing and serology. We request $30,656 for testing covering 1,200 cattle samples, 1,800 small mammal samples and 200 wildlife samples, at a discounted rate of $9.58 (the rate is discount as the University of Glasgow is providing the multispecies ELISA kits for analysis). We request $93,238 for testing covering 200 wildlife samples and 3296 tick pools, at a cost of 60,000 Tanzanian Shilling, or $26.67 USD, per test.

We request $10,3 0 over the five years of the project for supplies. There will a cost of $2,000 each year in fuel for the generator to maintain samples (which will begin to be collected in Year 1) at -80°C during power outages.

In Y3 only, we request $3 0 for a 100 pack of 20 mL Petri dishes.

H. Indirect Costs

We request a total of $19, in overhead, a rate of 10% per year on other direct costs, over the five years of the proposed project.

Budget Documentation – Tanzanian Veterinary Laboratory Agency

1. Salaries, Travel, ODCs,.....2
    - Salaries
        i. (b)(6) Medical Entomologist
        ii. Other Personnel: General Laboratory Technician
    - Travel
        i. Tanzanian Government per diem
        ii. Travel to Arusha from Dar es Salaam
    - Other Direct Costs
        i. Testing breakdown
        ii. Generator usage and cost breakdown
2. Other Direct Costs.....3
    - Supplies: Petri dishes
    - Generator shelter cost estimate

TANZANIA VETERINARY LABORATORY AGENCY

Tel: (b)(6)
Fax:
E-m

All letters should be
Addressed to Chief Executive

TVLA

Veterinary Complex,
131 Nelson Mandela Road,
P.o. Box 9254,
15487 Dar es Salaam,
TANZANIA.

05/11/2019

Please quote
Ref. No. BD/332/372/12

Dear Dr. Melinda,

RE: CONFIRMATION AND JUSTIFICATION OF THE TVLA BUDGET

Senior Personnel.

(b)(6) a Co-PI, and a Medical Entomologist, will commit 1 month per year. Her monthy salary is documented below and is approximately $3,000 in Year 1, with a 3% increase for Y2-OY2, respectively.

Other Personnel:

The average salary for a general laboratory technician at TVLA Laboratory in Arusha is $450 per month or S5,400 per year.

Travel

We confirm that the **Tanzanian Government Rate per night** is S55 and transportation to Arusha is $50.

Other Direct Costs

TVLA Arusha has agreed to the following diagnostic assay table for the CCHF project.

Assay	Number of Samples	Cost per Assay	Total Cost
ELISA	3200	S9.58	S30,656
PCR	3,496	S26.67	S93,238

We estimate that we will need the generator for 26.6 hours per month (S1.25/L*5hours/L*26.6 hours/month*12 months/year = S2000). In Y3 only, we request $300 for a 100 pack of 20 mL Petri dishes.

Grateful if this request will be considered
Faithfully yours,

(b)(6)

DIRECTOROF FINANCE AND ADMINISTRATION – TVLA

Cart

Account: 884930003 EcoHealth Alliance

Item	Price	Qty	Subtotal
Fisherbrand™ Petri Dishes Specialty Catalog number FB0875711 **Type: Deep Dish, Size: 100 x 25mm**	**$160.00 / Case of 325**	2	**$320.00**

In Stock (2) - Estimated delivery 12/03/2019

Order Summary

Subtotal	$320.00
▲ Shipping and Handling *	$26.39
Shipping fuel surcharge	$4.45
Shipping charge	$21.94
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

Add all items to a list

Generate a Web Quc

View All Quotes | What's this?| missing translation for 'faq'

3

0203

28/11/2019

TANZANIA VETERINARY LABORATORY AGENCY
P O Box 1068 ARUSHA.

Being cost for the construction of a Generator shelter at TVLA, Arusha	USD 1,500,00
	1,500.00

USD 1,500.00

University of Glasgow (UoG)

A. Senior Personnel

We request a total of S to support co-PI/Key Personnel (KP) over the five years of the proposed project.

(b)(6) **co-PI,** will commit 1.2 months (mo.) per annum (p.a.) for all five years, with an increase of approximately (allowing for exchange rates) 3. % annually. We request S1 , in Y1 and $ 9, 6 total. Co-PI (b)(6) will provide key support and oversight for the field epidemiological studies by contributing to the design and implementation of the field study, liaising with partner institutions and stakeholders in Tanzania and linking with policy makers at national, regional and international levels for the dissemination of findings and development of guidelines.

(b)(6) **Ph.D.,** Research Scientist, Viral Immunologist, will commit 0.6 mo. p.a. for all five years with an increase of approximately 3. % annually. We request $, in Y1 and S , for all five years. Key Personnel (b)(6) will provide oversight, support and training for CCHFV serological and molecular analyses and will coordinate activities with collaborating laboratories (Public Health England, Pirbright Institute).

B. Other Personnel

We request a total of S1 to support Other Personnel over the five years of the proposed project.

(b)(6) Technician. A full-time laboratory technician based in KP (b)(6) aboratory will commit 3 mo. per year in Y1 2 and OY1. We request S , 5 in Y1 with a 4. % increase annually. The technician will commit 12 mo. per year in Y3 and OY1 as the in-country laboratory work will be conducted during these two years. We request $, 6 in Y3, totalling $, across all five years. The laboratory technician will support the laboratory analyses, including optimisation of assays, and establishment of laboratory diagnostic capacity in Tanzania.

(b)(6) Administrator, will commit 1.2 months p.a. for all five years with an approximately (allowing for exchange rates) % increase annually. We request $,56 in Y1 and a total of $,8 for all five years (b)(6) a highly experienced international project manager, will provide support for financial management and reporting, sub-contracts and agreements, ethical clearance, procurement and shipment of supplies.

D. Travel

We request a total of S 3, 2 for international travel across all five years.

We request trips per year for either co-PI (b)(6) or the laboratory technician in Y1-OY1. Each trip is estimated S1, 3 flight

Deleted: 12631.83107
Deleted: 4
Deleted: 7
Deleted: 625
Deleted: 4
Deleted: 00
Deleted: 4
Deleted: 6
Deleted: 801
Deleted: 36
Deleted: 507
Deleted: 6871.9535
Deleted: 0
Deleted: . Y
Deleted: .
Deleted: 10
Deleted: 39
Deleted: n
Deleted: approximately (allowing for exchange rates)
Deleted: 8
Deleted: (the other personnel are paid on a Grade 5 scale [8]
Deleted: 46
Deleted: 27
Deleted: 130
Deleted: 092
Deleted: 4.8
Deleted: 7
Deleted: 0
Deleted: 41
Deleted: 57
Deleted: 6
Deleted: 03
Deleted: 2
Deleted: at a
Deleted: 00
Deleted: . for a t
Deleted: cost of
Deleted: in Y1
Deleted:
Deleted: Additionally
Deleted: . there are
Deleted: per year
Deleted: .
Deleted: -2 f

(b)(6)

(b)(6)

(b)(6)

In OY2 we request trip for KP Willett .

We request S , over five years for research visas. We request a permit for the technician in Y1 to assist with the installation of capacity building equipment at TVLA, 2 permits per year in Y2-OY1 for the technician and co-PI (b)(6) nd one permit in OY2 for co-PI (b)(6) We request $2, 0 in Y1 with a 3% increase across all years.

(b)(6)

E. Participant Support Costs

We request S3, 00 in Y3 for travel subsistence costs for participants (S5 per day * 5 days * 10 participants *2 trainings). Costs for the UoG trainer are covered by travel costs.

F. Other Direct Costs.

We request a total of S6 , in other direct costs across 5 years.

In Y3 and OY1 we request $ p.a. for the shipment of samples from Tanzania to the University of Glasgow. This is required for quality assurance of assays carried out in Tanzania and based on recent estimates for similar shipments provided by .

We request a total of S58,500 for laboratory across the 5 years. Materials and consumables costs are based upon the average actual annual expenditure (over 4 years) by researchers within this laboratory performing similar experiments to those in the project. These costs were extracted from the University of Glasgow purchasing system Agresso , including antibody reagents, secondary antibody conjugates, specific control sera, buffers, blocking agents and substrates for ELISA. This will produce sufficient reagent to

Deleted: to Dar es Salaam

Deleted: with flights estimated at

Deleted: and

Deleted: lodging and meals for 2 days

Deleted: at $150 per day.]

Deleted: there will be an

Deleted: will have

Deleted: some

Deleted: updates

Deleted: finishing

Deleted: that we will need to discuss with the government stakeholders

Deleted:]

Deleted: these 2 trips will cost $1,240 total

Deleted: 2-OY2

Deleted:

Deleted: there will

Deleted: s to allow for longer stays in Tanzania to support the laboratory assays and establishment of diagnostic capacity of 180 and 101 total nights, respectively. The cost is $38 per night, for a total of $6,840 in Y3 and $3,953 with a 3% increase. · $700($70 x 10 days for food and lodging in Arusha) · $480(flight to Dodoma or Dar es Salaam) · $300($150 x 2 days for food and lodging in Dar es Sulaam) $2,780 We request $5,560 in Y1 with a 3% increase in costs per year for a total of $23,260 across four years.

Deleted: In Y3 and OY1 we request an additional $28.52 per day for the technician to an extended stay (about 6 months and 2 months respectively) in Tanzania to support the laboratory assays and establishment of diagnostic capacity (this amount covers rental costs for staying at the UoG research house at KCMC-KCRI). We request $5,305($28.52 [12]

Deleted: 2

Deleted: trips to for co-P(b)(6) nd 1

Deleted: As this year will be more focused on building ... [3]

Deleted: 23

Deleted: 525

Deleted: 77

Deleted: 5

Deleted: 0

Deleted: 3

Deleted: 830

Deleted: 2.650

Deleted: with a 3% increase

Deleted: Arusha Freight

Deleted: *Lab work*

Deleted: work

Deleted: . All consumables purchased benefit from .. [4]

facilitate ELISA analyses at KCRI, UoG and the laboratories participating in the workshops. The s e funds will be used to purchase CCHF Multispecies ELISA kits (430 animals can be tested per kit) at the end of Y2 for analyses at TVLA on the 3,200 animal samples in Y3 and a contingency of kits sufficient to process an additional 1000 samples in each of for confirmatory analyses and assay validation at UoG. Thus, we request a sufficient number of kits to test 5, 0 samples over the three years

cell culture plasticware/media for the synthesis and purification of recombinant antigens (for the human ELISA) culture flasks, plates, media and supplements, ELISA plates, plate sealers, reservoirs, pipettes, tips and tubes. This includes using pre-cast polyacrylamide gels, buffers and supplies for the iBlot transfer system, Sarstedt tubes and storage boxes for sera. for molecular biologicals, nucleic acid purification kits, restriction enzymes and kits for mutagenesis and sequencing for vector preparation and cloning, and transfection. Also included in this category are preparing primers and probes for viral detection by real-time PCR for TVLA to use, confirmatory testing primers for sub-cloning and mutagenesis, and small-scale sequence confirmation of plasmid constructs general laboratory supplies, including microcentrifuge tubes, plates, petri dishes, fine chemicals

H. Indirect Costs

We request a total of $43, in overhead, a rate of 10% per year on other direct costs, over the five years of the proposed project.

Deleted: also

Deleted: of sufficient

Deleted: ($1,205 per kit * 7 kits = $8,435),

Deleted: Y4 ($1,205 per kit * 3 kits = $3,615) and Y5

Deleted: (2 kits = $2,410)

Deleted: 20

Deleted: (5,200/430 = 12 kits * $1,205 = $14,460.

Deleted: .

Deleted: This includes

Deleted: We request $3,322 in Y2 to prepare sufficient reagent for KCRI to begin testing at the start of Y3 and increasing to $9,364 p.a. in Y3 and OY1 for full production to be used by KCRI, given to the laboratories participating in the training and for UoG to confirm the results in 1000 samples

Deleted: .
We request $2,539 p.a. (Y2-OY1) for

Deleted: , and general laboratory costs.

Deleted: 3792

Budget Documentation – University of Glasgow

1) Salaries ..... Pg. 2

2) International Travel ..... Pg. 3 - 8
   - Glasgow to Kilimanjaro/Arusha
   - Kilimanjaro/Arusha to Dar es Salaam
   - Glasgow to Dar es Salaam
   - Research Permits

3) Other Direct Costs ..... Pg. 9 - 16
   - Shipping Costs
   - Lab Consumables
   - Diagnostics

University of Glasgow | College of Medical, Veterinary & Life Sciences

One Health Approach to Understanding the Epidemiology of Crimean-Congo Haemorrhagic Fever virus in Tanzania

Dear Mindy,

Please see below salary information, as requested by DTRA.

Name	Basic Annual Starting Salary	Annual Increment Date	Inflationary Uplift 2%
Professor (b)(6) (b)(6)	$130,046	1st August	1st August
Professor (b)(6) (b)(6)	$100,642	1st August	1st August
	$31,832	1st May	1st August
	$55,644	1st December	1st August



(b)(6)

Senior Project Coordinator

College of Medical, Veterinary and Life Sciences
Room 329, Wolfson Medical School Building
University of Glasgow
Glasgow, G12 8QQ

Email (b)(6)
Tel: +

Web: http://www.gla.ac.uk/colleges/mvls/

The University of Glasgow, Charity Number SC004401

Flight costs

Trip Summary

Trip Summary ⌄

Trip Total: **$1,437.96**

Rates are quoted in US dollars

64502 customers protected their flight in the last 7 days. Add flight protection when you check out.

✔ **Nice Job! You picked one of our cheapest flights.**
Book now so you don't miss out on this price!

Mon, Jan 13 **From Glasgow Intl. (GLA)**
To Kilimanjaro Intl. (JRO)

Qatar Airways — Cheapest

5:20pm GLA	→	2:05pm JRO	17h 45m, 2 stops LHR, DOH Arrives Tue, Jan 14

Show flight and baggage fee details ⌄

Mon, Jan 20 **From Kilimanjaro Intl. (JRO)**
To Glasgow Intl. (GLA)

British Airways — Cheapest

3:15pm JRO	→	10:50am GLA	22h 35m, 3 stops DAR, DOH, LHR Arrives Tue, Jan 21

Show flight and baggage fee details ⌄

‹ **Change flights**

Upgrade your flight

Get more comforts and benefits by adding an upgrade.



Kilimanjaro Intl. (JRO) → Glasgow Intl. (GLA)
22h 35m

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

Show upgrades ⌃

from
+ $752.11
for all travelers

Standard Economy — **Included**
Cabin: Economy/Coach

- Checked Bags
- Seat Choice
- ✔ Carry On Bag
- Cancellation

Expedia

Review your trip

Trip Summary

Trip Summary

Trip Total: **$320.65**

Rates are quoted in US dollars

64520 customers protected their flight in the last 7 days. Add flight protection when you check out.

Nice Job! You picked one of our cheapest flights.
Book now so you don't miss out on this price!

Mon, Jan 13 **From Kilimanjaro Intl. (JRO)**
To Julius Nyerere Intl. (DAR)

Hahn Air Systems — Cheapest

7:30am JRO	→	1:20pm DAR	5h 50m, 1 stop ZNZ

Show flight and baggage fee details

Mon, Jan 20 **From Julius Nyerere Intl. (DAR)**
To Kilimanjaro Intl. (JRO)

PrecisionAir — Cheapest

3:10pm DAR	→	4:30pm JRO	1h 20m, Nonstop JRO

Show flight and baggage fee details

Change flights

Unlock up to 42% off select hotels when you book this flight
Your discount lasts until your trip starts

Important Flight Information

See more

Continue Booking

64520 customers protected their flight in the last 7 days. Add flight protection when you check out.

Round trip ▾ 1 passenger ▾ Economy ▾

Glasgow GLA ⇄ Dar es Salaam DAR Sun, Jan 5 ‹ › Sat, Jan 11 ‹ ›

Bags ▾ 1 stop or fewer × Airlines ▾ Price ▾ Times ▾ Connecting airports ▾ More ▾

Track prices Date grid Price graph Nearby airports

Departing flights

Total price includes taxes + fees for 1 adult. Additional bag fees and other fees may apply.

Sort by

Emirates	8:50 PM – 3:00 PM+1	15h 10m	1 stop	$1,364
	Emirates	GLA – DAR	2h 25m DXB	round trip

1 longer or more expensive flight

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF RESEARCH CLEARANCE AND PERMIT AT COSTECH

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	Foreigners Affiliated to Local Research and Higher Learning Institutions	Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	50 USD	50 USD
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to apply for permit by presenting a proof of payment of research permit fees (300 USD) and three passport size photos.

T218296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number: 9943300011101

Service Provider Code: SP433

Payer Ref: (b)(6)

Address: GLASGOW

Payer Name: (b)(6)

General Description

Research fee for (b)(6) to undertake its research Project: Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
Research Fees For TZ	1	3,800.00	3,800.00
Research Permit for Non-Tertiary Students	1	200.00	200.00

Total: 3,800.00 USD

Amount in Words: Three Thousand Eight Hundred

Issued On:

Expires On:

Payment By:

Payment For:

Note:

(b)(6)

(b)(6)

Authorized Officer

How to Pay

Payment Control Number: 9943300011101

Payment Control No: 9943300011101

(b)(6)

- Bank Name: CRDB Bank
- Branch:
- Bank Account Name:
- Payment: 9943300011101

- Bank Name: NMB Bank
- Branch:
- Bank Account Name:
- Payment: 9943300011101

(b)(6)

Shipping Costs

World Courier
AmerisourceBergen



WC Quote Reference:: QED064190516 v2

Information:

Quote for a shipment of::	Non haz RNA & DNA Samples
Customer Account Name::	University of Glasgow
Account Number::	6516
Customer Contact::	(b)(6)
Contact Details::	
Client Quote Reference:	N/A

Content:

Packaging Supplies	1 x GDI 30 L with Dry Ice & 1 x Biobag
Temperature	Frozen (Dry Ice)
Date	17-05-19
Completed By	(b)(6)

Conditions:

Validity: This Quote is Valid for 6 Months from the date of Issue

Currency: **GBP**

Terms: Please note our payment terms are 30 days from the date of invoice unless more restrictive terms are advised during account application. A charge of 0.667% per month will apply to past due balances on a per diem basis.

All work is carried out subject to current terms and conditions shown on the HWB. Full conditions are available on http://www.worldcourier.com/wc-conditions-of-carriage By accepting this quote you enter into an agreement to pay according to these terms.

The current Fuel & Security surcharge is: **15.6%**

							Transport:						Packaging, Supply & extra charges				Temperature Monitioring:		Total
							port-to-port			pre- / on-carriage									
	Description:	Origin City, Country	Destination City, Country	Routing:	Estimated Shipment weight	O/W per ½ kg	Base Rate up to 1kg	Est Overweight Charge	Transfer	Origin Driveaway	Destination Driveaway	Fuel & Security 15.6%	Packaging Supplies	Export Brokerage	Other Charges	Tranship Surcharge	Temperature Monitor	Temperature	Price for one shipment including FSS:
1	Non haz RNA & DNA Samples	Moshi / TZA	Glasgow / GBR	Via Transfer	25.0 kg	17.08	870.00	819.84	93.00	319.00	72.00	339.12	295.00	150.00	-	-	N/A	Frozen (Dry Ice)	**2,957.96**

Conditions:

The above quote is subject to variation depending on the final weight of the shipment.
If at the time of shipping the volumetric weight is found to be greater than the actual weight, overweight and the tranship surcharge will be applied using the volumetric weight, v = (L x W x **H**) / 6000, where the dimensions are in cm.
If additional attempts are required due to a rescheduled collection or delivery or to preposition / recover reusable packaging then additional charges will apply.
Final origin and destination drive charges are subject to variation based on exact pick up and delivery locations.
If this information was not provided during the quoting process then the displayed amount will be estimated based on a central point for the named city and subject to change.

Customs Taxes / Duty have not been included in this quote. Taxes/ Duty will be charged where applicable in line with declared Incoterms and in line with Local Legislation
Airline Warehousing and storage charges will be charged in addition when applicable
This Quote is only valid if mentioned when booking
All rates shown are route specific and subject to change depending on any specific collection time and delivery requirements advised at booking
The Fuel & Security surcharge is applied to the base, overweight and driveaway charges only. This rate is reviewed on a quarterly basis & will be charged at the current rate at the time of shipping.

All Quoted charges are exclusive of VAT. Export Brokerage has been added to this quotation if applicable. Any applicable Import Customs Brokerage charges have not been included in this quotation unless specified. Any brokerage services performed by WC will be charged at £81. If WC are invoiced by an external broker for this service then extra charges could apply in addition to this rate.
All Shipments Collected or delivered on a local weekend day or public holiday will incur a surcharge of £90. Weekday shipments collected or delivered between 1900-0700 will incur an after hours surcharge of £25
If additional attempts are required to either collect or deliver shipments or preposition / recover reusable packaging then a charge of £60 + Applicable drive charges will be applied
Charges for reusable packaging (VIP / GTC) may be subject to Extra rental days if the shipment duration exceeds 7 days or if the packaging is not made available on delivery. Dry Ice shipments will be monitrored and replenishments (if required) will be charged in addition to the above quoted amounts.

Notes:

Materials and consumables costs are based upon the average actual annual expenditure (over 4 years) by researchers within this laboratory performing similar experiments to those in the project. These costs were extracted from the University of Glasgow purchasing system Agresso

Account__T	date	Text	Amount GBP	Dollar cost
OTHER LABORATORY SUPPLIE	10/11/17	20057290 Specimen bag	506.00	694.84
MAIL COURIER AND FREIGHT S	10/11/17	carriage	8.55	11.74
OTHER LABORATORY SUPPLIE	10/11/17	20056402 Thermal control unit fibreboard outer refu	16.70	22.93
MAIL COURIER AND FREIGHT S	10/11/17	20056402 Thermal control unit fibreboard outer refu	10.26	14.09
PLASTICWARE	10/11/17	97256	36.30	49.85
SMALL EQUIPMENT (AS CONS	10/12/17	S7108110010100ul 8 channel multichannel pipetteO	340.00	466.89
PLASTICWARE	10/26/17	98215	112.53	154.53
PLASTICWARE	10/26/17	98215	192.10	263.79
BIOCHEMICALS	11/10/17	98695	177.60	243.88
PLASTICWARE	11/14/17	100439	72.60	99.69
PLASTICWARE	11/20/17	101801	73.18	100.49
TISSUE CULTURE AND BACTER	11/20/17	101801	11.00	15.11
OTHER LABORATORY SUPPLIE	11/20/17	101801	5.65	7.76
PLASTICWARE	11/29/17	102403	146.07	200.58
TISSUE CULTURE AND BACTER	11/29/17	102403	13.75	18.88
STATIONERY AND OFFICE SUP	11/29/17	102403	0.40	0.55
BIOCHEMICALS	11/30/17	HWB L4 Lab biochemicals Oct17 for N Logan	8.68	11.92
ORGANIC CHEMICALS	11/30/17	HWB L4 Lab organic chemicals Oct17 for N Logan	0.43	0.59
PLASTICWARE	11/30/17	HWB L4 Lab plasticware Oct17 for N Logan	2.89	3.97
PLASTICWARE	11/30/17	HWB L4 Cell Culture plasticware Oct17 for N Logan	16.71	22.95
OTHER LABORATORY SUPPLIE	11/30/17	HWB L4 Lab other lab supplies Oct17 for N Logan	0.59	0.81
MAIL COURIER AND FREIGHT S	11/30/17	HWB L4 Lab freight Oct17 for N Logan	0.82	1.13
CLEANING MATERIALS	11/30/17	HWB L4 Cell Culture cleaning materials Oct17 for N I	1.87	2.57
CLEANING MATERIALS	11/30/17	HWB L4 Lab cleaning materials Oct17 for N Logan	0.60	0.82
WORKSHOP CONSUMABLES	11/30/17	HWB L4 Cell Culture workshop cons Oct17 for N Loga	13.33	18.30
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	7.62	10.46
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	0.26	0.36
MAIL COURIER AND FREIGHT S	12/6/17	DHL/7574213301/LEEDS UNITED KINGDOM	0.26	0.36
MAIL COURIER AND FREIGHT S	12/6/17	DHL/7574213301/LEEDS UNITED KINGDOM	7.62	10.46
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	76.80	105.46
PLASTICWARE	1/8/18	104669	73.18	100.49
STATIONERY AND OFFICE SUP	1/8/18	104669	0.88	1.21

PLASTICWARE	1/24/18	105736	255.66	351.07
STATIONERY AND OFFICE SUP	1/24/18	105736	0.82	1.13
BONDED ALCOHOLS	1/31/18	HWB L4 Cell Culture bonded alchols Nov17 for N Log	2.46	3.38
BONDED ALCOHOLS	1/31/18	HWB L4 Lab bonded alcohols Dec17 for N Logan	0.75	1.03
DISPOSAL OF CHEMICAL & RAI	1/31/18	HWB L4 Cell Culture disp of chemical waste Nov17 f	0.48	0.66
DISPOSAL OF CLINICAL WASTE	1/31/18	HWB L4 Lab disp of clinical waste Nov17 for N Logar	3.31	4.55
ORGANIC CHEMICALS	1/31/18	HWB L4 Lab organic chemicals Nov17 for N Logan	2.32	3.19
PLASTICWARE	1/31/18	HWB L4 Lab plasticware Nov17 for N Logan	11.30	15.52
PLASTICWARE	1/31/18	HWB L4 Cell Culture plasticware Dec17 for N Logan	90.09	123.71
PLASTICWARE	1/31/18	HWB L4 Cell Culture plasticware Nov17 for N Logan	73.17	100.48
PLASTICWARE	1/31/18	HWB L4 Lab plasticware Dec17 for N Logan	5.79	7.95
OTHER LABORATORY SUPPLIE	1/31/18	HWB L4 Cell Culture other lab supplies Nov17 for N L	14.34	19.69
CLEANING MATERIALS	1/31/18	HWB L4 Cell Culture cleaning materials Dec17 for N	8.42	11.56
CLEANING MATERIALS	1/31/18	HWB L4 Cell Culture cleaning materials Nov17 for N	8.77	12.04
CLEANING MATERIALS	1/31/18	HWB L4 Lab cleaning materials Nov17 for N Logan	5.28	7.25
STATIONERY AND OFFICE SUP	1/31/18	HWB L4 Lab stationery Nov17 for N Logan	0.62	0.85
PLASTICWARE	2/5/18	106442	170.56	234.21
PLASTICWARE	2/8/18	106760	157.34	216.06
BIOCHEMICALS	2/27/18	X8 ZEOCIN 100MGML PACK OF 8 X 125ML	240.78	330.64
BONDED ALCOHOLS	2/28/18	HWB L4 Cell Culture bonded alcohols Jan18 for N Log	2.39	3.28
PLASTICWARE	2/28/18	HWB L4 Cell Culture plasticware Jan18 for N Logan	36.18	49.68
PLASTICWARE	2/28/18	HWB L4 Lab plasticware Jan18 for N Logan	5.05	6.93
COMPUTER CONSUMABLES	2/28/18	HWB L4 Lab computer consumables Jan18 for N Log	4.07	5.59
CLEANING MATERIALS	2/28/18	HWB L4 Cell Culture cleaning materials Jan18 for N L	22.94	31.50
CLEANING MATERIALS	2/28/18	HWB L4 Lab cleaning materials Jan18 for N Logan	1.85	2.54
STATIONERY AND OFFICE SUP	2/28/18	HWB L4 Lab stationery Jan18 for N Logan	0.15	0.21
STATIONERY AND OFFICE SUP	2/28/18	HWB L4 Cell Culture stationery Jan18 for N Logan	0.10	0.14
WORKSHOP CONSUMABLES	2/28/18	HWB L4 Cell Culture workshop consumables Jan18 fc	83.33	114.43
PLASTICWARE	3/5/18	109015	205.03	281.55
PLASTICWARE	3/15/18	109649	109.77	150.74
TISSUE CULTURE AND BACTER	3/15/18	109649	9.00	12.36
TISSUE CULTURE AND BACTER	3/15/18	109649	2.75	3.78
BIOCHEMICALS	3/21/18	110057	120.71	165.76

BIOCHEMICALS	3/31/18	HWB L4 Lab biochemicals Feb18 for N Logan	19.25	26.43
BONDED ALCOHOLS	3/31/18	HWB L4 Lab bonded alchols Feb18 for N Logan	0.77	1.06
DISPOSAL OF CHEMICAL & RAI	3/31/18	HWB L4 Lab disp of chemical waste Feb18 for N Log	0.31	0.43
PLASTICWARE	3/31/18	HWB L4 Cell Culture plasticware Feb18 for N Logan	35.39	48.60
PLASTICWARE	3/31/18	HWB L4 Lab plasticware Feb18 for N Logan	6.21	8.53
OTHER LABORATORY SUPPLIE	3/31/18	HWB L4 Lab other lab supplies Feb18 for N Logan	9.96	13.68
CLEANING MATERIALS	3/31/18	HWB L4 Lab cleaning materials Feb18 for N Logan	7.20	9.89
CLEANING MATERIALS	3/31/18	HWB L4 Cell Culture cleaning materials Feb18 for N	1.87	2.57
STATIONERY AND OFFICE SUP	3/31/18	HWB L4 Lab stationery Feb18 for N Logan	0.62	0.85
BIOCHEMICALS	4/12/18	111183	192.66	264.56
TISSUE CULTURE AND BACTER	4/16/18	111305	15.29	21.00
STATIONERY AND OFFICE SUP	4/16/18	111305	7.10	9.75
BIOCHEMICALS	4/25/18	order number for oligo card required	90.00	123.59
BONDED ALCOHOLS	4/30/18	HWB L4 Cell Culture bonded alcohols Mar18 for N Lo	2.39	3.28
DISPOSAL OF CLINICAL WASTE	4/30/18	HWB L4 Cell Culture disp of clinical waste Mar18 for	1.74	2.39
DISPOSAL OF CLINICAL WASTE	4/30/18	HWB L4 Lab disp of clinical waste Mar18 for N Logar	0.87	1.19
PLASTICWARE	4/30/18	112103	54.89	75.37
PLASTICWARE	4/30/18	HWB L4 Cell Culture plasticware Mar18 for N Logan	74.40	102.17
PLASTICWARE	4/30/18	HWB L4 Lab plasticware Mar18 for N Logan	2.89	3.97
TISSUE CULTURE AND BACTER	4/30/18	112103	2.86	3.93
TISSUE CULTURE AND BACTER	4/30/18	HWB L4 Cell Culture tissue culture Mar18 for N Loga	12.66	17.38
OTHER LABORATORY SUPPLIE	4/30/18	HWB L4 Cell Culture other lab supplies Mar18 for N L	14.34	19.69
LAB EQUIPMENT MAINTENAN	4/30/18	Repairs	142.00	194.99
CLEANING MATERIALS	4/30/18	HWB L4 Cell Culture cleaning materials Mar18 for N	5.29	7.26
WORKSHOP CONSUMABLES	4/30/18	HWB L4 Cell Culture workshop consumables Mar18 f	1.67	2.29
BIOCHEMICALS	5/4/18	1934975 HIGH-FIDELITY MASTER MIX	106.75	146.59
BIOCHEMICALS	5/14/18	1937687 E6300S	124.25	170.62
BIOCHEMICALS	5/17/18	1938305 RABBIT ANTI-HUMAN & LIGHT CHAIN ANTI	98.00	134.57
PLASTICWARE	5/17/18	113025	146.07	200.58
TISSUE CULTURE AND BACTER	5/17/18	113025	8.25	11.33
MAIL COURIER AND FREIGHT S	5/17/18	1938305 RABBIT ANTI-HUMAN & LIGHT CHAIN ANTI	30.00	41.20
PLASTICWARE	5/23/18	113380	109.77	150.74
PLASTICWARE	5/30/18	113791	73.18	100.49

TISSUE CULTURE AND BACTER	5/30/18	113791	22.22	30.51
DISPOSAL OF CHEMICAL & RAI	5/31/18	HWB L4 Cell Culture disp of chemical waste Apr18 fc	34.42	47.27
PLASTICWARE	5/31/18	HWB L4 Cell Culture plasticware Apr18 for N Logan	44.37	60.93
OTHER LABORATORY SUPPLIE	5/31/18	HWB L4 Lab other lab supplies Apr18 for N Logan	1.78	2.44
OTHER LABORATORY SUPPLIE	5/31/18	HWB L4 Cell Culture other lab supplies Apr18 for N L	2.03	2.79
CLEANING MATERIALS	5/31/18	HWB L4 Lab cleaning materials Apr18 for N Logan	1.50	2.06
CLEANING MATERIALS	5/31/18	HWB L4 Cell Culture cleaning materials Apr18 for N I	7.18	9.86
STATIONERY AND OFFICE SUP	5/31/18	HWB L4 Lab stationery Apr18 for N Logan	0.62	0.85
WORKSHOP CONSUMABLES	5/31/18	HWB L4 Lab workshop consumables Apr18 for N Log	0.06	0.08
WORKSHOP CONSUMABLES	5/31/18	HWB L4 Cell Culture workshop consumables Apr18 fc	42.22	57.98
BIOCHEMICALS	6/6/18	114194	28.80	39.55
PLASTICWARE	6/6/18	114180	218.96	300.68
OTHER LABORATORY SUPPLIE	6/7/18	114316	15.16	20.82
BIOCHEMICALS	6/13/18	114716	52.50	72.09
TISSUE CULTURE AND BACTER	6/13/18	114716	8.25	11.33
OTHER LABORATORY SUPPLIE	6/13/18	114316	45.48	62.45
STATIONERY AND OFFICE SUP	6/13/18	114716	0.34	0.47
PLASTICWARE	6/18/18	114954	109.77	150.74
PLASTICWARE	6/26/18	115526	146.36	200.98
TISSUE CULTURE AND BACTER	6/26/18	115526	8.14	11.18
TISSUE CULTURE AND BACTER	6/26/18	115526	16.50	22.66
PLASTICWARE	6/28/18	115713	133.68	183.57
BIOCHEMICALS	6/30/18	Transfer Garscube stores order 111897 for biochemi	130.26	178.87
BONDED ALCOHOLS	6/30/18	HWB L4 Cell Culture bonded alcohols May18 for N Lo	1.08	1.48
INORGANIC CHEMICALS	6/30/18	HWB L4 Lab inorganic chemicals May18 for N Logan	0.73	1.00
PLASTICWARE	6/30/18	Transfer Garscube stores orders 99847/102244/102	1103.06	1514.72
PLASTICWARE	6/30/18	HWB L4 Cell Culture plasticware May18 for N Logan	91.23	125.28
PLASTICWARE	6/30/18	HWB L4 Lab plasticware May18 for N Logan	6.67	9.16
TISSUE CULTURE AND BACTER	6/30/18	Part transfer Garscube stores order 104245 for tissu	10.10	13.87
OTHER LABORATORY SUPPLIE	6/30/18	HWB L4 Lab other lab supplies May18 for N Logan	1.31	1.80
OTHER LABORATORY SUPPLIE	6/30/18	HWB L4 Cell Culture other lab supplies May18 for N I	12.90	17.71
OTHER LABORATORY SUPPLIE	6/30/18	CVR Communal Consumable Charge 2017/18 for B W	1000.00	1373.20
OTHER LABORATORY SUPPLIE	6/30/18	CVR Communal Consumable Charge 2017/18 for M H	667.00	915.92

CLEANING MATERIALS	6/30/18	HWB L4 Lab cleaning materials May18 for N Logan	18.47	25.36
CLEANING MATERIALS	6/30/18	HWB L4 Cell Culture cleaning materials May18 for N	18.90	25.95
BONDED ALCOHOLS	7/31/18	HWB L4 Cell Culture bonded alcohols Jul18 for N Log	4.30	5.90
BONDED ALCOHOLS	7/31/18	HWB L4 Lab bonded alcohols Jul18 for N Logan	2.44	3.35
BONDED ALCOHOLS	7/31/18	HWB L4 Lab bonded alcohols Jun18 for N Logan	3.08	4.23
DISPOSAL OF CHEMICAL & RAI	7/31/18	HWB L4 Lab disp of chemical waste Jun18 for N Loga	45.64	62.67
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Cell Culture disp of clinical waste Mar18 adj	-3.48	-4.78
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Lab disp of clinical waste Mar18 adj for N Lo	-1.74	-2.39
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Lab disp of clinical waste Nov17 adj for N Lo	-6.62	-9.09
INORGANIC CHEMICALS	7/31/18	HWB L4 Cell Culture inorganic chemicals Jul18 for N	2.22	3.05
ORGANIC CHEMICALS	7/31/18	HWB L4 Lab organic chemicals Jul18 for N Logan	0.86	1.18
PLASTICWARE	7/31/18	HWB L4 Cell Culture plasticware Jun18 for N Logan	232.54	319.32
PLASTICWARE	7/31/18	HWB L4 Cell Culture plasticware Jul18 for N Logan	303.62	416.93
PLASTICWARE	7/31/18	HWB L4 Lab plasticware Jun18 for N Logan	15.40	21.15
PLASTICWARE	7/31/18	HWB L4 Lab plasticware Jul18 for N Logan	9.73	13.36
TISSUE CULTURE AND BACTER	7/31/18	HWB L4 Lab tissue culture Jul18 for N Logan	61.02	83.79
OTHER LABORATORY SUPPLIE	7/31/18	HWB L4 Cell Culture other lab supplies Jun18 for N Lo	0.54	0.74
CLEANING MATERIALS	7/31/18	HWB L4 Cell Culture cleaning materials Jul18 for N L	4.93	6.77
CLEANING MATERIALS	7/31/18	HWB L4 Lab cleaning materials Jun18 for N Logan	2.48	3.41
CLEANING MATERIALS	7/31/18	HWB L4 Lab cleaning materials Jul18 for N Logan	2.16	2.97
CLEANING MATERIALS	7/31/18	HWB L4 Cell Culture cleaning materials Jun18 for N l	19.28	26.48
STATIONERY AND OFFICE SUP	7/31/18	HWB L4 Lab stationery Jun18 for N Logan	1.24	1.70
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop consumables Mar18 a	-3.34	-4.59
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop cons Oct17 adj for N l	-26.66	-36.61
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop consumables Apr18 a	-84.44	-115.95
OTHER JANITORIAL COSTS	7/31/18	HWB L4 Lab other janitorial costs Jul18 for N Logan	7.62	10.46
OTHER JANITORIAL COSTS	7/31/18	HWB L4 Cell Culture other janitorial costs Jul18 for N	23.78	32.65
TISSUE CULTURE AND BACTER	8/20/18	119591	8.28	11.37
PLASTICWARE	8/29/18	120084	146.07	200.58
OTHER LABORATORY SUPPLIE	8/30/18	Tempus Blood RNA Tube	2302.80	3162.20
BIOCHEMICALS	9/6/18	SP5020 10 X casein solution	78.00	107.11
PLASTICWARE	9/12/18	120748	133.68	183.57
TISSUE CULTURE AND BACTER	9/12/18	120748	3.08	4.23

OTHER LABORATORY SUPPLIE	9/12/18	120748	14.46	19.86
OTHER LABORATORY SUPPLIE	9/13/18	6066759 Steadylite plus 1000ml kit as per quote 215	982.13	1348.66
MAIL COURIER AND FREIGHT	9/13/18	6066759 Steadylite plus 1000ml kit as per quote 215	17.25	23.69
PLASTICWARE	9/21/18	121304	170.27	233.81
TISSUE CULTURE AND BACTER	9/21/18	121304	22.86	31.39
LAB EQUIPMENT MAINTENAN	9/27/18	1450-471/normalisation standard/QUOTE 21570833	390.00	535.55
MAIL COURIER AND FREIGHT	9/27/18	1450-471/normalisation standard/QUOTE 21570833	35.00	48.06
BIOCHEMICALS	9/30/18	HWB L4 Lab biochemicalsAug18 for N Logan	19.80	27.19
BONDED ALCOHOLS	9/30/18	HWB L4 Cell Culture bonded alcohols Aug18 for N Lo	2.15	2.95
ORGANIC CHEMICALS	9/30/18	HWB L4 Lab organic chemicals Aug18 for N Logan	2.03	2.79
PLASTICWARE	9/30/18	HWB L4 Cell Culture plasticware Aug18 for N Logan	85.51	117.42
PLASTICWARE	9/30/18	HWB L4 Lab plasticware Aug18 for N Logan	13.64	18.73
TISSUE CULTURE AND BACTER	9/30/18	HWB L4 Lab tissue culture Aug18 for N Logan	19.96	27.41
OTHER LABORATORY SUPPLIE	9/30/18	HWB L4 Lab other lab supplies Aug18 for N Logan	0.23	0.32
CLEANING MATERIALS	9/30/18	HWB L4 Lab cleaning materials Aug18 for N Logan	1.25	1.72
CLEANING MATERIALS	9/30/18	HWB L4 Cell Culture cleaning materials Aug18 for N	3.64	5.00
OTHER JANITORIAL COSTS	9/30/18	HWB L4 Lab other janitorial costs Aug18 for N Logan	6.88	9.45
Total			**£ 14,067.33**	**$ 19,317.26**

IDvet
Innovative Diagnostics

Document N°	Account Nr	Account name		Date
CD184356	100844	UNIGLASGOW	F	15/10/2018
Reference	**Order confirmation**			
1983619				

Tel: +33(0)4 67 41 49 33 Fax: +33(0)4 67 45 36 95

Email : info@id-vet.com
Site : www.id-vet.com

Your contact : **Anna Greatrex (Int.** **Katja NOOR COROUGE**

Delivery address :

The Store -School of Veterinary Medicine
Level 1 Urquhart Building
Garscube Estate
464 Bearsden Road
G61 1QH Glasgow

ROYAUME UNI

Attention :

Invoicing Address

University of Glasgow - Finance Office
Main Building, East Quadrangle
G12 8QQ Glasgow, Scotland
ROYAUME UNI

Tel :
Fax :

VAT : GB 671 798 093
Siret :

	Code	Designation	Qty	Unit Price	% Discount	Net Price	Amount
001	CCHFDA-5P-E23	ID Screen® CCHF Double Antigen Multi-species	1,00	1 060,00		1 060,00	1 060,00
	Exp. : 09/2020	5 Plates - Double Antigen					

Total Qty : 1,00

Transport	Incoterms ® 2010
FEDEX	DAP Glasgow

Orders are generally sent within 48 hours

Ship :	30,00	Amount	EUR 1 090,00
Amount subjected to VAT :			
Exo :	1 090,00	**TOTAL**	EUR 1 090,00

Payment terms: Swift Bank Transfer at 30 days

IDvet
Innovative Diagnostics

310 rue Louis Pasteur - 34790 GRABELS - France
SIRET 478 123 219 00022 APE 7211Z TVA FR 17478123219

Coordonnées bancaires : Banque Dupuy de Parseval Montpellier
Code Banque 12939 Code Guichet 00031 N°Compte 40000760577 Clé 27
IBAN FR76 1293 9000 3140 0007 6057 727 SWIFT BIC : BDUPFR2S

New account in Dollars : HSBC Montpellier code banque 30056 code guichet 00967
n°compte 09670001413 clé : 64
IBAN : FR76 3005 6009 6709 6700 0141 364 SWIFT BIC CCFRFRPP

Budget Justification

Moved down [2]: Budget Justification

Deleted:

Moved (insertion) [2]

Formatted: Left

(b)(6)
(b)(6)

(b)(6)

He serves as Country Representative

(b)(6)
He

(b)(6)

(b)(6)
(b)(6)

He

(b)(6)

He

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

(b)(6)

Deleted: Budget Justification
Washington State University /
WSU Global Animal Health Tanzania (GAHT)

Note: Cost calculations are rounded to nearest dollar

Senior/Key Personnel

(b)(6), Co-Investigator, 2.4 cal. mo. (years 1-2); 2.0 cal. mo. (years 3-5).

(b)(6) is a Clinical Assistant Professor at Washington State University's Paul G. Allen School for Global Animal Health. Now based in the UK, Dr. (b)(6) has conducted zoonotic disease research since 2009 and has extensive experience with project leadership within the African and One Health research contexts. He serves as Country Representative of WSU's non-profit subsidiary Global Animal Health Tanzania (GAHT), legally registered in Tanzania to facilitate in-country research and support research capacity-building activities on zoonotic infectious diseases. (b)(6) will commit 20% effort to the project in Years 1-2 and 16.67% effort in Years 3-5. He will oversee all GAHT activities and supervise GAHT project staff, assist in the coordination of the field activities, serve as liaison with high level Ministerial collaborators and interested parties within the Government of the United Republic of Tanzania, and will collaborate with the PI on data analysis and the drafting of manuscripts, reports and policy documents.
Salary request for (b)(6) is $26,192 in Year 1 and budgeted to inflate at 3% annually.
Fringe benefits for (b)(6) are calculated at 18% of salary. Year 1 request: $4,715

Senior/Key Personnel Total, 5-year project period: $147,198

B. Other Personnel

WSU Global Animal Health Tanzania (GAHT) maintains an office in Arusha, TZ, to support WSU investigators [1]

Moved (insertion) [1]

Moved up [1]: Travel support within Tanzania is also requested for (b)(6) and the Project Coordinator to carry out project activities. (b)(6) travel includes:
Two road trips, 3 days each in Years 1 and 2 to field sites to oversee animal health team activities and sampling procedures. Year 1 budget includes lodging and meal per diem ($157/day x 3 days x 2 trips = $942) and fuel for 720 km per trip ($150 x 2 trips = $300) = $1,242; 3% inflation in Year 2.
One 2-day trip in Years 1 and 2 to visit the wildlife sampling field team. Year 1 costs include return flight Arusha to Seronera ($241) and lodging and per diem ($157/day x 2 days = $314): $555; budgeted with 3% inflation Year 2.
Field visits, Years 1 and 2, total $3,648.

One trip, 2 days each annually to Dar es Salaam and/or Dodoma for meetings with United Republic of Tanzania Ministry officials and other stakeholders. Year 1 costs

Budget Documentation – Washington State University

1) Salaries.....2
- (b)(6) Assistant Professor
- (b)(6) Administrative Manager, GAHT
- (b)(6) Program Coordinator, GAHT
- October 2019 GAHT Payroll information, with Tsh to USD exchange rate
- Draft employment contract, TBN, Project Veterinarian
- Draft employment contract, TBN, Field Assistant

2) GAHT Fringe Benefits.....13

3) Other Direct Costs.....15
- Permits
- Vehicle Maintenance
- Vehicle Insurance
- Supplies
- Medical Waste Disposal, KCMC
- Draft Personal Service / Consultant Contract, TBN, Mammologist
- Estimate of Translation Services

4) Indirect Cost Rate.....39

5) Travel.....45
- London to Arusha, TZ
- Arusha to Seronera, TZ
- Arusha to Dar es Salaam, TZ
- London to Europe
- Lodging and meal per diem rates, TZ


WSU AIS - wc3270
PPDS2310 DEPPS System 17:21:20 11/12/19
NS AP SL Employee/Appointment Select
WSU No :
Name
Appointments as of 10/22/19
Sel Posn Titl CSR Title Begin End FT Rate FTE Pay Rate TTPSLAymTytvcp Dept
1 114893 0267 010119 093021 10913.44 1.0000 10913.44/M E Y7NY 8670
Enter Sel number and press <Enter>
Page 1 of 1
Command ==>
PF4 = PF Key Help PF6 = Picklist PF12 = Menu
4B
SWTC13652
023/014

WASHINGTON STATE UNIVERSITY

Global Animal Health - Tanzania

August 1st, 2019

(b)(6)
Mjimwema Area/Kigamboni
Dar es salaam
TANZANIA

Dear (b)(6)

RE: APPOINTMENT AS ADMINISTRATIVE MANAGER FOR GLOBAL ANIMAL HEALTH TANZANIA

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Administrative Manager	
Working Title:	Administrative Manager	
Place of Recruitment:	Arusha	
Location of work:	Global Animal Health Tanzania, Uzunguni Area, Sekou Toure Road, Gymkhana, Arusha	
Reporting:	School for Global Animal Health, Director of Finance and Administration	
Appointment Duration:	1st of September 2019 to 31st of August 2020	
Gross Monthly Salary:	5,762,000 TZS	$2,516.68
Start Date:	1st of September, 2019	

Your position is responsible for the overall administrative coordination of Global Animal Health Tanzania (GAHT), a Non-Governmental Organization (NGO) in Arusha, Tanzania. In this position you will serve as the primary financial and personnel officer for GAHT and will operate with a broad level of independent judgment and decision making authority. You will report directly to the Paul G. Allen School for Global Animal Health, Director of Finance and Administration, an academic unit of Washington State University. You will manage the administrative functions of GAHT personnel, procurement, contracts, and finance units for GAHT. You will also manage the requisite NGO registrations and official documents, ensuring all are in order and filed with the respective United Republic of Tanzania agencies. Your responsibilities include assisting the Director of Finance and Administration and the President of

GAHT in the development of long-and-short-term strategic plans for GAHT as a sustainable and responsive NGO, leading and managing administrative activities associated with the GAHT office, and ensuring operations are aligned with GAHT and Washington State University policies and procedures as well as in compliance with United Republic of Tanzania laws, regulations, and policies.

A detailed description of the position scope of work is provided in the position description that will be given to you upon reporting.

Note: **See attached position description**

The terms of engagement are as follows:

1. **Engagement Duration:** The period of service is for one (1) year from the start date indicated herein above (1st of September, 2019 to 31st of August, 2020), on a renewable basis upon consultation with and advice from the Director of Finance and Administration and approval of the officers of GAHT. Renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal, even where you may have had a previous renewal of contract.

3. **Working Hours:** The normal working hours are 40 hours a week from 8:00am to 5:00pm, with one-hour lunch break, from Monday to Friday. At times you will be expected to work outside of the normal working hours, however the position is not eligible for overtime due to the senior level of the employment. You will have teleconference meetings, normally weekly, with the Paul G. Allen School for Global Animal Health administrative team as well as with faculty engaged in research in Tanzania. These meetings, due to time zone difference, are likely to be scheduled outside of your normal working hours.

4. **Salary:** You will be paid a Gross Monthly Salary of 5,762,000 TZS. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. **Benefits:** In addition to the salary, you will receive health insurance that you can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

6. **Annual Leave:** You will be entitled to annual leave of 22 days per year. These should be utilized within the duration of the contract through mutual agreement between you and your supervisor. You are also entitled to sick leave, maternity leave and compassionate leave as stipulated by law.

7. **Confidentiality:** During and after the term of employment (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to 3rd parties.

You will be required to complete training regarding prevention of discrimination and sexual harassment within six months of your date of hire. Information regarding this training is available at the following web site: hrs.wsu.edu/dshp.

All GAHT employees are required to adhere to the institution's policies and procedures. Please return a copy of this letter to Dr. Guy Palmer, President of GAHT, indicating whether you accept or decline the offer, not later than the 12th of August, 2019.

We are confident you will find this opportunity both challenging and rewarding, and we are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

(b)(6)

Regents Professor
Senior Executive Director, Global Health
Washington State University
President, Global Animal Health-Tanzania

(b)(6)

Director of Finance and Administration
School for Global Animal Health
Secretary-Treasurer, Global Animal Health Tanzania

Acceptance

I, ... (b)(6) . (ID NO. (b)(6)
do hereby accept ~~decline~~ (delete whichever is not applicable) the appointment and terms provided thereto (b)(6)

Signature

August 5, 2019.
Date

March 22, 2019

(b)(6)
P.O. Box 772,
Arusha, Tanzania

Dear (b)(6)

RE: APPOINTMENT AS PROGRAM COORDINATOR FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased renew your position as indicated below.

Position Title:	Program Coordinator	
Working Title:	Country Coordinator	
Place of Recruitment:	Arusha	
Location of work:	Global Animal Health Tanzania, Uzunguni Area, Sekou Toure Road, Gymkhana, Arusha	
Reporting:	School for Global Animal Health Administrative Manager	
Appointment Duration:	16th April, 2019 to 15th April, 2020	
Gross Monthly Salary:	4,095,793.97 TSH	$1788.93
Start Date:	16th of April 2019	

The position provides coordination and oversight for the numerous research projects that are carried out by Washington State University (WSU) and GAHT employees in Tanzania. Responsibilities include overseeing the purchase of supplies, disbursing funds, maintaining financial records for each project, managing reimbursements, processing payroll, managing all in country banking issues, working closely with in country auditors and legal counsel, assisting researchers in various research activities, organizing project related meetings and seminars, and managing the Arusha based GAHT office. Your position will report directly to School for Global Animal Health Administrative Manager. Additionally, you will receive direction and leadership from GAHT officers and WSU faculty coordinating research in Tanzania, and from the Washington State University administrative team, most directly from School for Global Animal Health Fiscal Analyst 3.

A detailed description of the position scope of work is provided in the position description.
Note: **See attached position description**

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (16 April 2019 to 15 April 2020), on a renewable basis upon consultation with and advice from the GAHT officers,and Administrative Manager Rebecca Manning. The contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract.

3. Working Hours: The normal working hours are 40 hours a week from 8:00am to 5:00pm, with one-hour lunch break, from Monday to Friday. At times the Program Coordinator will be expected to work outside of the normal working hours, however the position is not eligible for overtime due to the senior level of the employee. Weekly you will have skype meetings, which due to time zone difference are likely to be scheduled outside of normal working hours, with WSU Research faculty and administrative team.

4. Salary: You will be paid a Gross Monthly Salary of 4,095,793.97 TZS. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. Benefits: In addition to the salary, you will receive health insurance that can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

6. Annual Leave: You will be entitled to annual leave of 22 days per year. These should be utilized within the duration of the contract through mutual agreement between you and WSU research faculty. The employee is also entitled to sick leave, maternity leave and compassionate leave as stipulated by law.

7. Confidentiality: During and after the term of employment (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to 3rd parties.

All GAHT employees are required to adhere to the institution's policies and procedures. Please return a copy of this letter to Dr. Guy Palmer President of GAHT, indicating whether you accept or decline the offer, not later than April 15, 2019.

We are confident you will find this opportunity both challenging and rewarding, and we look forward to continuing to work with you at the Global Animal Health Tanzania program.

Sincerely,

(b)(6)

(b)(6)

Regents Professor
Senior Executive Director, School for Global Animal Health at Washington State University
President, Global Animal Health-Tanzania

Acceptance

I, (b)(6)..... (ID NO (b)(6) .....)
do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto

April 11th 2019

Signature

Date

Date

Name
Address

Dear,

RE: APPOINTMENT AS PROJECT VETERINARIAN FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Project Veterinarian
Place of Recruitment:	Arusha
Location of work:	Arusha and Meru Region, Tanzania
Reporting:	(b)(6)
Appointment Duration:	One year
Gross Monthly Salary:	5,446,800 Tsh $2,379
Start Date:	XXXX

The role of the Project Veterinarian is to participate in field activities for collection of biological samples from livestock and wildlife species, including collection of samples and management of sample transport to laboratory facilities, and collection of survey data.

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (xx/xx/xxxx to xx/xx/xxxx). The Contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract. You also recognize that your position may be retrenched in the event of cessation or reduction funding and you accept that you will be retrenched by being given one (1) month notice and other minimum terms required by local legislation.

2. Working Hours: The normal working hours are 40 hours a week from 8:30am to 5:30pm, with one-hour lunch break, from Monday to Friday. Occasionally you may be required to work beyond 40 hours and anything beyond 45 hours per week shall be considered overtime. Overtime shall be paid in accordance with local legislation requirements but only in instances where you have received prior written approval to work overtime.

3. Salary: You will be paid a Gross Monthly Salary of 5,446,800 Tsh. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

4. Benefits: In addition to the salary, you will receive health insurance that can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

5. Annual Leave: Upon completing 12 months of continuous service, you will be entitled to annual leave of 28 consecutive days per year. These should be utilized within the duration of the contract through mutual agreement between you and the Country Director. Employees are also entitled to sick leave, maternity leave, paternity leave and compassionate leave as stipulated by law and clarified in the Employee Handbook.

6. Bereavement: In the case where the employee losses his immediate family member (child or spouse) the organization will provide 1,000,000Tsh as a support to the employee. Furthermore, when the employee dies GAHT will assist the family on funeral arrangements by providing them with 3,000,000Tsh.

7. Confidentiality: During the term of employment, (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to third parties.

All GAHT employees are required to adhere to the institution's policies and procedures as issued from time to time.

Please return a copy of this letter to the GAHT Country Coordinator, indicating whether you accept or decline the offer by XXXX.

We are confident you will find this new opportunity both challenging and rewarding, and are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

.....

(b)(6)

Regents Professor
Washington State University
Chairperson, Global Animal Health-Tanzania

Acceptance

I, ... do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto.

Signature _____ Date _____

Date

Name
Address

Dear,

RE: APPOINTMENT AS FIELD ASSISTANT FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Field Assistant
Place of Recruitment:	Arusha
Location of work:	Arusha and Meru Region, Tanzania
Reporting:	(b)(6) or Country Director
Appointment Duration:	One year
Gross Monthly Salary:	1,144,800 Tsh $1000
Full time equivalent:	50%
Start Date:	XXXX

The role of the Field Assistant is to drive project vehicles and assist with field activities.

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (xx/xx/xxx to xx/xx/xxx). The Contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract. You also recognize that your position may be retrenched in the event of cessation or reduction funding and you accept that you will be retrenched by being given one (1) month notice and other minimum terms required by local legislation.

2. Probation: You shall be subjected to a three-month probation period, after which a performance assessment will be conducted by the Country Director. Confirmation of appointment is subject to the satisfactory completion of the probationary period and approval by the Country Director.

During the probation period either party may terminate the contract for whatever reason upon giving one (1) week notice in writing or payment in lieu of such notice.

Thereafter either party may terminate the contract upon giving a minimum of 28 days' notice in writing or payment in lieu of such notice

3. **Working Hours:** The Field Assistant is expected to work the equivalent of 50% of a 40 hour per week full-time appointment. As this is not a full-time position, the hours of work will vary from week to week.

4. **Salary:** You will be paid a Gross Monthly Salary of 1,144,800 Tsh. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. **Annual Leave:** Upon completing 12 months of continuous service you will be entitled to annual leave of 6 working days per year. These should be utilized within the duration of the contract through mutual agreement between you and the Country Director. Employees are also entitled to sick leave, maternity leave, paternity leave and compassionate leave as stipulated by law and clarified in the Employee Handbook.

6. **Confidentiality:** During the term of employment, (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to third parties.

All GAHT employees are required to adhere to the institution's policies and procedures. These policies are summarized in the Employee Handbook, which will be issued to all employees.

Please return a copy of this letter to the GAHT Country Director, indicating whether you accept or decline the offer, not later than XXXX.

We are confident you will find this new opportunity both challenging and rewarding, and are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

.....

(b)(6)

Regents Professor
Washington State University
Chairman, Global Animal Health-Tanzania

Acceptance

I, ...do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto.

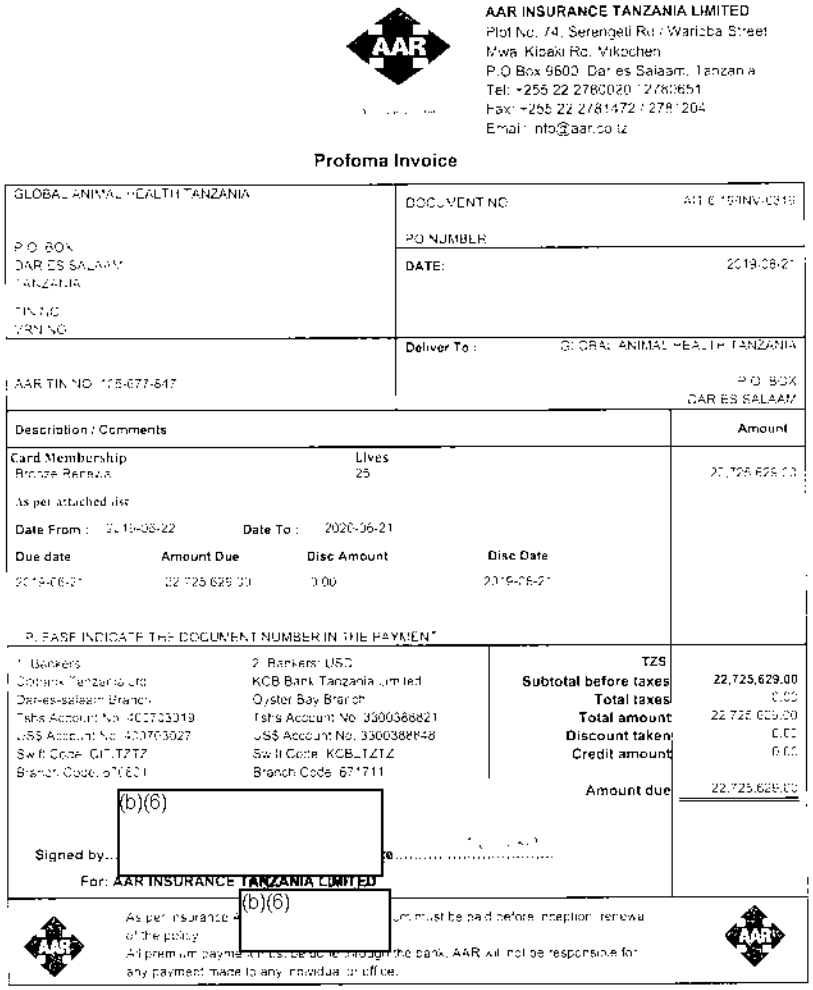
Signature _____ Date _____

HEALTH INSURANCE AND OTHER BENEFITS COSTS FOR GAHT EMPLOYEES

There are three major benefits for GAH employees (local staff) as follows;

1. 22 days per year as annual leave
2. 10% of gross salary as social security contribution, and
3. Health insurance for staff and up to 4 immediate dependents (spouse and children). The annual health insurance is TZS 22,725,629 equivalent to USD 9,900. Below is the proof of payments of Health Insurance for GAHT 7 employees for the period June 2019 – June 2020.

Paid 20,574,101.40 for field team's insurance



AAR INSURANCE TANZANIA LIMITED
Plot No. 74, Serengeti Rd / Waziba Street
Mwa Kibaki Rd, Mikocheni
P.O Box 9600 Dar es Salaam, Tanzania
Tel: +255 22 2780020 / 2780651
Fax: +255 22 2781472 / 2781204
Email: info@aar.co.tz

Profoma Invoice

GLOBAL ANIMAL HEALTH TANZANIA	DOCUMENT NO: AH/GHINV/0319
P.O BOX DAR ES SALAAM TANZANIA	PO NUMBER: DATE: 2019-06-21
TIN NO: VRN NO:	
AAR TIN NO: 105-677-647	Deliver To : GLOBAL ANIMAL HEALTH TANZANIA P.O BOX DAR ES SALAAM

Description : Comments				Amount
Card Membership Bronze Renewa As per attached list		Lives 25		22,725,629.00
Date From : 2019-06-22	Date To : 2020-06-21			
Due date	Amount Due	Disc Amount	Disc Date	
2019-06-21	22,725,629.00	0.00	2019-06-21	

PLEASE INDICATE THE DOCUMENT NUMBER IN THE PAYMENT

1. Bankers	2. Bankers: USD		
Stanbic Tanzania Ltd	KCB Bank Tanzania Limited	TZS	
Dar-es-salaam Branch	Oyster Bay Branch	Subtotal before taxes	22,725,629.00
Tshs Account No: 9030033019	Tshs Account No: 3300368821	Total taxes	0.00
US$ Account No: 9030033027	US$ Account No: 3300388848	Total amount	22,725,629.00
Swift Code: SBICTZTX	Swift Code: KCBLTZTZ	Discount taken	0.00
Branch Code: 01631	Branch Code: 671711	Credit amount	0.00
		Amount due	22,725,629.00

(b)(6)

Signed by...

For: AAR INSURANCE TANZANIA LIMITED

(b)(6)

As per insurance ... ...m must be paid before inception/renewal of the policy
All premium payments to be done through the bank, AAR will not be responsible for any payment made to any individual or office.



Payroll - Global Animal Health

USD TO TZS EXCHANGE RATE AS OF 21 October 2019: 2,289.52

OCTOBER 2019

No	Employee name	Basic	Salary Arrears	Gross salary	NSSF	Taxable pay	PAYE	HESLB	Net pay	SDL (4.5%)	WCF (1%)	Employer cost per staff
(b)(6)		1,004,894		1,004,894	100,489.38	904,404	153,421		750,983	45,220	10,049	1,160,652
		1,429,151	-	1,429,151	142,915.13	1,286,236	367,987		1,018,249	64,311	14,291	1,508,607
		1,566,849	-	1,566,849	156,684.94	1,410,164	383,224		1,098,939	70,508	15,668	1,797,638
		1,819,765	-	1,819,765	181,976.46	1,637,789	471,760		1,294,196	81,889	18,197	2,201,141
		4,095,794	-	4,095,794	409,579.40	3,686,215	997,184	614,369	2,083,862	184,311	40,958	4,793,642
		1,108,482	-	1,108,482	110,848.21	997,634	285,695		712,944	49,892	11,085	1,304,447
		5,702,000	-	5,702,000	570,200.00	5,131,800	1,631,806		3,747,671	256,590	57,020	6,585,110
		20,865,825	-	20,865,825	2,086,589	18,779,243	4,808,473	614,369	13,356,401	938,962	208,658	24,100,078

Summary Payroll 2019

	TZS	USD
Net salary	13,356,401	5,834
PAYE	4,808,473	2,100
SDL (4.5%)	938,962	410
WCF (1%)	208,658	91
HESLB(15%)	614,369	268
TOTAL	24,100,078	10,526

(b)(6)

GLOBAL ANIMAL HEALTH TANZANIA ★ P. O. BOX 14

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF RESEARCH CLEARANCE AND PERMIT AT COSTECH

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	**Foreigners Affiliated to Local Research and Higher Learning Institutions**	**Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)**
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	50 USD	50 USD
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to apply for permit by presenting a proof of payment of research permit fees (300 USD) and three passport size photos.

b) All researchers granted research permit that involve collecting human, plant or animal materials / data that will be exported outside Tanzania must submit a signed Material Transfer Agreement (MTA) / Data Transfer Agreement (DTA) between Tanzania host institution and the foreign counterpart. The MTA/DTA will indicate terms for collecting, storing/managing, transporting, disposal or returning of the materials/DATA to Tanzania after the closure of the research project.

c) An Applicant who has been permitted to conduct research in Tanzania is obliged to submit soft and **two (2) hard copies** (printed) and soft copy of his/her research report /thesis with COSTECH on completion of research.

d) COSTECH will have an access to data and research premises of the permitted research projects.

e) A Principal Investigator (PI) permitted to conduct research in Tanzania is obliged to submit a quarterly/annually report.

f) Persons who have not submitted satisfactory final reports / thesis on previous research work in Tanzania may not be cleared for new projects. Attention will be drawn to the sponsoring institutions and referees on shared responsibility of making sure that researchers sponsored by them observe the foregoing regulations. A breach of the regulations could result in refusal of permits for other researchers sponsored by same institutions or referees.

g) Any patent or intellectual property and royalty emanating from any research approved by the National Research Registration Committee (NRRC) should be owned by the respective research institutions involved.

T218 296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number: 994330001101
Service Provider Code: SP433
Payer Name: (b)(6)
Address: DAR ES SALAAM
Phone Number: (b)(6)

General Description

Research fee for (b)(6) to undertake its research Project: Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
Research Fee for TZ	1	3,800.00	3,800.00
Research Permit Non-Refundable	1	200.00	200.00

Total: 3,800.00 USD

Amount in Words: Three Thousand Eight Hundred

Issued On:
Expires On:
Payment By:
Phone No:
Signature:

(b)(6)

(b)(6)

Instructions

How to Pay

Payment Reference: 994330001101

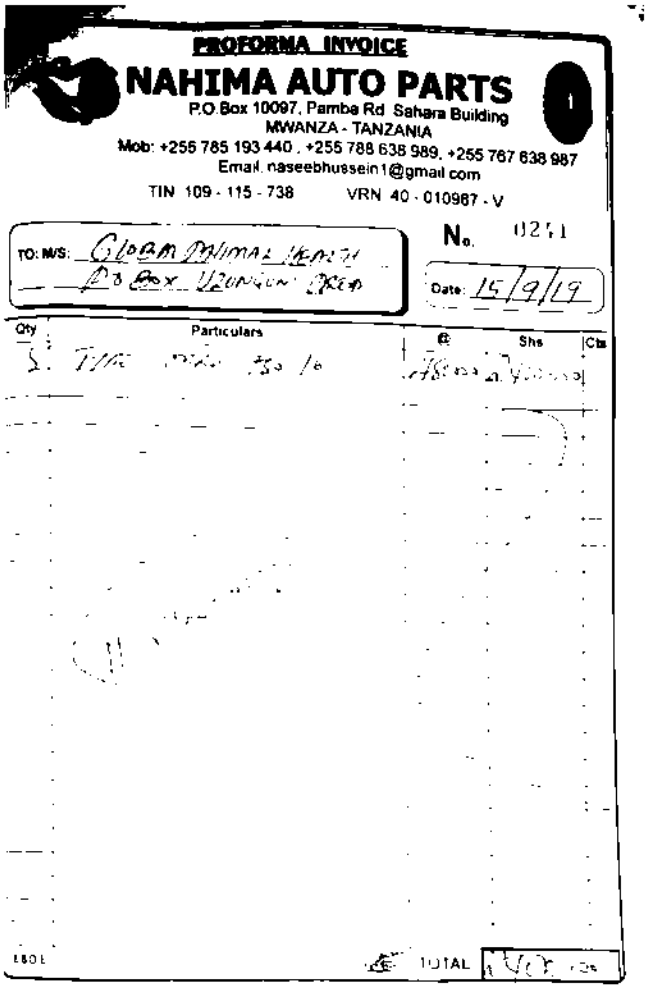
(b)(6)

- Enter Control Number: 994330001101
- Choose to Pay: (b)(6)
- Enter Amount: 3,800.00 USD
- Enter 994330001101 as Reference Number

- Enter Payer Name: (b)(6)
- Select Payment Option: (b)(6)
- Enter 994330001101 as Reference Number

Average Annual Maintenance Costs for a vehicle.

Tyre changing every after 15,000km estimated 3 times a year. 5 tyres each TZS 480,000 ($210)



PROFORMA INVOICE

NAHIMA AUTO PARTS

P.O Box 10097, Pamba Rd Sahara Building
MWANZA - TANZANIA
Mob: +255 785 193 440 , +255 788 638 989, +255 767 638 987
Email. naseebhussein1@gmail com
TIN 109 - 115 - 738 VRN 40 - 010987 - V

TO: M/S: Gloam NAHIMA HEALTH
P.O Box UZUNGUNI AREA

No. 0251

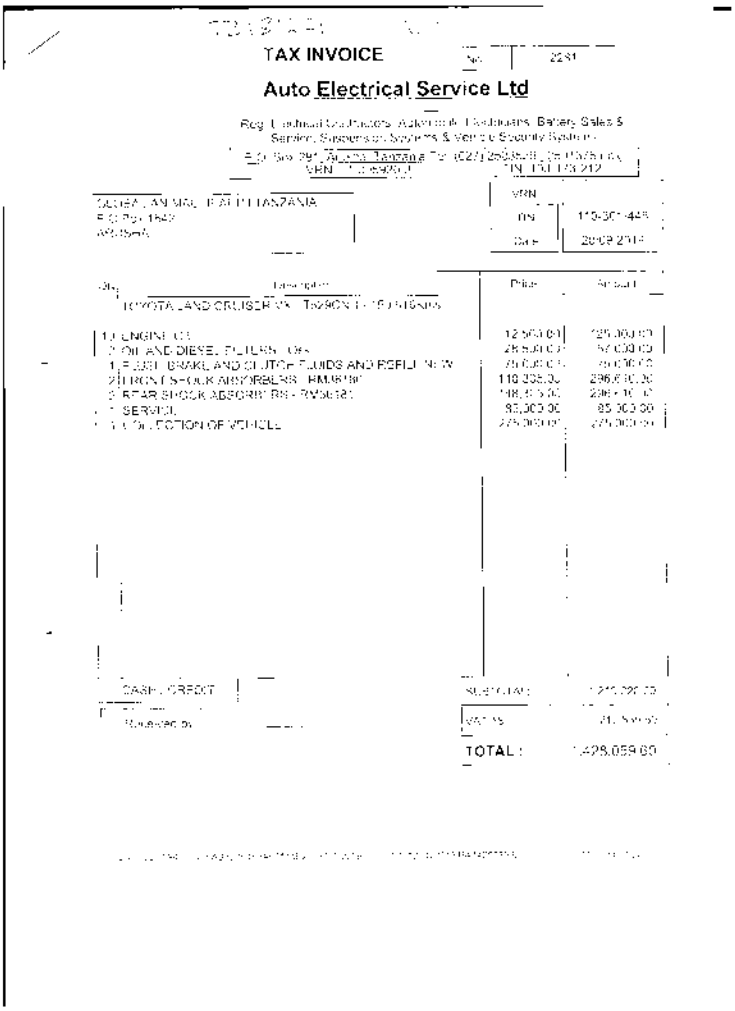
Date: 15/9/19

Qty	Particulars	@	Shs	Cts
5	TYRE 750 16			

E&OE

TOTAL

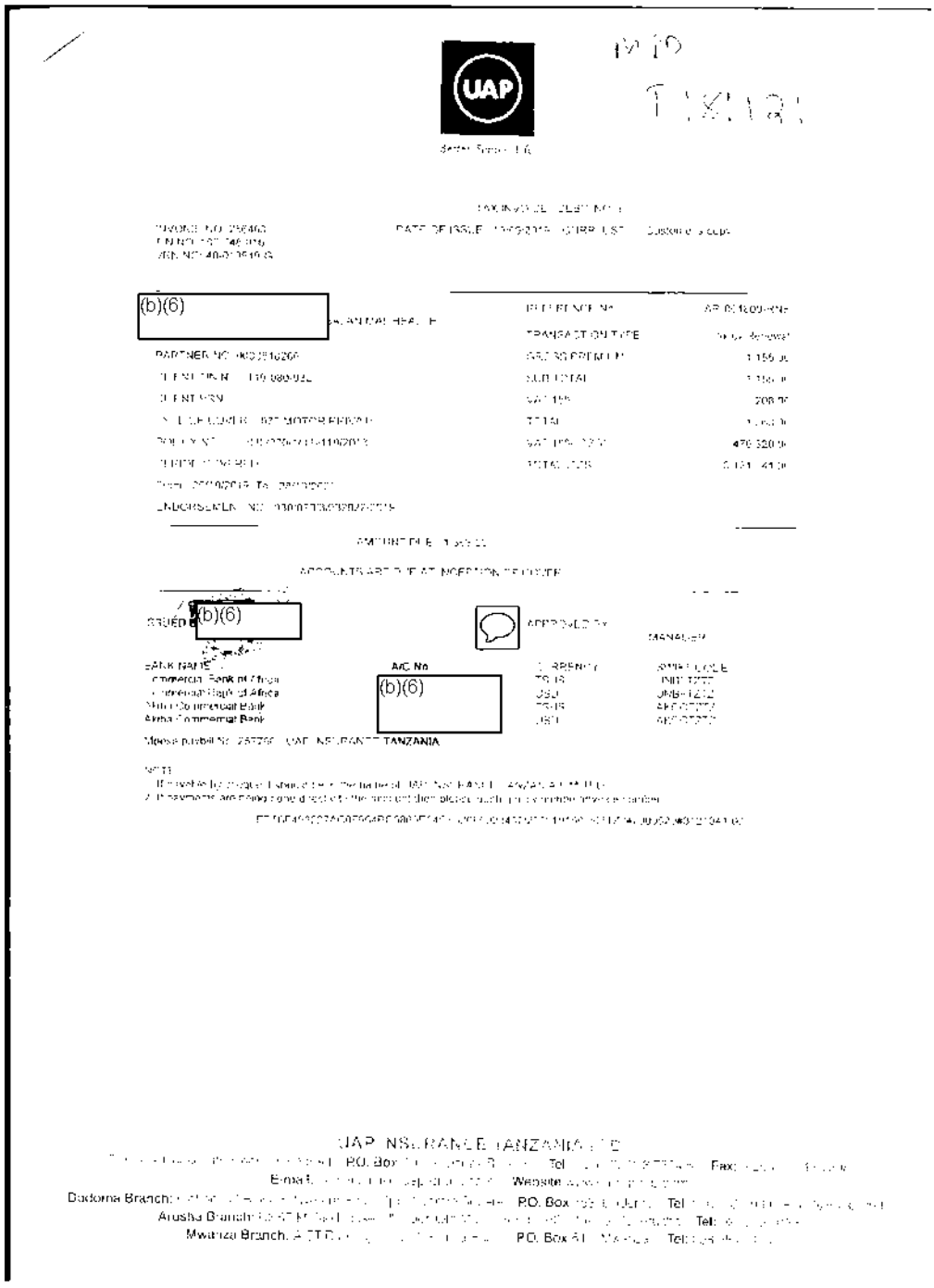
Routine Maintenance (replacement of; bush, fuel filter, air filter, shock absorbers, brake pads, and engine oil changing, etc) every after 5,000 km estimated each TZS 1,428,059.60 ($624)



TAX INVOICE

Auto Electrical Service Ltd

TOTAL : 1,428,059.60


(b)(6)

Vehicle insurance: Tsh 3,121,041 / 2,289.52 = $1,363

UAP Insurance Tanzania Ltd

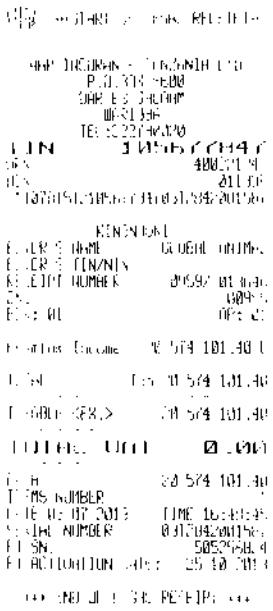
RECEIPT

Payment receipt number:	ARR000001837 07-2019
On behalf of	GLOBAL ANIMAL HEALTH TANZANIA
Currency	Tanzanian Shilling
Amount	3,131,541.00
Amount in words	THREE MILLION ONE HUNDRED THIRTY ONE THOUSAND FORTY ONE ONLY
Method of payment	Cash Dep
Cheque number	CH
Bankers	
Credit to	
Agent/Broker code	
Agent/Broker name	JARDINE & CO TANZANIA LIMITED
Type of payment	GLOBAL ANIMAL HEALTH
Policy number	TBA
Claim number	
Branch code	

Note: This receipt is subject to the realization of the amount of cheque

Issued by (b)(6)

Signed (b)(6)

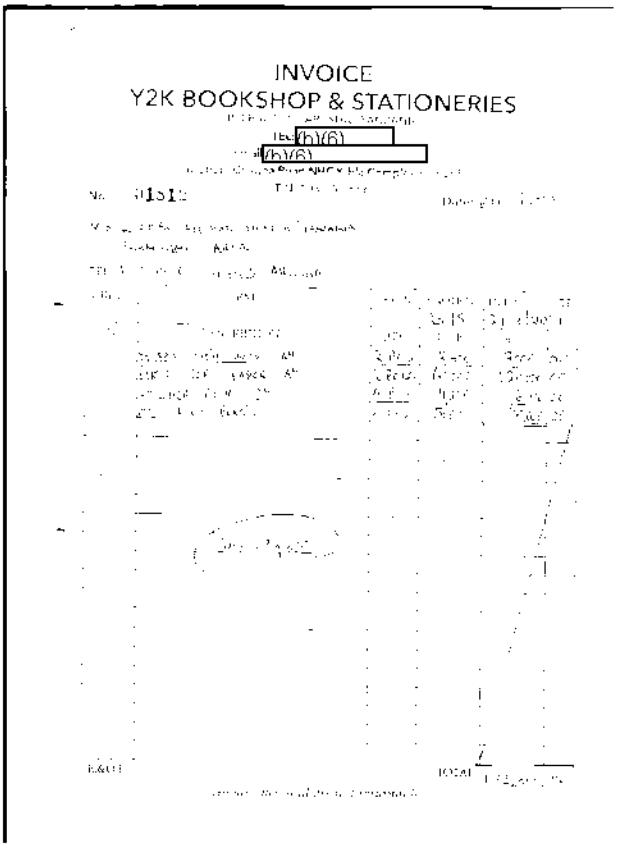


OFFICE SUPPLIES

The list of office supplies is not exhaustive and we do not have recent comprehensive list yet. Several items were purchased a couple of days ago as seen in the documents below. Note that similar purchase can occur throughout the year USD 2,000. Below is the likely list of supplies and receipt for some of items that we purchased.

LIST OF COMMON OFFICE SUPPLIES 0.00043 Ex rate oanda.com 11/5

Item	Average Price, TZS	USD Equivalent	Item	Average Price, TZS	USD Equivalent
A4 Printer paper	60,000.00	25.80	Hole puncher		-
Spiral bound notebooks - L	13,500.00	5.81	Legal pads	5,000.00	2.15
Box files	5,000.00	2.15	Manila folders	4,000.00	1.72
Stappler	7,500.00	3.23	Hanging folders	4,000.00	1.72
Punching machine	6,000.00	2.58	Paper clips	4,500.00	1.94
Pen	5,000.00	2.15	Binder clips	12,000.00	5.16
Pencils	2,500.00	1.08	Masking Tape	3,500.00	1.51
Highlighters	4,500.00	1.94	Packing Tape	4,500.00	1.94
Glue	6,000.00	2.58	White glue	6,500.00	2.80
Scissors	5,500.00	2.37	Pencil sharpner	2,500.00	1.08
Ruler	1,200.00	0.52	Erasers	1,500.00	0.65
Staplepins	3,500.00	1.51	Ink pad	3,500.00	1.51
Sticker notes	4,000.00	1.72	Correction fluid	2,500.00	1.08
Writing pads	6,000.00	2.58	Garbage bags	12,000.00	5.16
Electric extension cables	35,000.00	15.05	Broom	6,000.00	2.58
Dust bins	8,500.00	3.66	Dustpan	7,000.00	3.01
Office tray	25,000.00	10.75	Disinfectants	40,000.00	17.20
Paper shreader	320,000.00	137.60	Window cleaner	12,000.00	5.16
Notice board	70,000.00	30.10	Water dispenser refills	5,000.00	2.15
Cartilage	350,000.00	150.50	Coffee	12,000.00	5.16
Envelops	6,000.00	2.58			
Counter books	4,200.00	1.81			
Spiral note books - S	3,500.00	1.51			



INVOICE

Y2K BOOKSHOP & STATIONERIES

(b)(6)

(b)(6)

(b)(6)

(b)(4)

INVOICE

WSU budget documentation

KILIMANJARO CHRISTIAN MEDICAL CENTRE

Kilimanjaro Christian Medical Centre
An Institution of the Good Samaritan Foundation
P.O. Box 3010, Moshi, Tanzania
Telephone: 255 27 2754377/83// Fax: 255 27 2754381
Email: kcmcadmin@kcmc.ac.tz
Website: http://www.kcmc.ac.tz

Customer
Name: Global Animal
Address: Health Tanzania
City/Town:
Tel:
TIN:
VRN:

Date: 21/11/2019

No: 0069

S/NO	Qty	Particulars	PRICE	Amount
		Annual Disposal fee		USD 525=
		US Dollar Five Hundred twenty five only.		
		Deposit Account No		
		Account Name: (b)(4)		
		Account Number:		
		Bank Name (b)(4)		
		Branch Name		
		SWIFT CODE		
		Branch Code		
			SUB TOTAL	
			OTHER CHARGES	
			TOTAL	USD 525=

WASHINGTON STATE UNIVERSITY

WSU CONTRACT ##### DRAFT1

CONTRACT FOR PERSONAL SERVICES
BETWEEN

WASHINGTON STATE UNIVERSITY
AND

This contract is made and entered into by and between the state of Washington, **Washington State University**, hereinafter referred to as the "**UNIVERSITY**", and the below named firm or individual, hereinafter referred to as "**CONTRACTOR.**"

NAME
ADDRESS
CITY STATE AND ZIP
TELEPHONE
EMAIL
FEDERAL ID NO.
WASHINGTON STATE UBI NO
WSU VENDOR NO.
STATE OF WA OMWBE CERTIFICATION NO.

1. PURPOSE

The purpose of this Contract is to provide expertise for a federally funded project entitled, "Crimean Congo Hemorrhagic Fever: Reducing an emerging health threat in Tanzania," University lead investigator (b)(6) (b)(6) CONTRACTOR will serve as the project mammologist.

2. SCOPE OF WORK

A. The CONTRACTOR will provide services, and otherwise do all things necessary for or incidental to the performance of work, as set forth below:

1. Assist field teams with the live trapping, sample collection and identification of small mammal species
2. Ensure proper documentation of the species identified
3. Write bi-monthly reports and submit to the University lead investigator, which will include a summary of field activities
4. Attend study meetings as requested and report on progress of work

B. Exhibits A and B contain the General Terms and Conditions governing work to be performed under this contract, the nature of the working relationship between the UNIVERSITY and the CONTRACTOR, and specific obligations of both parties.

C. The CONTRACTOR shall produce the following deliverables by the dates indicated in the chart below:

DATE	DESCRIPTION OF DELIVERABLE ITEM
	• A schedule of travel to be undertaken with field teams to conduct sampling activities and species identification of small mammals • Bi-monthly reports of field activities and species identification • Attendance at study related meetings as requested

3. PERIOD OF PERFORMANCE

The period of performance under this contract will be from xxxx through xxxx.

The execution of this Contract shall constitute a ratification of that earlier verbal agreement between the parties, the terms and conditions of which are contained herein. Accordingly, the beginning date of performance under this Contract shall be xxxx regardless of the date of execution. UNIVERSITY shall reimburse the CONTRACTOR for those costs incurred in performance hereunder, for that period between the beginning date of performance and the date of execution of this Contract.

4. COMPENSATION AND PAYMENT

All compensation amounts and funds due to CONTRACTOR are stated in U.S. Dollars (USD Payments will be made in Tanzania Shilling by UNIVERSITY'S Local Affiliate, PFK Limited and non-government agency, Global Animal Health Tanzania (GAHT). UNIVERSITY and GAHT will not compensate CONTRACTOR for currency exchange fluctuations through the issuance of payment.

Payments to CONTRACTOR will be subjected to all Tanzanian tax regulation.

UNIVERSITY shall pay **an amount not to exceed $12,000.00** for the performance of all things necessary for or incidental to the performance of work as set forth in the Scope of Work. CONTRACTOR'S compensation for services rendered shall be based on the following rates or in accordance with the following terms:

A. **Fees:** At the rate of **$500.00** per month an amount not to exceed **$6,000.00 per year**; which amount is included in the not-to-exceed compensation amount.

B. **Expenses:** The UNIVERSITY shall provide coverage of travel expenses related to official work that has been approved in advance by the Project Manager, including:

1. Lodging and subsistence necessary during periods of required travel.

5. BILLING PROCEDURES

UNIVERSITY will pay CONTRACTOR upon receipt of properly completed invoices, which may be submitted to the Contract Manager via email. The billing address for invoices is:

Washington State University
Controllers Office
Attn: WSU Contract XXXX~ (b)(6) ***Mail Code 7090***
P.O. Box 641025
Pullman, WA 99164-1025

The invoices shall describe and document to the UNIVERSITY'S satisfaction a description of the work performed, the progress of the project, and fees. If expenses are invoiced, provide a detailed breakdown of each type. Any single expense in the amount of $50.00 or more must be accompanied by a receipt in order to receive reimbursement.

Payment shall be considered timely if made by the UNIVERSITY within thirty (30) days after receipt of properly completed invoices. Payment shall be sent to the address designated by the CONTRACTOR.

The UNIVERSITY may, in its sole discretion, terminate the contract or withhold payments claimed by the CONTRACTOR for services rendered if the CONTRACTOR fails to satisfactorily comply with any term or condition of this contract.

No payments in advance or in anticipation of services or supplies to be provided under this contract shall be made by the UNIVERSITY.

6. CONTRACT MANAGEMENT

A. The Contract Manager for each of the parties shall be the contact person for all communications regarding the performance of this contract and billing.

	CONTRACT MANAGER FOR THE CONTRACTOR	CONTRACT MANAGER FOR THE UNIVERSITY
NAME		(b)(6)
ADDRESS		Paul G. Allen School for Global Animal Health P.O. Box 647090
ADDRESS		Pullman, WA 99164-7090
TELEPHONE		(b)(6)
EMAIL		
		DES Training Completed? yes no

B. The Project Manager for each of the parties will be point of contact for scope of work. Project Manager for UNIVERSITY will receive and accept deliverables and determine if CONTRACTOR has satisfactorily completed the scope of work.

	PROJECT MANAGER FOR THE CONTRACTOR	PROJECT MANAGER FOR THE UNIVERSITY
NAME		(b)(6)
ADDRESS		P. O. Box 647090
ADDRESS		Pullman, WA 99164-7090
TELEPHONE		(b)(6)
EMAIL		

7. INSURANCE

The CONTRACTOR shall insure themselves and any persons working for their organization; and they shall be exclusively liable for any claims arising from them and/or their employees, from performance of their obligations of this Contract.

CONTRACTOR shall submit to UNIVERSITY within 15 days of the Contract effective date, a certificate of insurance that outlines the coverage and limits defined in the Insurance section. The mailing address for certificate holder is:

Washington State University
Contract #####
PO Box 641020
Pullman, WA 99164-1020

8. ASSURANCES

UNIVERSITY and the CONTRACTOR agree that all activity pursuant to this contract will be in accordance with all the applicable current federal, state and local laws, rules, and regulations.

9. ORDER OF PRECEDENCE

Each of the Exhibits listed below is by this reference hereby incorporated into this contract. In the event of an inconsistency in this contract, the inconsistency shall be resolved by giving precedence in the following order:

1. Applicable Federal and state of Washington statutes and regulations
2. Special Terms and Conditions as contained in this basic contract instrument
3. Exhibit B – FAR Terms and Conditions (for Federal Grant Funded Purchases only)
4. Exhibit A UNIVERSITY General Terms and Conditions
5. Any other provision, term or material incorporated herein by reference or otherwise incorporated.

10. ENTIRE AGREEMENT

This contract including referenced exhibits represents all the terms and conditions agreed upon by the parties. No other statements or representations, written or oral, shall be deemed a part hereof.

11. CONFORMANCE

If any provision of this contract violates any statute or rule of law of the state of Washington, it is considered modified to conform to that statute or rule of law.

12. APPROVAL

This contract shall be subject to the written approval of the UNIVERSITY'S authorized representative and shall not be binding until so approved. The contract may be altered, amended, or waived only by a written amendment executed by both parties.

This CONTRACT, consisting of FOUR pages and two attachments named Exhibit A and Exhibit B, is executed by the persons signing below who warrant that they have the authority to execute the agreement.

TYPE CONTRACTOR NAME HERE		**WASHINGTON STATE UNIVERSITY**	
_____		_____	
Signature	Date	(b)(6)	Date
Name of signatory		Associate Director, Purchasing	
Title of signatory			
Email address of signatory			

WSU Contract XXXX
Exhibit A

GENERAL TERMS AND CONDITIONS FOR PERSONAL SERVICES CONTRACT

DEFINITIONS
As used throughout this CONTRACT, the following terms shall have the meaning set forth below:

A. "UNIVERSITY" shall mean Washington State University, an institution of higher education of the State of Washington, any division, section, office, unit or other entity of the UNIVERSITY, or any of the officers or other officials lawfully representing that UNIVERSITY.

B. "AGENT" shall mean the delegated individual authorized in writing to act on the UNIVERSITY'S behalf.

C. "CONTRACTOR" shall mean that firm, provider, organization, individual or other entity performing service(s) under this contract, and shall include all employees of the CONTRACTOR.

D. "SUBCONTRACTOR" shall mean one not in the employment of the CONTRACTOR, who is performing all or part of those services under this contract under a separate contract with the CONTRACTOR. The terms "SUBCONTRACTOR" and "SUBCONTRACTORS" means SUBCONTRACTOR(s) in any tier.

ACCESS TO DATA
In compliance with RCW 39.26.180, the CONTRACTOR shall provide access to data generated under this contract to UNIVERSITY, the Joint Legislative Audit and Review Committee, and the State Auditor at no additional cost. This includes access to all information that supports the findings, conclusions, and recommendations of the CONTRACTOR'S reports, including computer models and methodology for those models.

ADVANCE PAYMENTS PROHIBITED
In accordance with state law, no payments in advance of or in anticipation of goods or services to be provided under this CONTRACT shall be made by the UNIVERSITY.

AMENDMENTS
This CONTRACT may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

ASSIGNMENT
Neither this contract, nor any claim arising under this contract, shall be transferred or assigned by the CONTRACTOR without prior written consent of the UNIVERSITY.

ATTORNEYS' FEES
In the event of litigation or other action brought to enforce contract terms, each party agrees to bear its own attorney fees and costs.

CONFIDENTIALITY/SAFEGUARDING OF INFORMATION
The CONTRACTOR shall not use or disclose any information concerning the UNIVERSITY, or information that may be classified as confidential, for any purpose not directly connected with the administration of this contract, except with prior written consent of the UNIVERSITY, or as may be required by law.

CONFLICT OF INTEREST
Notwithstanding any determination by the Executive Ethics Board or other tribunal, the UNIVERSITY may, in its sole discretion, by written notice to the CONTRACTOR terminate this contract if it is found after due notice and examination by the UNIVERSITY that there is a violation of the Ethics in Public Service Act, Chapter 42.52 RCW; or any similar statute involving the CONTRACTOR in the procurement of, or performance under this contract.

In the event this contract is terminated as provided above, the UNIVERSITY shall be entitled to pursue the same remedies against the CONTRACTOR as it could pursue in the event of a breach of the contract by the CONTRACTOR. The rights and remedies of the UNIVERSITY provided for in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law. The existence of facts upon which the AGENT makes any determination under this clause shall be an issue and may be reviewed as provided in the "Disputes" clause of this contract.

COPYRIGHT PROVISIONS
Unless otherwise provided, all materials produced under this contract shall be considered "works for hire" as defined by the U.S. Copyright Act and shall be owned by the UNIVERSITY. The UNIVERSITY shall be considered the author of such materials. In the event the materials are not considered "works for hire" under the U.S. Copyright laws, CONTRACTOR hereby irrevocably assigns all right, title, and interest in materials, including all intellectual property rights, to the UNIVERSITY effective from the moment of creation of such materials.

Materials means all items in any format and includes, but is not limited to, data, reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register and the ability to transfer these rights.

For materials that are delivered under the contract, but that incorporate pre-existing materials not produced under the contract, CONTRACTOR hereby grants to the UNIVERSITY a nonexclusive, royalty-free, irrevocable license (with rights to sublicense others) in such materials to translate, reproduce, distribute, prepare derivative works, publicly perform, and publicly display. The CONTRACTOR warrants and represents that CONTRACTOR has all rights and permissions, including intellectual property rights, moral rights and rights of publicity, necessary to grant such a license to the UNIVERSITY.

The CONTRACTOR shall exert all reasonable effort to advise the UNIVERSITY, at the time of delivery of materials furnished under this contract, of all known or potential invasions of privacy contained therein and of any portion of such document that was not produced in the performance of this contract.

The UNIVERSITY shall receive prompt written notice of each notice or claim of infringement received by the CONTRACTOR with respect to any data delivered under this contract. The UNIVERSITY shall have the right to modify or remove any restrictive markings placed upon the data by the CONTRACTOR.

COVENANT AGAINST CONTINGENT FEES
The CONTRACTOR warrants that no person or selling agent has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established agents maintained by the CONTRACTOR for securing business.

The UNIVERSITY shall have the right, in the event of breach of this clause by the CONTRACTOR, to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration or recover by other means the full amount of such commission, percentage, brokerage or contingent fee.

DISALLOWED COSTS
The Contractor is responsible for any audit exceptions or costs disallowed by the UNIVERSITY that are incurred by the Contractor or its Subcontractors.

DISPUTES
In the event that a dispute arises under this Contract that the parties can't resolve, they shall allow the dispute to be decided by a Dispute Panel in the following manner: each party to this Contract shall appoint one member to the Dispute Panel, and the members so appointed shall jointly appoint an additional member to the Dispute Panel. The Dispute Panel shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Panel shall be final and binding on the parties hereto. The parties shall equally share the costs, if any, for the services of the Dispute Panel.

Nothing in this contract shall be construed to limit the parties' choice of a mutually acceptable alternate dispute resolution method in addition to the dispute resolution procedure outlined above.

DUPLICATE PAYMENT
The UNIVERSITY shall not pay the CONTRACTOR, if the CONTRACTOR has charged or will charge Washington State University, the State of Washington or any other party under any other contract or agreement, for the same services or expenses.

FUNDING CONTINGENCY
In the event funding from state, federal, or other sources is withdrawn, reduced, or limited in any way after the effective date of this contract and prior to normal completion, the UNIVERSITY may terminate the contract under the "Termination for Convenience" clause, without the ten-day notice requirement, subject to renegotiation at the UNIVERSITY'S discretion under those new funding limitations and conditions.

GOVERNING LAW
This contract shall be construed and interpreted in accordance with the laws of the State of Washington, and the venue of any action brought hereunder shall be in the Superior Court for Whitman County.

INDEMNIFICATION
To the fullest extent permitted by law, CONTRACTOR shall indemnify, defend, and hold harmless Washington State University, the State of Washington, agencies of the State and all officials, agents and employees of the State, from and against all claims for injuries or death arising out of or resulting from the performance of the contract. "Claim," as used in this contract, means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorney's fees, attributable for bodily injury, sickness, disease, or death, or injury to or destruction of tangible property including loss of use resulting therefrom.

CONTRACTOR'S obligations to indemnify, defend, and hold harmless includes any claim by CONTRACTORS' agents, employees, representatives, or any subcontractor or its employees.

CONTRACTOR expressly agrees to indemnify, defend, and hold harmless Washington State University and the State of Washington for any claim arising out of or incident to CONTRACTOR'S or any subcontractor's performance or failure to perform the contract. CONTRACTOR'S obligation to indemnify, defend, and hold harmless Washington State University and the State of Washington shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials.

CONTRACTOR waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless Washington State University and the State of Washington and its agencies, officials, agents or employees.

INDEPENDENT CAPACITY OF THE CONTRACTOR
The parties intend that an independent contractor relationship will be created by this contract. The CONTRACTOR and his or her employees or agents performing under this contract are not employees or agents of the UNIVERSITY. The CONTRACTOR will not hold himself/herself out as or claim to be an officer or employee of the UNIVERSITY or of the State of Washington by reason hereof, nor will the CONTRACTOR make any claim of right, privilege or benefit that would accrue to such employee under law. Conduct and control of the work will be solely with the CONTRACTOR.

INDUSTRIAL INSURANCE COVERAGE
The CONTRACTOR shall comply with the provisions of Title 51 RCW, Industrial Insurance. If the CONTRACTOR fails to provide industrial insurance coverage or fails to pay premiums or penalties on behalf of its employees, as may be required by law, UNIVERSITY may collect from the CONTRACTOR the full amount payable to the Industrial Insurance accident fund. The UNIVERSITY may deduct the amount owed by the CONTRACTOR to the accident fund from the amount payable to the CONTRACTOR by the UNIVERSITY under this contract, and transmit the deducted amount to the Department of Labor and Industries, (L&I) Division of Insurance Services. This provision does not waive any of L&I's rights to collect from the CONTRACTOR.

LICENSING, ACCREDITATION AND REGISTRATION
The CONTRACTOR shall comply with all applicable local, state, and federal licensing, accreditation and registration requirements/standards, necessary for the performance of this contract.

LIMITATION OF AUTHORITY
Only a WSU UNIVERSITY'S personnel authorized in writing to bind UNIVERSITY (delegation to be made prior to action) shall have the express, implied, or apparent authority to alter, amend, modify, or waive any clause or condition of this contract. Any alterations, amendment, modifications, or waivers made by UNIVERSITY personnel or employees without such written authority will not be effective or binding unless also made in writing and signed by an authorized UNIVERSITY representative.

NONDISCRIMINATION
During the performance of this contract, the CONTRACTOR shall comply with all federal and state nondiscrimination laws, regulations and policies, including the AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, PUBLIC LAW 101-336, also referred to as the "ADA" 28 CFR Part 35.

In the event of the CONTRACTOR'S non-compliance or refusal to comply with any nondiscrimination law, regulation, or policy, this contract may be rescinded, canceled or terminated in whole or in part, and the CONTRACTOR may be declared ineligible for further contracts with the UNIVERSITY. The CONTRACTOR shall, however, be given a reasonable time in which to cure this noncompliance. Any dispute may be resolved in accordance with the "Disputes" procedure set forth herein.

PRIVACY
Personal information including, but not limited to, "Protected Health Information," collected, used, or acquired in connection with this contract shall be protected against unauthorized use, disclosure, modification or loss. CONTRACTOR shall ensure its directors, officers, employees, subcontractors or agents use personal information solely for the purposes of accomplishing the services set forth herein. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the UNIVERSITY or as otherwise required by law.

Any breach of this provision may result in termination of the contract and the demand for return of all personal information. The CONTRACTOR agrees to indemnify and hold harmless the UNIVERSITY for any damages related to the CONTRACTOR'S unauthorized use of personal information.

PUBLICITY
The CONTRACTOR agrees to submit to the UNIVERSITY all advertising and publicity matters relating to this contract wherein the UNIVERSITY'S name is mentioned or language used from which the connection of the UNIVERSITY'S name may, in the UNIVERSITY'S judgment, be inferred or implied. The CONTRACTOR agrees not to publish or use such advertising and publicity matters without the prior written consent of the UNIVERSITY.

RECORDS MAINTENANCE
The CONTRACTOR shall maintain books, records, documents, data and other evidence relating to this contract and performance of the services described herein, including but not limited to accounting procedures and practices that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this contract.

CONTRACTOR shall retain such records for a period of six years following the date of final payment. At no additional cost, these records, including materials generated under the contract, shall be subject at all reasonable times to inspection, review or audit by the UNIVERSITY, personnel duly authorized by the UNIVERSITY, the Office of the State Auditor, and federal and state officials so authorized by law, regulation or agreement.

If any litigation, claim or audit is started before the expiration of the six (6) year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved.

REGISTRATION WITH DEPARTMENT OF REVENUE
If required to do so by law, the CONTRACTOR shall complete registration with the Washington State Department of Revenue and be responsible for payment of all taxes due on payments made under this contract.

RIGHT OF INSPECTION
The CONTRACTOR shall provide right of access to its facilities to the UNIVERSITY, or any of its officers, or to any other authorized agent or official of the state of Washington or the federal government, at all reasonable times, in order to monitor and evaluate performance, compliance, and/or quality assurance under this contract.

SEVERABILITY
The provisions of this contract are intended to be severable. If any term or provision is illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of the contract.

SITE SECURITY
While on UNIVERSITY premises, CONTRACTOR, its agents, employees, or subcontractors shall conform in all respects with UNIVERSITY'S physical, fire or other security policies or regulations.

SUBCONTRACTING
Neither the CONTRACTOR nor any approved SUBCONTRACTOR shall enter into subcontracts for any of the work contemplated under this Contract without obtaining prior written approval of the UNIVERSITY. In no event shall the existence of the subcontract operate to release or reduce the liability of the CONTRACTOR to the UNIVERSITY for any breach in the performance of the CONTRACTOR's duties. This clause does not include contracts of employment between the contractor and personnel assigned to work under this contract.

Additionally, the CONTRACTOR is responsible for ensuring that all terms, conditions, assurances and certifications set forth in this CONTRACT are carried forward to any subcontracts. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the UNIVERSITY or as provided by law.

TAXES
All payments accrued because of payroll taxes, unemployment contributions, any other related taxes, insurance or other expenses for the CONTRACTOR or its staff shall be the sole responsibility of the CONTRACTOR.

TERMINATION FOR CAUSE
In the event the UNIVERSITY determines the CONTRACTOR has failed to comply with the conditions of this contract in a timely manner, the UNIVERSITY has the right to suspend or terminate this contract. Before suspending or terminating the contract, the UNIVERSITY shall notify the CONTRACTOR in writing of the need to take corrective action. If corrective action is not taken within 30 calendar days of date of notice, the contract may be terminated or suspended.

In the event of termination or suspension, the CONTRACTOR shall be liable for damages as authorized by law including, but not limited to, any cost difference between the original contract and the replacement or cover contract and all administrative costs directly related to the replacement contract, e.g., cost of the competitive bidding, mailing, advertising and staff time.

The UNIVERSITY reserves the right to suspend all or part of the contract, withhold further payments, or prohibit the CONTRACTOR from incurring additional obligations of funds during investigation of the alleged compliance breach and pending corrective action by the CONTRACTOR or a decision by the UNIVERSITY to terminate the contract. A termination shall be deemed a "Termination for Convenience" if it is determined that the CONTRACTOR: (1) was not in default; or (2) failure to perform was outside of his or her control, fault or negligence.

The rights and remedies of the UNIVERSITY provided in this contract are not exclusive and are, in addition to any other rights and remedies, provided by law.

TERMINATION FOR CONVENIENCE
Except as otherwise provided in this Contract, the UNIVERSITY may, by 30 calendar days written notice terminate this Contract, in whole or in part. If this Contract is so terminated, the UNIVERSITY shall be liable only for payment required under the terms of this contract for services rendered or goods delivered prior to the effective date of termination.

TERMINATION PROCEDURES
Upon termination of this CONTRACT, the UNIVERSITY, in addition to any other rights provided in this CONTRACT, may require the CONTRACTOR to deliver to the UNIVERSITY any property specifically produced or acquired for the performance of such part of this contract as has been terminated. The provisions of the "Treatment of Assets" clause shall apply in such property transfer.

The UNIVERSITY shall pay to the CONTRACTOR the agreed upon price, if separately stated, for completed work and services accepted by the UNIVERSITY, and the amount agreed upon by the CONTRACTOR and the UNIVERSITY for (i) completed work and services for which no separate price is stated, (ii) partially completed work and services, (iii) other property or services that are accepted by the UNIVERSITY, and (iv) the protection and preservation of property, unless the termination is for default, in which case the AGENT shall determine the extent of the liability of the UNIVERSITY. Failure to agree with such determination shall be a dispute within the meaning of the "Disputes" clause of this contract. The UNIVERSITY may, in good faith, withhold from any amounts due the CONTRACTOR such sum as the AGENT determines to be necessary to protect the UNIVERSITY against potential loss or liability.

The rights and remedies of the UNIVERSITY provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

After receipt of a notice of termination, and except as otherwise directed by the UNIVERSITY, the CONTRACTOR shall:

1. Stop work under the contract on the date, and to the extent specified, in the notice;
2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the contract that is not terminated;
3. Assign to the UNIVERSITY, in the manner, at the times, and to the extent directed by the UNIVERSITY, all of the rights, title, and interest of the CONTRACTOR under the orders and subcontracts so terminated, in which case the UNIVERSITY has the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
4. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the UNIVERSITY to the extent UNIVERSITY may require, which approval or ratification shall be final for all the purposes of this clause;
5. Transfer title to the UNIVERSITY and deliver in the manner, at the times, and to the extent directed by the UNIVERSITY any property which, if the contract had been completed, would have been required to be furnished to the UNIVERSITY;
6. Complete performance of such part of the work as shall not have been terminated by the UNIVERSITY; and
7. Take such action as may be necessary, or as the UNIVERSITY may direct, for the protection and preservation of the property related to this contract, which is in the possession of the CONTRACTOR and in which the UNIVERSITY has or may acquire an interest.

TREATMENT OF ASSETS

A. Title to all property furnished by the UNIVERSITY shall remain in the UNIVERSITY. Title to all property furnished by the CONTRACTOR, for the cost of which the CONTRACTOR is entitled to be reimbursed as a direct item of cost under this contract, shall pass to and vest in the UNIVERSITY upon delivery of such property by the CONTRACTOR. Title to other property, the cost of which is reimbursable to the CONTRACTOR under this contract, shall pass to and vest in the UNIVERSITY upon (i) issuance for use of such property in the performance of this contract, or (ii) commencement of use of such property in the performance of this contract, or (iii) reimbursement of the cost thereof by the UNIVERSITY in whole or in part, whichever first occurs.

B. Any property of the UNIVERSITY furnished to the CONTRACTOR shall, unless otherwise provided herein or approved by the UNIVERSITY, be used only for the performance of this contract.

C. The CONTRACTOR shall be responsible for any loss or damage to property of the UNIVERSITY that results from the negligence of the CONTRACTOR or which results from the failure on the part of the CONTRACTOR to maintain and administer that property in accordance with sound management practices.

D. If any UNIVERSITY property is lost, destroyed or damaged, the CONTRACTOR shall immediately notify the UNIVERSITY and shall take all reasonable steps to protect the property from further damage.

E. The CONTRACTOR shall surrender to the UNIVERSITY all property of the UNIVERSITY prior to settlement upon completion, termination or cancellation of this contract

F. All reference to the CONTRACTOR under this clause shall also include CONTRACTOR'S employees, agents or SUBCONTRACTORS.

WAIVER

Waiver of any default or breach shall not be deemed a waiver of any subsequent default or breach. Any waiver shall not be construed to be a modification of the terms of this contract unless stated to be such in writing and signed by authorized representative of the UNIVERSITY.

CONTRACT TERMS AND CONDITIONS FOR FEDERAL GRANT FUNDED PURCHASES

The WASHINGTON STATE UNIVERSITY by and through its Board of Regents has entered into an agreement with the United States of America. This Contract is entered into with the Contractor in furtherance of the performance of the work required by that agreement. When interpreting applicable provisions of 2 CFR Part 200 and its appendices, "Federal Agency" or "Federal Awarding Agency" shall refer to the agency of the United States Government from whom the Washington State University ("WSU") has received grant funds to be expended under this Contract, "Non-Federal Entity" shall refer to the Washington State University, "Contractor" shall refer to the contractor with whom the Washington State University has entered into this contract and "Contract" shall refer to this contract between the Washington State University and Contractor.

By accepting this order or by entering into this Contract, a Contract between the Washington State University and the Contractor is formed. Contractor agrees to furnish the subject matter required by this order or Contract and agrees to all terms and conditions included by Washington State University, including the terms and conditions specified below. Any other applicable provisions of 2 CFR Part 200 are hereby incorporated by reference and shall have full force and effect.

1. **Breach, Default, Termination:** The Washington State University reserves the right to pursue all available legal, administrative, contractual or equitable remedies in the event of Contractor's breach of contract or violation of any term of this contract. The Washington State University shall have the right to terminate this contract for cause, and shall retain all rights and remedies against Contractor. The Washington State University shall also have the right to terminate this Contract for convenience upon thirty (30) days' notice to Contractor. Breach and/or Termination of this Contract shall be addressed in the manner prescribed in the WSU Standards Terms and Conditions.

2. **Equal Employment Opportunity:** Except as otherwise provided in 41 CFR Part 60, all "federally assisted construction contracts," as defined in 41 CFR Part 60-1.3 are subject to the Equal Opportunity clause contained in 41 CFR 60-1.4(b), incorporated by reference. Furthermore, the Equal Opportunity clause contained in 41 CFR 60-1.4(b) applies to all nonexempt subcontracts entered into by Contractor under this Contract, and Contractor agrees to include the Equal Opportunity clause contained in 41 CFR 60-1.4(b) in all nonexempt subcontracts.

3. **Davis-Bacon Act, as amended (40 U.S.C. 3141-3148):** Where applicable, all prime construction contracts in excess of $2,000 shall comply with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the Davis-Bacon Act, contractors must pay wages to laborers and mechanics at a rate not less than prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must pay wages not less than once per week. If the Davis-Bacon Act applies to this Contract award of this Contract is conditioned upon the acceptance of the wage determination. The Washington State University will report all suspected or reported violations of the Davis-Bacon Act to the Federal Awarding Agency.

4. **Copeland "Anti-Kickback" Act (40 U.S.C. 3145):** Where applicable, all prime construction contracts over $2,000 are subject to the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "**Contractors** and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Washington State University will report all suspected or reported violations to the Federal Awarding Agency. The Act provides that each contractor or subrecipient shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The recipient shall report all suspected or reported violations to the Federal awarding agency.

5. **Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708):** Where applicable, all contracts over $100,000 which will involve the use of mechanics or laborers shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each Contractor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 apply to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

6. **Rights to Inventions Made Under a Contract or Agreement:** For Contracts awarded by the Washington State University under a "funding agreement," as defined in 37 CFR 401.2(a) between a Federal Awarding Agency and the Washington State University, if the Washington State University or Contractor wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under the "funding agreement," the Washington State University or Contractor must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

7. **Clean Air Act (42 U.S.C. 7401-7671q):** For Contracts and subgrants over $150,000, the Washington State University and Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q). The Washington State University shall report violations to the Federal Awarding Agency and the Regional Office of the Environmental Protection Agency (EPA).

8. **Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended:** For Contracts and subgrants over $150,000, the Washington State University and Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). The Washington State University shall report violations to the Federal Awarding Agency and the Regional Office of the Environmental Protection Agency (EPA).

9. **Energy Policy and Conservation Act (42 U.S.C. 6201):** The Contractor shall comply with all mandatory standards and policies relating to energy efficiency contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201).

10. **Debarment and Suspension (Executive Orders** 12549 **and 12689):** The Washington State University's award of this Contract is conditioned upon the Contractor's current and continued eligibility. Contractor is eligible unless Contractor is listed on the government-wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1986 Comp., p. 189) and 12689 (3 CFR Part 1989 Comp., p. 235), "Debarment and Suspension." The Excluded Parties List System in SAM contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. If a contractor is listed on the Excluded Parties List System in SAM, Contractor shall have the obligation to promptly inform a Washington State University contract manager, and this Contract shall be immediately terminated without liability on the part of the Washington State University or the Federal Awarding Agency.

11. **Byrd Anti-Lobbying Amendment (31 U.S.C. 1352):** For Contracts over $150,000, Contractor warrants it filed the required certification prior to Contract award and payment. Contractor certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Contractor shall require such certification and disclosure from any subcontractors used. Any further subcontractors must certify and disclose to the subcontractor awarding the subcontract. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures under this Contract shall be forwarded up from tier to tier up to the Washington State University.

12. **Solid Waste Disposal Act (42 USC 6901-6992k):** Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired by the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

December 4, 2019

RE: TRANSLATION SERVICES ESTIMATES

We will be translating the survey tools from English into Swahili and vernacular tribal languages. Translation services will be sourced in Arusha town and are estimated at;

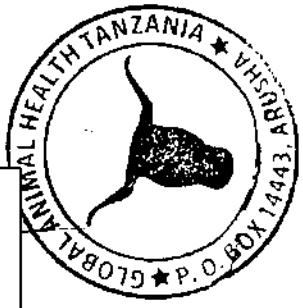
$800 Year 1;

$872 Year 4.

$1,672 total

Sincerely Yours,

(b)(6)



Administrative Manager/Finance and Operations

Global Animal Health Tanzania.

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN:

ORGANIZATION:

Washington State University
French Admin. Bldg., Rm. 240Q
P.O. Box 641025
Pullman, WA 99164-1025

DATE:12/09/2015

FILING REF.: The preceding agreement was dated 07/08/2014

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

EFFECTIVE PERIOD

TYPE	FROM	TO	RATE (%)	LOCATION	APPLICABLE TO
PRED.	07/01/2015	06/30/2016	51.00	On-Campus	Organized Research
PRED.	07/01/2016	06/30/2017	52.00	On-Campus	Organized Research
PRED.	07/01/2017	06/30/2019	53.00	On-Campus	Organized Research
PRED.	07/01/2015	06/30/2019	26.00	Off-Campus	Organized Research
PRED.	07/01/2015	06/30/2019	57.50	On-Campus	Instruction
PRED.	07/01/2015	06/30/2019	26.00	Off-Campus	Instruction
PRED.	07/01/2015	06/30/2019	36.00	On-Campus	Other Sponsored Activities
PRED.	07/01/2015	06/30/2019	26.00	Off-Campus	Other Sponsored Activities
PROV.	07/01/2019	Until Amended	Use same rates and conditions as those cited for fiscal year ending June 30, 2019.		

*BASE

Modified total direct costs, consisting of all salaries and wages, fringe benefits, materials, supplies, services, travel and subgrants and subcontracts up to the first $25,000 of each subgrant or subcontract (regardless of the period covered by the subgrant or subcontract). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each subgrant and subcontract in excess of $25,000.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION I: FRINGE BENEFIT RATES**

TYPE	FROM	TO	RATE(%)	LOCATION	APPLICABLE TO
FIXED	7/1/2015	6/30/2016	33.60	CEEO (1)	Admin/Prof Employees, Faculty
FIXED	7/1/2015	6/30/2016	35.00	CEEO (1)	Classified Employees

** DESCRIPTION OF FRINGE BENEFITS RATE BASE:

Salaries and wages excluding vacation, holiday, sick leave pay and other paid absences, and direct charged fringe benefits.

(1) Cooperative Extension Energy Office

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

Except for CEEO employees (Admin/Prof/Faculty and Classified Categories only), this organization charges the actual cost of each fringe benefit direct to Federal projects. However, it uses a fringe benefit rate which is applied to salaries and wages in budgeting fringe benefit costs under project proposals.

The following fringe benefits are treated as direct costs:
SOCIAL SECURITY, WORKERS COMPENSATION, HEALTH/LIFE/DISABILITY INSURANCE, UNEMPLOYMENT COMPENSATION, RETIREMENT (TIAA/CREF, PERS), AND QUALIFIED STUDENT TUITION REDUCTION (TUITION REMISSION).

For CEEO employees (Admin/Prof/Faculty and Classified Categories only), this organization uses a fringe benefit rate which is applied to salaries for budgeting and charging purposes for Federal projects. The following fringe benefits are included in CEEO fringe benefit rate: PAID ABSENCES

The following fringe benefits are treated as direct costs:
SOCIAL SECURITY, WORKERS COMPENSATION, HEALTH/LIFE/DISABILITY INSURANCE, UNEMPLOYMENT COMPENSATION, RETIREMENT (TIAA/CREF, PERS).

TREATMENT OF PAID ABSENCES:

Except for CEEO employees (Admin/Prof/Faculty and Classified Categories only), vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are charged to Federal projects as part of the normal charge for salaries and wages. Separate charges for the cost of these absences are not made.

For CEEO (Admin/Prof/Faculty and Classified Categories only), the cost of vacation, holiday, sick leave pay, and other paid absences are included in a fringe benefit rate and are not included in direct charges for salaries. Charges for salaries must exclude those paid to CEEO employees (Admin/Prof/Faculty and Classified Categories only) for periods when they are on vacation, holiday, or sick leave, or are otherwise absent from work.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

DEFINITION OF OFF-CAMPUS:

A project is considered off-campus if the activity is conducted at locations other than in University owned or operated facilities and indirect costs associated with physical plant and library are not considered applicable to the project.

DEFINITION OF EQUIPMENT:
Equipment is defined as tangible nonexpendable personal property having a useful life of more than one year and an acquisition cost of $5,000 or more per unit.

NEXT PROPOSALS DUE DATES:
Your next Facilities & Administrative proposal based on fiscal year ending 06/30/2018 is due in our office by 12/31/2018, and your next fringe benefits proposal based on your fiscal year ending 6/30/2015 is due in our office by 12/31/2015.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted: such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:	ON BEHALF OF THE FEDERAL GOVERNMENT:
Washington State University	DEPARTMENT OF HEALTH AND HUMAN SERVICES
(INSTITUTION)	(AGENCY)
(b)(6)	(b)(6)
(SIGNATURE)	(SIGNATURE)
(b)(6)	(b)(6)
(NAME)	(NAME)
ASSOC. VICE PRESIDENT OF FINANCE	Director, Cost Allocation Services
(TITLE)	(TITLE)
JANUARY 6, 2016	12/9/2015
(DATE)	(DATE) 2144

HHS REPRESENTATIVE: (b)(6)

Telephone: (b)(6)

WASHINGTON STATE UNIVERSITY
FACILITIES AND ADMINISTRATIVE COST PROPOSAL
FYE JULY 1, 2015
TO FYE JUNE 30, 2019

EXHIBIT A

	ORGANIZED RESEARCH								
	JULY 1, 2015 THROUGH JUNE 30, 2016			JULY 1, 2016 THROUGH JUNE 30, 2017			JULY 1, 2017 THROUGH JUNE 30, 2019		
		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS
BUILDING		5.3%			7.1%			7.3%	
EQUIPMENT		2.7%			2.6%			2.8%	
OPERATIONS & MAINTENANCE		15.3%			12.8%			12.9%	
INTEREST		0.3%			2.2%			2.5%	
LIBRARY		1.4%			0.6%			0.8%	
UTILITY COST ADJUSTMENT					0.7%			0.7%	
GENERAL ADMINISTRATION	8.5%			9.2%			9.2%		
DEPARTMENT ADMINISTRATION	14.6%			14.2%			14.2%		
SPONSORED PROJECTS ADMINISTRATION	2.9%			2.6%			2.6%		
STUDENT SERVICES ADMINISTRATION									
ADMINISTRATION COMPONENTS	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%
TOTAL		51.0%	26.0%		52.0%	26.0%		53.0%	26.0%

	INSTRUCTION & DEPARTMENT RESEARCH			OTHER SPONSORED ACTIVITIES		
	JULY 1, 2015 THROUGH JUNE 30, 2019			JULY 1, 2015 THROUGH JUNE 30, 2019		
		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS
BUILDING		10.5%			2.5%	
EQUIPMENT		1.5%			0.5%	
OPERATIONS & MAINTENANCE		11.5%			5.5%	
INTEREST		1.5%			0.5%	
LIBRARY		6.5%			1.0%	
GENERAL ADMINISTRATION	7.4%			9.4%		
DEPARTMENT ADMINISTRATION	11.2%			13.9%		
SPONSORED PROJECTS ADMINISTRATION	0.4%			2.7%		
STUDENT SERVICES ADMINISTRATION	7.0%					
ADMINISTRATION COMPONENTS	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%
TOTAL		57.5%	26.0%		36.0%	26.0%

ADMINISTRATIVE COMPONENTS ARE CAPPED AT 26.0% IN ACCORDANCE WITH OMB A-21, DATED JULY 26, 1993.

(b)(6)

ASSOC. VICE PRESIDENT OF FINANCE
TITLE

JANUARY 6, 2016
DATE

WSU budget documentation

WSU budget documentation

Expedia

List your property Hello (b)(6) My Lists 4 My Trips Support Español 简体中文

Flights Hotels Bundle and Save Cars Cruises Things to Do Vacation Rentals Deals

Rewards Mobile

Review your trip

Trip Summary

Trip Summary

Trip Total: **$964.60**

Rates are quoted in US dollars

71052 customers protected their flight in the last 7 days. Add flight protection when you check out.

Nice Job! You picked one of our cheapest flights.
Book now so you don't miss out on this price!

Sun, Feb 2

From **Heathrow (LHR)**
To **Kilimanjaro Intl. (JRO)**

Kenya Airways — **Cheapest**

5:25pm	→	9:30am	13h 5m, 1 stop
LHR		JRO	NBO
			Arrives Mon, Feb 3

Show flight and baggage fee details

Sat, Feb 8

From **Kilimanjaro Intl. (JRO)**
To **Heathrow (LHR)**

Kenya Airways — **Cheapest**

9:35pm	→	10:45am	16h 10m, 2 stops
JRO		LHR	DAR, AMS
			Arrives Sun, Feb 9

Show flight and baggage fee details

WSU budget documentation

Unlock up to 42% off select hotels when you book this flight
Your discount lasts until your trip starts

Continue Booking

71052 customers protected their flight in the last 7 days. Add flight protection when you check out.

Free Cancellation within 24 hours of booking!

Add your property to Expedia

Get the Expedia App - text yourself a link

Enter your phone number

Or scan the QR code!

Send

Up to 30% hotel discounts for app users

Access real customer reviews

Helpful in-trip updates

By providing your number, you agree to receive a one-time automated text message with a link to get the app. Our app offers promotions and booking services. No purchase necessary. Standard text message rates may apply.

Explore More

Expedia
About Expedia Jobs Investor Relations Advertising Newsroom
About Our Ads Privacy Policy Terms of Use Site Map Accessibility
Support

Expedia Rewards
Expedia Rewards Redeem Your Points Use Partner Points
VIP Access Hotels Expedia Rewards Credit Cards

Expedia Links
Low Cost Flights Rental Car Finder Expedia Rewards Travel Blog
New Hotels Accommodations

Expedia Sitemaps



The Rickshaw Travels Ltd.
Plot No 1006, Buzwagi Street, Msasani Peninsula, Dar es Salaam, Tanzania
Tel: +255 22 2602 303/304/305/610/612/613 |
Email: accounts@rickshawtravels.com
TIN 100 153 572 | VRN 100 006147 J

PROFORMA INVOICE

To:
******Cash Sales**

Dar Es Salaam, Tanzania

Proforma#: TZ1909-2493/TS
Date: 25/09/2019
Currency: USD.

Service	Description	Amount
AIR TICKET	Passenger Name (b)(6) AIR EXCEL 11-Oct-19 041 Seronera 11:05 Arusha 12:10	241.00
Amount in Words (USD.): Two Hundred Forty One And Forty One Cents Only	Total Amount (USD.)	**241.00**
Amount in Words (TZS): Five Hundred Fifty Nine Thousand One Hundred Twenty And Twenty Cents Only	Total Amount (TZS.)	**559,120.00**

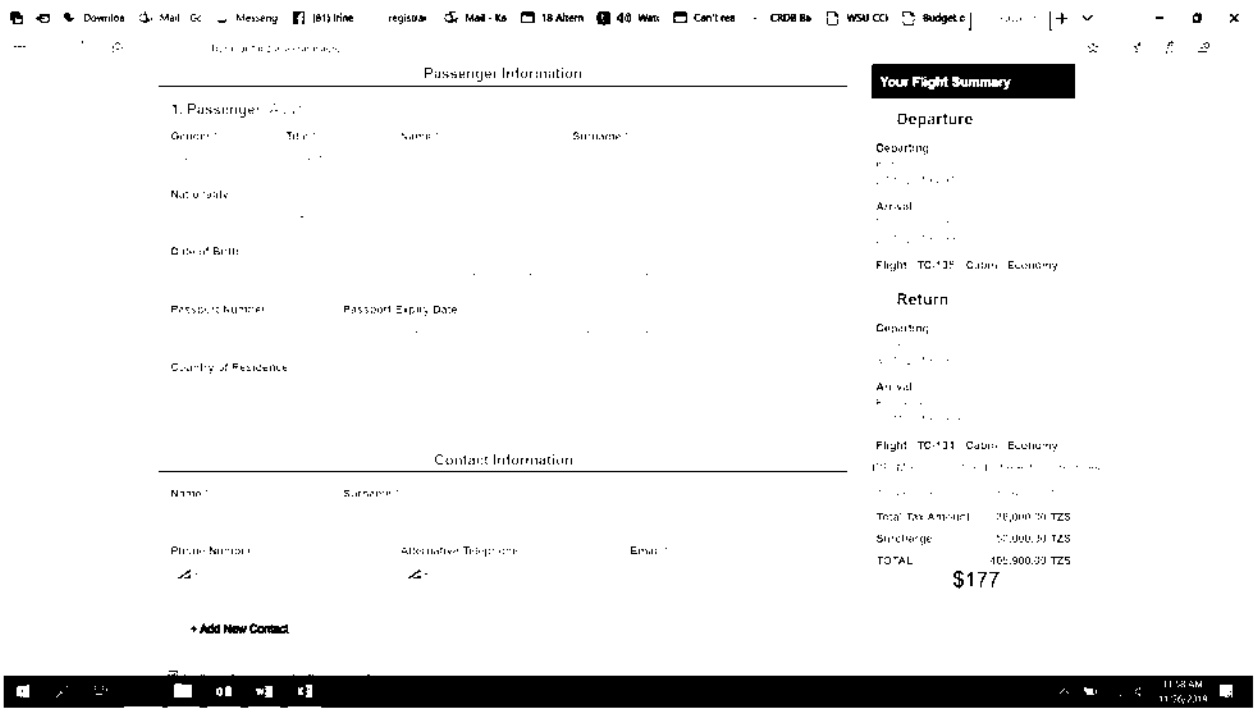
For Rickshaw Travels Ltd.

Account Name: The Rickshaw Travels Ltd

Bank of Africa Tanzania Ltd
P.O.Box 3054, Dar es Salaam, Tanzania
Account Number **10200127005** (USD) | **10200127013** (TZS)
Swift Code: **E U A F T Z T Z**

Diamond Trust Bank (T) Ltd
P.O Box 115, Dar Es Salaam, Tanzania
Account Number: **0172640002** (USD) | **017264001** (TSH)
Swift Code: **D T K E T Z T Z**

**This is a computer generated document and no signature is required.*



Passenger Information

1. Passenger

Gender * Title * Name * Surname *

Nationality

Date of Birth

Passport Number Passport Expiry Date

Country of Residence

Contact Information

Name * Surname *

Phone Number Alternative Telephone Email *

+ Add New Contact

Your Flight Summary

Departure

Departing

Arrival

Flight TC 125 Cabin Economy

Return

Departing

Arrival

Flight TC 131 Cabin Economy

Total Tax Amount 28,000.00 TZS

Surcharge 57,900.00 TZS

TOTAL 165,900.00 TZS

$177

Trip Summary

Trip Summary ⌄

Trip Total: **$315.25**

Only 7 tickets left at this price!

Rates are quoted in US dollars

50093 customers protected their flight in the last 7 days. Add flight protection when you check out.

✔ **Nice Job! You picked one of our cheapest flights.**
Book now so you don't miss out on this price!

Sun, Feb 9

From Heathrow (LHR)
To Roissy-Charles de Gaulle (CDG)

Alitalia — Cheapest

4:55pm	→	11:30pm	5h 35m, 1 stop
LHR		CDG	FCO

Fare Rules and Restrictions:

- Pay to choose your seat
- Bring a carry-on bag

Show flight and baggage fee details ⌄

Sat, Feb 15

From Roissy-Charles de Gaulle (CDG)
To Heathrow (LHR)

Air France — Cheapest

4:10pm	→	4:35pm	1h 25m, Nonstop
CDG		LHR	

Fare Rules and Restrictions:

- Pay to choose your seat
- Bring a carry-on bag

Show flight and baggage fee details ⌄

‹ Change flights

Upgrade your flight

Get more comforts and benefits by adding an upgrade.



Heathrow (LHR) → Roissy-Charles de Gaulle (CDG)
5h 35m

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

Show upgrades ⌃

from
+ $58.61
for all travelers

U.S. DEPARTMENT of STATE
BUREAU of ADMINISTRATION

Foreign Per Diem Rates In U.S. Dollars
DSSR 925

Country: TANZANIA
Publication Date: 11/01/2019

Country Name	Post Name	Season Begin	Season End	Maximum Lodging Rate	M & IE Rate	Maximum Per Diem Rate	Footnote	Effective Date
TANZANIA	Arusha	01/01	12/31	143	91	234	View	06/01/2019
TANZANIA	Dar Es Salaam	01/01	12/31	207	106	313	View	06/01/2019
TANZANIA	Dodoma	01/01	12/31	112	60	172	N/A	06/01/2019
TANZANIA	Morogoro	01/01	12/31	137	60	197	View	06/01/2014
TANZANIA	Other	01/01	12/31	110	47	157	View	06/01/2014
TANZANIA	Zanzibar	01/01	12/31	187	106	293	View	06/01/2019

From: Dr. Melinda Rostal
To: (b)(6)
Cc: Aleksei Chmura
Subject: [Non-DoD Source] Re: FRBAA14-6-2-0356
Date: Friday, May 22, 2020 3:17:44 PM

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(6)

Mr. Joe Ricardi will speak to you about the difference in the total between when the budget was originally submitted on March 26, 2019 and when we submitted the documentation you requested for all costs on December 5, 2019. Unfortunately, our offices are closed both today and Monday for the observation of Memorial Day. He will be able to speak to you on Tuesday.

He has your (b)(6) phone number.

Kind regards,

Mindy

Melinda Rostal DVM, MPH, PhD
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
Caution-www.ecohealthalliance.org < Caution-http://www.ecohealthalliance.org >

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

On May 22, 2020, at 9:31 AM (b)(6)
Caution-mailto (b)(6) > wrote:

Good Morning,

I noticed the proposal came in at $4,848,483.14 but the detail excel spreadsheet I have, that was emailed on 12/16/19, states $4,995,106.37.

V/r

(b)(6) Contractor

Contract Specialist ▪ Broadleaf

Defense Threat Reduction Agency (DTRA)

Office Phone: (b)(6)

(b)(6)

From: Dr. Melinda Rostal
To: (b)(6)
Cc: Aleksei Chmura; Joe Riccardi; Amanda Andre; Whitney Bagge; (b)(6)
Subject: Re: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions 1/3
Date: Monday, December 16, 2019 2:40:19 PM
Attachments: 02 - FRBAA14-6-2-0356 - KCRI Budget Justification.pdf
FRBAA14-6-2-0356 Clarifications.xlsx
02 - FRBAA14-6-2-0356 - KCRI Documentation.pdf
FRBAA14-6-2-0356 Detailed Budget.xlsx
03 - FRBAA14-6-2-0356 - OHCD PMO Budget Justification.pdf

Dear (b)(6)

I have reattached the documentation here. All of the documentation is 23.8MB, perhaps that is why it did not go through? I will split it into three emails and send smaller emails. Please confirm receipt of the three emails. 1. The budget, response, 01 EHA Justification, 02, KCRI Justification, 02 KCRI documentation. Please note that the 01 EHA documentation was the largest file (11.3MB) and so that one was sent in the second email.

Please find attached the documentation requested for our FRBAA14-6-2-0356 cost proposal. We have responded to the clarification questions and indicated both the document and page number where the full documentation/justification may be viewed. For each partner we have provided two files:

(a) a PDF document of our updated justification using tracked changes according the the current costs for all items based on the documentation
(b) a PDF of the documentation that was requested on the clarification sheet

We have also included an Excel spreadsheet that includes our calculations for all costs and all partners corresponding to our updated justifications and documentation. Necessarily and following the documentation now provided, various costs have changed since our initial submission in April 2018 and our budget has been updated accordingly. Therefore, our overall budget request has also increased to $4,995,106.37 with annual amounts as follows.

Y1: $999,888.16
Y2: $997,047.51
Y3: $999,782.70
OY1: $998,704.80
OY2: $999,683.19.

Please email anytime or contact me directly at +1.212.380.4489 with any questions about our documentation, cost proposal, or other details.

Best,

Mindy

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

KCRI Budget Justification

A. Senior Personnel

We request a total of S3 ,000 to support Key Personnel over the five years of the proposed project.

Blandina Mmbaga, Co-PI, Epidemiologist, will commit 1.2 months per year. We request salary of $6,000 in Year 1- . Co-PI Mmbaga is the Research Director of KCRI and holds a PhD in Public Health and Epidemiology. Co-PI Mmbaga will contribute to the study design, lead the implementation of field work with human subjects and the laboratory analysis of human samples, provide training and mentorship, develop policy recommendations and facilitate collaboration with stakeholders.

B. Other Personnel

We request a total of S2 , to support Other Personnel over the five years of the proposed project.

Technicians. We request $2,000 per year in Y1-2 for a laboratory technician, who will commit 1 months per year to aliquot the serum samples that come in from the field and store them. laboratory technician will increase the time commitment to months , and laboratory technician will be hired committing 12 months per year, for which we are requesting per technician to complete the ELISA testing on the human sera collected in Y1, Y2 and OY1.

Nurses. We request S 4,000 over the five years of the project for two nurses. In Y1- , we request support for nurse who will commit months per year at a rate of $12,000 who will collect blood samples from participants in the serosurvey (Task 2). In OY1 of the project, we who will commit months for the year in order to collect blood samples for the incidence study .

Administrator. We request $2,400 in Y1 to support a Program Administrator who will assist co-PI Mmbaga in the administration of the project. We request a total of $12,000 over the five years of the project.

Anthropologist/Epidemiologist. We request S ,000 for an Anthropologist/Epidemiologist, with a 3% increase in subsequent years, who will commit 12.0 months Y1-2, OY1 and 6 months in Y3 to contribute to the development of the serosurvey and incidence studies, field data collection and data analysis.

We request $10,500 over the five years of the project to support a Finance Specialist who will commit .84 months per year for Y1-5. The Finance Specialist will work with project staff to ensure timely invoicing for all program expenses.

Deleted: 8

Deleted: Y5

Deleted: Co-PI Mmbaga will commit 2.8 months per year in OY1 as we will have both human field sampling and lab testing ongoing.

Deleted: 88

Deleted: 095.31

Deleted: In Y3 of project, the

Deleted: ir

Deleted: 12

Deleted: per year

Deleted: Y3

Deleted: Yr 4

Deleted: Y4

Deleted: a second

Deleted: $24,000 (

Deleted:) for Y3-4

Deleted: 8

Deleted: 32

Deleted: twoone

Deleted: s

Deleted: 6

Deleted: 6

Deleted: each

Deleted: per year

Deleted: request $24,000 for two nurses

Deleted: each

Deleted: 6

Deleted: 30

Deleted: co-investigator

Deleted: 3 and

Deleted: to

Deleted: Prof Blandina

Deleted: i

Deleted: physician

Deleted: 3 and

Deleted: to

Deleted: Prof Blandina

Deleted:

D. Travel

We request $3,500 , with a 3% annual increase, for travel. This will cover a travel stipend of $35 per day for 100 days in each of Y1 and Y2 for the original serosurvey 15 days in OY1 for the incidence study while they are working in the field. We request $18, over the five years.

E. Participant Support Costs

We request a total of $1,80 for a CCHFV Diagnostics Training Workshop Y3 of the project. We will host a workshop to train participants from local and national public health laboratories to conduct CCHFV ELISA and PCR testing as well as to understand the importance of including CCHFV as a differential diagnosis.

F. Other Direct Costs

We request a total of $8 , for other direct costs over the five years of the proposed project.

We request $2,4 for the storage of samples in Y1 of the project, and an increase of 5% in each subsequent year for a total of $13, over the five years of the project We request $14, for laboratory access and utilization for the processing of human IgG ELISA samples in Y3 of the project, and an increase of 5% in Y for a total of $29, over the five years of the project. There is a separate cost to perform the tests, for which we request a total of $42,656, $10,66 in Y3 to perform 800 tests and $31,99 in Y to perform 2400 tests all at a cost of 30,000 Tanzanian Shilling, or $13.33 USD, per test.

H. Indirect Costs

We request a total of $4 in overhead, a rate of 10% per year, over the five years of the proposed project.

Deleted: per yea

Deleted: r

Deleted: for Year 1 and 2 and $11,483 in OY1

Deleted:

Deleted: and

Deleted: 0

Deleted: .5

Deleted: for the nurse(s)

Deleted: 5

Deleted: 880

Deleted: 0

Deleted:
Meals 11 participant * 15 USD per meal (breakfast and lunch and evening tea) per day*5 days 900USD.
Transport 0.65 USD/km for local pick up.

Deleted: W

Deleted: and airport pick up

Deleted: USD

Deleted: Local transport 25 km per day 0.65USD*5days=81.25USD.
Venue 50 USD per day *5 = 500USD.
Stationaries pens, files and training material 125 USD

Deleted: 4

Deleted: 948 19

Deleted: 00

Deleted: 261.52

Deleted: 156.10

Deleted: 4

Deleted: 020.01

Deleted: 7

Deleted: 8

Deleted: 4

Deleted: 00.466484

	DTRA Questions	EcoHealth Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff as well as that of the positions created by this grant	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 1
2	Please justify the 5% increase, per year, for key personnel	All salaries for key personnel are increased annually by 5% due to the exceptionally high cost of living increases in New York City where we are headquartered. EcoHealth Alliance bases this calculation on the Consumer Price Index plus an annual merit increase.	
3	For the 4 wheel drive, specifically: - More detailed description as to why this is needed - What is the plan to disposition of the four wheel drive - The comparison between renting and buying	We require a 4x4 wheel drive land cruiser/similar for driving off roads (the roads in Tanzania are very poorly maintained) for 6 passengers (driver/technician, field coordinator, vet, nurse, PhD student, TAWIRI wildlife team member, plus equipment). A 6-person land cruiser is available for rent from Dar es Salaam (very few vehicles are available from Arusha). The cost is $3,112.27 per month (see documentation attached). We will need a vehicle daily for field work, visiting the communities prior to the start and at the end of the work for Years 1, 2 and OY1. Thus, the cost for these three years for 6 people = $3112.27 x 2 vehicles x 36 months = $224,083.44. Additionally, we will need a vehicle to move between laboratories, meet with collaborators and prepare for workshops during Years 3 and OY2, which would increase the cost of the rental vehicle even higher. Finally, one is not permitted to drive the rental vehicle into the national parks, which would mean our team would not be able to access one of the three environmental disturbance levels. Thus, it is far more economical for the project for us to purchase two vehicles rather than rent them. The only way to access our study areas is to drive. For each sampling trip in years 1-2 we will need to bring supplies for rodent, livestock and human sampling as well as a dry shipper for tick sampling. Additionally, the rodent sampling will take three days per site, whereas the human and livestock sampling will only take one day. Thus, the team can increase their efficiency by having the rodent sampling team in a separate vehicle from the human sampling team. Additionally, when the PIs join the team in the field they will need additional seating, which will be provided by two vehicles. At the end of the project, the vehicle will be transferred for use on other zoonotic disease research projects that our collaborators at EcoHealth Alliance or GAHI are working on	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 2-7, 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2
4	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices	A detailed breakdown is provided in the FRBAA14-6-2-0356 Detailed Budget and documentation of all items is provided in the EHA Documentation file.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 8-80, FRBAA14-6-2-0356 Detailed Budget, Tabs Prime Budget, EHA Travel Budget, EHA Materials and supplies and Visas and Permits
5	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	We have provided our federally negotiated indirect rate in the documentation and applied this to all modified direct costs	01 - FRBAA14-6-2-0356 - EHA DocumentationPg p67
6	Documentation to justify the permit needed to enter Tanzania	The cost of non-Tanzanians obtaining research permits to conduct research in Tanzania includes: A COSTech research permit ($300 and $50 = $350). Then there is the additional TAWIRI permit, which is $3,800 per person ($1,800 for the research fee and in Y1 and Y2 and additional $2,000 for the criminal protection area fee). The documentation is provided.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 53-56, 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
7	What does the misc. travel cost entail	The misc. travel costs are requested to cover ground transportation round trip to/from the airport or train station in NYC and to/from the hotel at the meeting location. These are estimated at a $25 taxi ride each way per person	01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
8	Please explain how you came up with the cost associated with the international and domestic conferences	Domestic travel estimates are based on attending the APHA Conference which for 2018 was held in San Diego, CA. Therefore the estimates are based on the per diem of $173 for lodging and $71 for meals and incidentals per day for a total of $245 and conference registration fees of $700. International travel is based on attending the International Conference on Veterinary Epidemiology and Animal Health in Paris, France. Therefore the estimates are based on the per diem of $391 for lodging and $169 for meals and incidentals for a total of $560 and conference registration fees of 450 EURO, or $500	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 69-74; 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
9	Please provide documentation to justify the conference space, amenities and printing documents for stakeholders meeting	We provided a quote from the Sheraton for facilities for our stakeholder meeting in November 2019 in Pretoria South Africa for a similar DTRA project.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 78-80
10	Please provide documentation to justify the rental of a conference facility for the CCHF Symposium in OY2	We provided a quote from the Sheraton for facilities for our stakeholder meeting in November 2019 in Pretoria South Africa for a similar DTRA project.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 78-80
11	Please provide documentation for cost of recruitment of the Tanzanian post doctoral fellow in OY2	The costs associated with recruiting the Tanzanian post-doctoral fellow in OY2 include: the costs of the legal and visa filing fees associated with obtaining a work visa for the fellow ($450 for the application filing fee, $2,000 for the legal fees, $2,000 for the flight). As well as moving expenses etc. that will need to be reimbursed to the fellow ($1,500 for housing until an apartment is found, $910 for moving belongings)	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 74-77

	DTRA Questions	KCRI Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at KCRI.	02 - FRBAA14-6-2-0356 - KCRI Documentation Pg 2
2	Please break down ODCs and provided documentation to justify any cost	We have provided the requested documentation in the documentation and updated justification files.	02 - FRBAA14-6-2-0356 - KCRI Documentation Pg 3-6; 02 FRBAA14 6 2 0356 KCRI Budget Justification Pg 2
3	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Travel costs include a stipend of $35 per day (non-governmental rate) for 100 days in each of Y1 and Y2 for the original serosurvey and 151 days in OY1 for the incidence study for the nurse(s) while they are working in the field.	FRBAA14-6-2-0356 - KCRI Documentation Pg 6-7; 02 - FRBAA14-6-2-0356 - KCRI Budget Justification Pg 2
4	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	Please see above explanation of travel costs	FRBAA14-6-2-0356 - KCRI Documentation Pg 6-7; 02 - FRBAA14-6-2-0356 - KCRI Budget Justification Pg 2
5			

	DTRA Questions	OneHealth Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at OHCD.	03 - FRBAA14-6-2-0356 - OHCD Documentation Pg 1 -2
2	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Dr. Assenga and Dr. Bernard may attend project meetings held in Tanzania and take other meetings to improve One Health stakeholder relationships. This will cover four trips per year, for 2 days each with local transportation estimated at $40 per trip and per diem expenses of $55 per day (government standard rate).	03 - FRBAA14-6-2-0356 - OHCD Justification Pg 1; 06 - FRBAA14 G 2 0356 TVLA Documentation Pg 1
3	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	Please see above explanation of travel costs. For documentation of the government stiperd ($55) please see the TVLA documenation.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 1
4			
5			

	DTRA Questions	Public Health Responses	Document and Page number
1	Please provide documentation to support the proposed salaries, key personnel and other personnel	Please see the attached documentation of the salaries of current staff at PHE.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 2
2	Please break down ODCs and provided documentation to justify any cost	Please see the documentation file for the break down of ODCs (items 2 and 3) and accompanying documentation of international travel (item 3). This documentation includes an explanation of international travel required, the cost per CCHF virus neutralisation test (under materials and supplies) a quote for shipment of samples from Tanzania to the UK (under postage of samples), and an estimate for inflation in costs, as the activity is scheduled for four years (four new OYs)	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 3-5
3	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices.	Please see the documentation file outlining the agreed upon total unit cost per test under materials and supplies in item 2	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 3
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	Please see the documentation file, item 4 (current rate agreement) and item 5 (explanation of how the rate is used) for the federally negotiated rate.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 6-9
5	Please provided documentation to justify facility cost	Please see the documentation file, item 6, which describes both the overall cost for utilizing the BSL-4 laboratory for 2 weeks, as well as provides Table 1, which includes the cost breakdown for the facility.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 10-11
6			

	DTRA Questions	TAWIRI Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at TAWIRI.	05 - FRBAA14-6-2-0356 - TAWIRI Documentation Pg. 1
2			
3			
4			
5			

	DTRA Questions	TVLA Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at TVLA.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2
2	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	We have provided a breakdown of all travel proposed in the updated budget justification.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2; 06 - FRBAA14-6-2-0356 - TVLA Budget Justification Pg 1
3	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	We have provided documentation in support of the ODCs in the Documentation file .	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2-4
4			

	DTRA Questions	UoG Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at UoG	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 2
2	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Screenshots for flight prices between Glasgow and Dar es Salaam, Glasgow and Kilimanjaro, and Kilimanjaro and Dar es Salaam are provided in the documentation attached. The breakdown of all costs associated with travel is provided in the updated justification.	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 3-8; 07 - FRBAA14 G 2 0356 UoG Budget Justification Pg 1-2
3	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	The breakdown of all costs associated with travel is provided in the updated justification	07 - FRBAA14-6-2-0356 - UoG Budget Justification Pg 1-2
4	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	Documentation is attached to confirm the costs of direct costs including shipping and lab expenses including testing kits. Full explanation of costs is outlined in the updated justification.	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 9-16; 07 - FRBAA14 G 2 0356 UoG Budget Justification Pg 2-3
5	Please break down participant costs	We request $3,300 in Y3 for travel subsistence costs for participants at a rate of $55/day (standard government rate) over 5 days for 10 participants, who will attend 2 trainings. The costs for the UoG trainer are covered by travel costs (above).	07 FRBAA14 G 2 0356 UoG Budget Justification Pg 2

	DTRA Questions	WSU Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at WSU. We have also documented a draft employment contract for the employees to be hired at the standard rate for GAHT/WSU. We have included a bill for annual insurance for 7 employees to document the annual cost of benefits. We have also included a current salary statement from GAHT (including salaries for Ms. Mollo and Mr. Kassagati) to document the cost of the social security tax (NSSF), which is 10% of the gross salary).	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 2-14
3	Please provide documentation to support ODCs (screenshots, links, quotes, etc.)	We have provided the documentation of all ODCs - this includes permits, insurance and medical waste management (individually described below) as well as a list of prices for office supplies. Please note that not all supplies are listed as stores in Tanzania do not have websites that indicate the prices and so we were not able to provide screen shots; however, we did provide a list of common office supplies and an example of a receipt for a recent purchase. An estimate for the translations was also provided.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 15-38; 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 4-5
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	WSU has a federally negotiated rate for overhead. The documentation attached includes a rate for work that takes place off campus (as our project does).	WSU Documentation Pg 39-44
5	Need documentation to justify the permit needed to enter Tanzania	Documentation is provided for the following costs: all non-Tanzanians must pay a $400 application fee for a COSTech permit (the fee is only $50 for Tanzanians); once the COSTech application is approved, each non-Tanzanian researcher must pay a $1600 fee to conduct research in Tanzania. In Years 3 and 4 there is an additional fee for working in a critical protected area (Serengeti of $2000	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 15-18; 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 15-16
6	Need documentation to justify medical waste management (screenshots, links, quotes)	Documentation is provided for the cost of medical waste incineration. This will be necessary to handle the biohazardous waste that is produced during the field sampling.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 25
7	Please provide documentation to support equipment insurance (screenshots, links, quotes, etc.)	The only equipment that is required to be insured are the project vehicles. As in the US there is a lower cost if the vehicle will be used for fewer kilometers in a year ($692 vs the $1,364 cost documented) as this is the years without field work (Y3 and Y4).	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 21-22
8	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc	Screen shots for the cost of a flight was documented for all proposed travel between London and Arusha (JRO), Arusha and Dar es Salaam, Arusha and Seronera (Serengeti) and London and a European city. The number, purpose and length of each trip and the number of travelers is specified in the budget justification	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 45-49; FRBAA14-6-2-0356 Detailed Budget, Tab WSU, 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 1-3
9	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	The breakdown of all costs associated with travel is provided in the justification.	08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 1-3, 08 - FRBAA14-6-2-0356 - WSU Documentation Pg 45-50. FRBAA14-6-2-0356 Detailed Budget, Tab WSU
10			

Budget Documentation – Kilimanjaro Clinical Research Institute

1) Salaries ..... Pg. 2

2) Laboratory Access and Utilization ..... Pg. 3

3) Sample Storage ..... Pg. 4

4) Venue Cost ..... Pg. 5

5) Testing Costs ..... Pg. 6

6) Participant Support Cost Travel ..... Pg. 7

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions of the Good Samaritan Foundation

P.O.BOX 2236
Moshi,Tanzania
Telephone: 255-27-2754201
Fax: 255 27 2753368

Email: keriadmin@kcri.ac.tz
Website: http://www.kcmc.ac.tz
Website: http://www.kcri.ac.tz
Date: 20-11-2019

Dear Melinda Rostal

I am writing to confirm the salaries mentioned in Cremean Congo Hemorrhagic Fever study for KCRI personnel as listed below.

Personnel-KCRI	Annual salary	Monthly salary
Scientist – Local PI	$ 60,000.00	$ 5,000.00
Senior- Lab Technician 1	$ 24,000.00	$ 2,000.00
Lab Technician 2	$ 12,000.00	$ 1,000.00
Lab Technician 3	$ 12,000.00	$ 1,000.00
Nurse 1	$ 12,000.00	$ 1,000.00
Nurse 2	$ 12,000.00	$ 1,000.00
Administrator	$ 24,000.00	$ 2,000.00
Anthropologist/epidemiologist	$ 24,000.00	$ 2,000.00
Scientist 2 -Veterinary	$ 30,000.00	$ 2,500.00
Scientist 3-Physician	$ 30,000.00	$ 2,500.00
Finance	$ 30,000.00	$ 2,500.00

CPA(T) Gilbert Shao
Chief accountant - KCRI

Serial No: 1840

Laboratory Access/Rental Fee

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health
Institution of the Good Samaritan F
P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (TSHS/US$/EU)
	(b)(4)	1,200
	(b)(4)	
	SUB TOTAL	
	TOTAL	

Amount in words .....
.....

BANK DETAILS:

BANK NAME: .....

ACCOUNT NAME: (b)(4)

ACCOUNT No. (b)(4)

BRANCH: .....

SWIFT CODE: (b)(4)

SORT CODE: (b)(4)

Serial No: 209

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions
Institution of the Good Samaritan Foundation

P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

Sample Storage Fee

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (TSHS/US$/E/L)
	[redacted]	
	[redacted]	[redacted]
	[redacted]	
	[redacted]	[redacted]
	[redacted]	[redacted]
	[redacted]	[redacted]
	(b)(4)	
	(b)(4)	(b)(4)
	SUB TOTAL	
	TOTAL	

Amount in words .....
.....

BANK DETAILS:

BANK NAME: .....

ACCOUNT NAME: (b)(4)

ACCOUNT No. (b)(4)

BRANCH: .....

SWIFT CODE: (b)(4)

SORT CODE: (b)(4)

Serial No: 1838

Venue Fee for Workshop in Y3

KCRI Kilimanjaro Clinical Research Institute
Academic Centre for Evidence Based Health Interventions
Institution of the Good Samaritan Foundation
P O Box 2236
KCRI -KCMC
MOSHI
Tel: +255(27)2754201
Fax: +255(27)2753368
Email: kcriadmin@kcri.ac.tz
Website: www.kcri.ac.tz

TO: .....
.....
.....

INVOICE

S/N	DESCRIPTION	AMOUNT (TSHS/US$/E/L)
	SUB TOTAL	
	TOTAL	

Amount in words .....

.....

BANK DETAILS:

BANK NAME: .....

ACCOUNT NAME: (b)(4)

ACCOUNT No. ..... (b)(4)

BRANCH: .....

SWIFT CODE: ..... (b)(4) .....

SORT CODE: ..... (b)(4) .....

Cost per test and non-governmental daily stipend rate

KCRI Kilimanjaro Christian Medical Research Institute
Academic Centre for Evidence Based Health Interventions of the Good Samaritan Foundation

P.O.BOX 2236
Moshi.Tanzania
Telephone: 255-27-2754201
Fax: 255 27 2753368

Email: keriadmin@keri.ac.tz
Website: http: www.kcmc.ac.tz
Website: http: www.keri.ac.tz
Date: 24.11.2019

Dear Dr. Melinda Rostal,

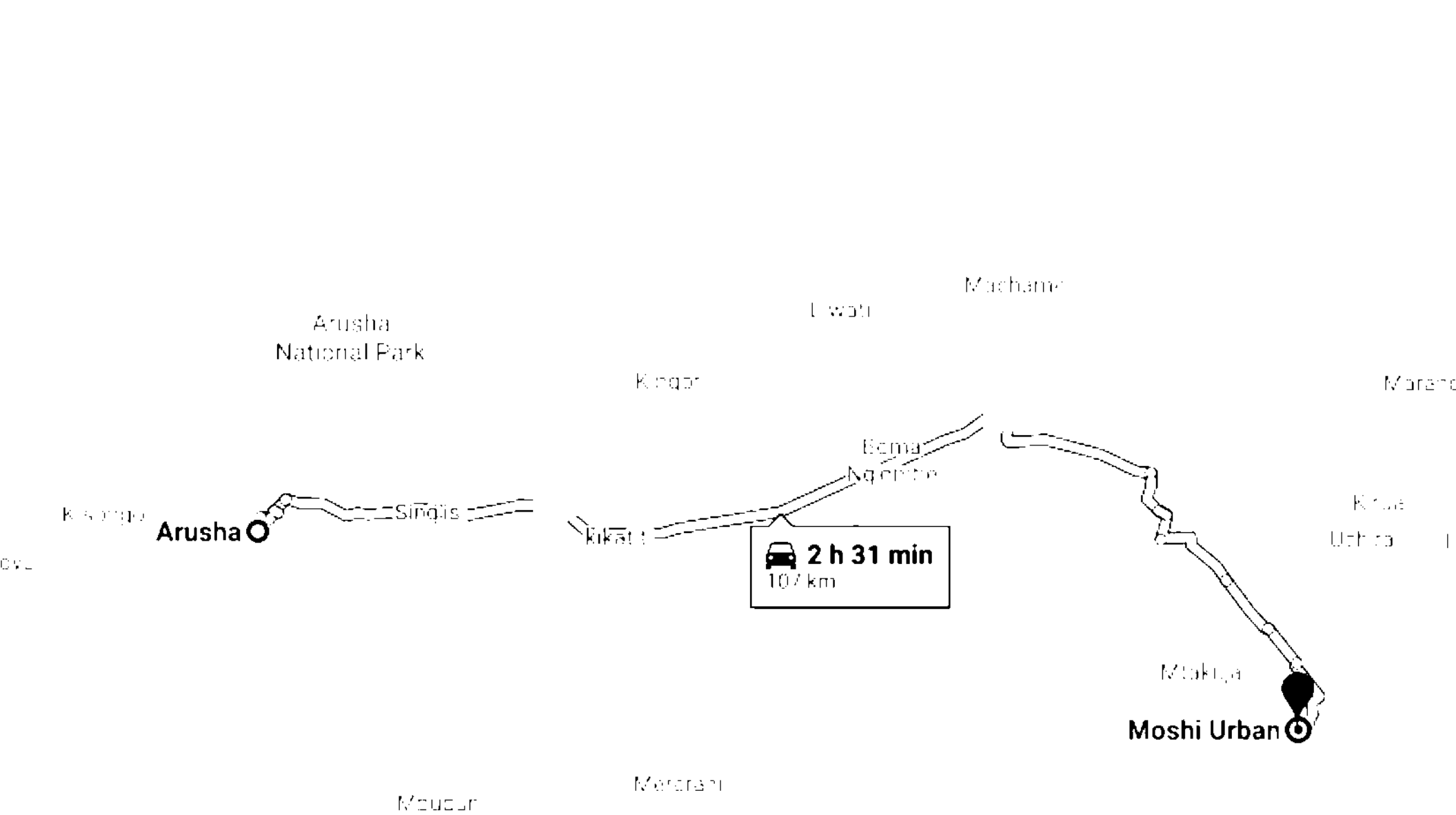
I am writing to confirm the agreed upon testing and travel costs for the Crimean-Congo Hemorrhagic Fever: Reducing an Emerging Health Threat in Tanzania Project.

We have agreed to a fee of $13.33 per ELISA.

We have agreed to use the travel rate of $35 per day for our nurse while in the field.

Sincerely,

CPA(T) Gilbert Shao
Chief accountant – KCRI


Machame
Arusha
National Park
Kingori
Sinoni
Arusha
Bema
Ngarenaro
Kikatiti
2 h 31 min
107 km
Mbokuyo
Moshi Urban
Maroroni
Mauasi

ORGANIZATION NAME						
A. Human Resources						
B. Elected Officials						
C. Legal						
D. Facilities and Human Support Services						
E. Fiscal Services						

International Travel	Base Costs	Y1	Y2	Y3	Y4	Y5	TOTAL
Traveler 1 - Mumbai/Rovisit (round-trip/hotel base)							
Ground Transportation Expenses	300	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Lodging Meals & Incidental Expenses Per Diem	284	$ 3,276.00	$ 3,276.00	$ 3,276.00	$ 3,276.00	$ 3,276.00	
Flight Economy	2400	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	
No. Days		7	7	7	7	7	
No. Trips per Year		2	2	2	2	2	
Total		$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 37,380.00
Traveler 2 - Mumbai/Rovisit (round-trip/hotel base)							
Ground Transportation Expenses	300	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Lodging Meals & Incidental Expenses Per Diem	513	$ 3,130	$ 3,130	$ 3,130	$ 3,130	$ 3,130	
Flight Economy	300	$ 600	$ 600	$ 600	$ 600	$ 600	
No. Days		5	5	5	5	5	
No. Trips per Year		2	2	2	2	2	
Total		$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 19,650.00
Traveler 3 - Mumbai/Rovisit (round-trip/hotel base)							
Ground Transportation Expenses	100	$ 100.00	$ 100.00	$ 100.00	$ 100.00	$ 100.00	
Lodging Meals & Incidental Expenses Per Diem	513	$ 2,701	$ 2,701	$ 2,701	$ 2,701	$ 2,701	
Flight Economy	1000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	
No. Days		7	7	7	7	7	
No. Trips per Year		1	1	1	1	1	
Total		$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 21,455.00
Traveler 4 - Fred Conn (rotation) (round-trip/hotel base)							
Ground Transportation Expenses	300	$ 200.00	$ 200.00	$ 100.00	$ 200.00		
Lodging Meals & Incidental Expenses Per Diem	284	$ 1,704.00	$ 1,704.00	$ 1,704.00	$ 1,704.00		
Flight Economy	2400	$ 4,800	$ 4,800	$ 2,400	$ 4,800		
No. Days		7	7	7	7		
No. Trips per Year		2	2	1	2		
Total		$ 7,476.00	$ 7,476.00	$ 3,976.00	$ 7,476.00		$ 26,404.00
Traveler 5 - Mumbai/Rovisit (Kandivali base)							
Ground Transportation Expenses	300	$ 100.00	$ 300.00	$ -	$ 100.00	$	
Lodging Meals & Incidental Expenses Per Diem	284	$ 1,680.00	$ 1,088.00	$ -	$ 568.00	$	
Flight Economy	2000	$ 2,000	$ 2,000	$ -	$ 2,000	$	
No. Days		14	7				
No. Trips per Year		1	1				
Days above Basel to longer average planned Stay		6				2	
Total		$ 7,780.00	$ 3,788.00			$ 668.00	$ 12,236.00
Traveler 6 - Mumbai/Rovisit (Dadar Station) (same base)							
Ground Transportation Expenses	300	$ 100.00	$ 100.00				
Lodging Meals & Incidental Expenses Per Diem	513	$ 1,658	$ 1,658	$ -	$ 513	$ 1,282	
Flight Economy	300	$ 300	$ 300				
No. Days		8	6				
No. Trips per Year		1	1				
Days above Basel to longer average planned Stay					3	4	
Total		$ 2,275.00	$ 2,278.00		$ 930.00	$ 1,282.00	$ 6,747.00
Traveler 7 - Mumbai/Rovisit (Dadar Station) (above base)							
Ground Transportation Expenses	300	$ -	$ -	$ -	$ 100.00	$ 300.00	
Lodging Meals & Incidental Expenses Per Diem	513	$ -	$ -	$ -	$ 2,191	$ 2,701	
Flight Economy	2400	$ -	$ -	$ -	$ 2,000	$ 2,000	
No. Days					7	7	
No. Trips per Year					1	1	
Days above Basel to longer average planned Stay							
Total		$ -	$ -	$ -	$ 4,291.00	$ 5,001.00	$ 9,292.00
Traveler 8 - Fred Conn (rotation) (Kandivali) (above base)							
Ground Transportation Expenses	300	$ 200.00	$ 300.00	$ -	$ 100.00	$ -	
Lodging Meals & Incidental Expenses Per Diem	284	$ 16,380	$ 21,809	$ -	$ 6,533	$ -	
Flight Economy	2000	$ 2,000	$ 4,000	$ -	$ 2,000	$ -	
No. Days		21	27	0	21		
No. Trips per Year		2	2	0	1		
Days above Basel to longer average planned Stay		20	40	0	7		
Total		$ 37,580.00	$ 26,356.00	$ -	$ 8,633.00		$ 72,569.00
Traveler 9 - Fred Conn (rotation) (Dadar Station) (above base)							
Ground Transportation Expenses	100	$ 100.00	$ 100.00	$ -	$ 100.00	$ -	
Lodging Meals & Incidental Expenses Per Diem	513	$ 1,965	$ 1,965	$ -	$ 1,965	$ -	
Flight Economy	300	$ 300	$ 300	$ -	$ 300	$ -	
No. Days		5	4		5		
No. Trips per Year		1	1		1		
Total		$ 1,965.00	$ 1,822.00		$ 1,965.00	$ -	$ 5,382.00
Traveler 10 - Research Assistant (Dadar Station)							
Ground Transportation Expenses	300		$ -			$ 300.00	
Lodging Meals & Incidental Expenses Per Diem	513		$ -			$ 2,701	
Flight Economy	2400		$ -			$ 2,000	
No. Days						7	
No. Trips per Year						1	
Total			$ -			$ 4,291.00	$ 4,291.00
Traveler 9 - Carlos Zumbrana Torres (Brazil)							
Ground Transportation Expenses	300		$ -	$ -	$ -	$ -	
Lodging Meals & Incidental Expenses Per Diem	284		$ 1,704.00	$ -	$ -	$ -	
Flight Economy	2400		$ 2,400.00	$ -	$ -	$ -	
No. Days			6			6	
No. Trips per Year			1			1	
Total			$ 4,404.00			$ -	$ 4,404.00
Traveler 10 - International Conference Attendance (Dadar Station) - Conference Expenses							
Ground Transportation Expenses	300		$ 300.00	$ 200.00	$ 300.00	$ 300.00	
Registration	999		$ 999.00	$ 998.00	$ 998.00	$ 998.00	
Lodging Meals & Incidental Expenses Per Diem Rate	500		$ 3,360	$ 3,026	$ 3,720	$ 3,720	
Flight Economy	1280		$ 1,280	$ 2,560	$ 2,560	$ 2,560	
No. Days			6	6	6	6	
No. Trips per Year			1	2	2	2	
Total			$ 5,939.00	$ 10,570.00	$ 11,578.00	$ 10,578.00	$ 39,665.00
Traveler 11 - Field Day							
Ground Transportation Expenses	100					$ 100.00	
Lodging Meals & Incidental Expenses Per Diem	513					$ 1,282	
Flight Economy	2400					$ 2,000	
No. Days						2	
No. Trips per Year						2	
Total						$ 3,582.00	$ 3,582.00
Research Fees		$ 4,000.00	$ 6,400.00	$ 3,696.00	$ 4,986.00	$ 4,824.00	$ 23,906.00
YEARLY TOTALS		$ 67,006.00	$ 78,344.50	$ 36,542.00	$ 58,224.00	$ 54,278.00	$ 294,594.50
Amount of Research Fund Injected per Year		$ 4,000.00	$ 4,300.50	$ 387.00	$ 496.00	$ 528.00	

Individual totals	Y1	Y2	Y3	Y4	Y5	Annual Base
Rovisit	$ 20,468.00	$ 27,422.00	$ 11,436.00	$ 12,845.00	$ 13,136.00	$ 13,408.00
Rovisit	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 8,582.00	$ 8,582.00	$ 4,291.00
Field Coordinator	$ 37,580.00	$ 39,230.00	$ 5,770.00	$ 22,413.00	$ -	$ 12,000.00
Research Assistant	$	$ -	$ -	$ -	$ 4,291.00	
Zumbrana	$	$ -	$ -	$ -	$ 4,291.00	
Undistrib	$	$ -	$ -	$ -	$ 8,582.00	
Fees	$ 4,000.00	$ 6,400.00	$ 3,696.00	$ 4,986.00	$ 4,824.00	$ 4,300.00
International Conference	$	$ 5,939.00	$ 10,570.00	$ 11,578.00	$ 10,578.00	
Total	$ 67,006.00	$ 78,344.50	$ 36,542.00	$ 58,224.00	$ 54,278.00	$ 33,408.00

Domestic Travel	Y1	Y2	Y3	Y4	Y5	
Traveler 1 - EXTRA Technical Meeting						
Ground Transportation	$ 100.00	$ 100.00	$ 100.00	$ 100.00	$ 100.00	
Lodging Meals & Incidental Expenses Per Diem	$ 1,250.00	$ 1,250.00	$ 1,250.00	$ 1,250.00	$ 1,250.00	
Flight/Train Estimate	$ 500	$ 400	$ 400	$ 400	$ 400	
No. Days	5	5	5	5	5	
No. Trips per Year	1	1	1	1	1	
Total	$ 1,850.00	$ 1,750.00	$ 1,750.00	$ 1,750.00	$ 1,750.00	$ 8,850.00
Traveler 2 - General Conference Attendance						
Ground Transportation		$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Lodging Meals & Incidental Expenses Per Diem	$ 245.00	$ 2,450.00	$ 2,450.00	$ 2,450.00	$ 2,450.00	
Flight/Train Estimate	$ 893	$ 1,190	$ 1,190	$ 1,190	$ 1,190	
No. Days		5	5	5	5	
No. Trips per Year		2	2	2	2	
Total		$ 3,840.00	$ 3,840.00	$ 3,840.00	$ 3,840.00	$ 15,360.00
Conference Registration Fees		$ 1,542.00	$ 1,542.00	$ 1,542.00	$ 1,542.00	$ 6,168.00
Yearly Totals	$ 2,750.00	$ 7,132.00	$ 7,132.00	$ 7,132.00	$ 7,132.00	

Participant Support Costs	Y1	Y2	Y3	Y4	Y5	TOTAL
Traveler 1 - CONFERENCE Attendance						
Ground Transportation						
Lodging Meals & Incidental Expenses Per Diem					$ 20,400.00	
Flight/Train Estimate					$ 8,000	
No. Days					20	
No. Participants					20	
Total					$ 28,400.00	$ 28,400.00
Traveler 2 - Conference Attendance (Undistributed)						
Ground Transportation						
Lodging Meals & Incidental Expenses Per Diem					$ 12,320.00	
Flight/Train Estimate					$ 14,000	
No. Days					8	
No. Participants					7	
Total					$ 26,320.00	$ 26,320.00
Yearly Totals	$ -	$ -	$ -	$ -	$ 54,720.00	

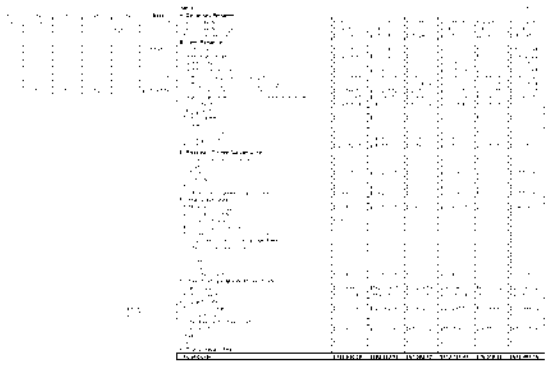
Item	Number in unit	Price per unit	Number needed Y1	Number need	Y1	Y2	Y3	Y4	Y5			
Shipping Costs	1	$ 3,011.00	3	1	$ 15,033.00	$ 15,483.99		$ 5,475.65				
Label Printer Supplies (5000 roll)	1	$ 133.45	3	2	$ 400.35	$ 412.36		$ 292.65				
Label printer ribbon (for 14,000 labels)	1	$ 28.89	1	2	$ 28.89	$ 29.76		$ 84.14				
Theory Computers	1	$ 2,125.00	2	1	$ 4,252.00	$ 2,125.00		$ 2,126.00	$ 2,126.00	$ 1,795.84	$ 442.12	$ - $ 354.79
Software Arc GIS	1	$ 1,000.00		1	$				$ 2,750.00			
Supplies for Graduate Students/Postdoc	1	$ 1,500.00	1	2	$ 1,500.00	$ 1,545.00	$ 3,182.70	$ 3,278.18	$ 3,376.53			
Label printer (Brady 300 dpi)	1	$ 3,366.10	1		$ 3,366.10							
Refrigerator	1	$ 2,740.00	1		$ 2,740.00							
Refrigerator Thermometer	1	$ 101.00	1		$ 101.00							
Multiscan ex plate reader Lamp	1	$ 174.10	1		$ 174.10							
Stereal microscope	1	$ 3,347.30	1		$ 3,347.30							
Water Distiller	1	$ 2,458.50	1		$ 2,458.50							
pH Meter	1	$ 257.02	1		$ 257.02							
ELISA Washer	1	$ 4,514.48	1		$ 4,514.48							
Fridge for vehicles	1	$ 3,795.00	2		$ 7,590.00							
Backup battery for fridge	1	$ 1,495.00	2		$ 2,990.00							
Nunc 1.8 internal cryovials	1800	$ 967.73	3	7	$ 2,903.19	$ 2,990.29		$ 3,177.39				
Serum tubes 10 ml	1000	$ 331.66	3	3	$ 994.98	$ 1,024.83		$ 1,087.24				
Serum tubes 3 mL	1000	$ 251.62	2	1	$ 503.24	$ 259.47						
Seum 1.3m - or smaller?	100	$ 35.50	5		$ 182.50	$ 187.98						
Vaccutainer holder	1000	$ 91.90	3	2	$ 275.70	$ 283.97		$ 903.79				
21g 1in vacutainer safety needles	480	$ 339.50	2	3	$ 679.00	$ 699.37		$ 1,112.94				
3cc luer lock syringe	1000	$ 196.73	2		$ 393.46	$ 204.65						
22g 1in needle (for vaccutainer)	1000	$ 270.89	1		$ 270.89	$ 278.02						
22g 1in needle (for syringe)	1000	$ 219.36	2		$ 438.72	$ 224.91						
1cc syringe and needle	1000	$ 713.21	1		$ 713.21	$ 719.61						
thumb forceps to collect ticks	1	$ 9.00	2		$ 18.00	$ 18.54						
tubes to put ticks in	500	$ 415.00	3		$ 1,245.00	$ 1,282.35						
PPE protective coverall for rodent work (M)	24	$ 470.00	11		$ 5,170.00	$ 5,325.10						
PPE protective coverall for rodent work (L)	24	$ 470.00	11	12	$ 5,170.00	$ 5,869.20						
N95 respirator for rodent work	80	$ 814.00	7		$ 2,198.00	$ 2,263.94						
Respirator fit test kit	1	$ 436.00	1		$ 436.00							
Safety glasses	10	$ 32.30	10		$ 323.00							
Nitrile gloves extended cuff XL	500	$ 332.50	2	1	$ 665.00	$ 684.95		$ 363.33				
Nitrile gloves extended cuff M	500	$ 332.50	3	1	$ 997.50	$ 1,027.43		$ 363.33				
Nitrile gloves extended cuff S	500	$ 332.50	1	2	$ 332.50	$ 342.48		$ 726.66				
2 gallon sharps bucket	20	$ 238.33	1	1	$ 238.33	$ 245.48		$ 260.43				
Biohazard bags	50	$ 38.13	1	1	$ 38.13	$ 39.27		$ 41.67				
Tablets (plus case)	1	$ 228.98	8	2	$ 1,831.84	$ 1,885.80		$ 500.43				
50 Tomahawk traps	1	$ 53.45	50	10	$ 3,172.50	$ 653.54		$ 693.34				
30 squirrel traps	1	$ 44.82	30	10	$ 1,344.60	$ 461.65						
20 rodent traps	1	$ 27.23	23	10	$ 626.29	$ 280.47						
Incentive for cattle owners	1	$ 7.00	600		$ 4,200.00	$ 4,326.00						
Incentive cookies/juice for participants	1	$ 2.00	400	900	$ 800.00	$ 824.00		$ 1,748.36				
Ear tag/tattoo kit		$ 398.00			$ 398.00							
Anesthesia for small mammals		$ 6,336.96			$ 7,168.48	$ 3,263.53						
Ethanol gallon	1	$ 82.00	1		$ 82.00							
Subtotal					$ 86,080.70	$ 54,713.88	$ 4,701.89	$ 22,208.54	$ 8,252.53			
Lab supplies for workshop					Y1	Y2	Y3	OY1	OY2	TOTAL		
Eppendorf tubes		$ 93.00	3				$ 279.00			$ 279.00		
ELISA plates		$ 138.40	2				$ 276.80			$ 276.80		
Filter pipette tip 200uL		$ 191.70	1				$ 191.70			$ 191.70		
Filter pipette tip 1000uL		$ 777.00	1				$ 227.00			$ 227.00		
Pipette tips 1000uL		$ 179.10	1				$ 129.10			$ 129.10		
Pipette tips 200uL		$ 79.00	2				$ 158.00					
Pipette tips 1000uL		$ 75.00	2				$ 152.00			$ 152.00		
Shipping and handling							$ 105.59					
SubTotal					$ -	$ -	$ 1,519	$ -	$ -	$ 1,519		

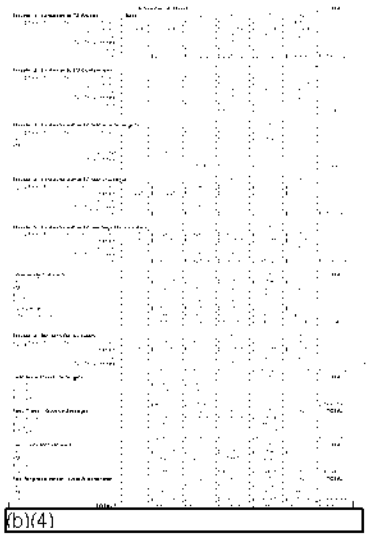
OVERALL

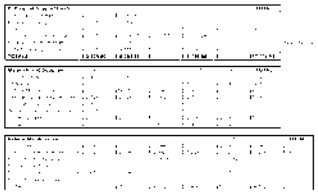
Breakdown for Justification	Y1	Y2	Y3	OY1	OY2
Field supplies	$ 39,528.06	$ 35,216.77	$ -	$ 10,973.92	$ -
Shipping	$ 15,033.00	$ 15,483.99	$ -	$ 5,475.65	$ -
Computers	$ 9,047.34	$ 2,569.12	$	$ 2,480.79	$ 4,876.00
Lab infrastructure/large items	$ 22,172.30	$	$	$	$
Supplies for Grad students	$ 1,500.00	$ 1,545.00	$ 3,182.70	$ 3,278.18	$ 3,376.53
Total	**$ 86,080.70**	**$ 54,713.88**	**$ 4,701.89**	**$ 22,208.54**	**$ 8,252.53**

Field supply breakdown	Y1	Y2	Y3	OY1	OY2
Sampling supplies	$ 8,227.89	$ 7,882.06	$ -	$ 5,276.37	$ -
PPE	$ 19,568.46	$ 19,737.84	$ -	$ 1,755.42	$ -
Incentive	$ 5,000.00	$ 5,150.00	$ -	$ 1,748.36	$ -
Tablets	$ 1,831.84	$ 1,885.80	$	$ 500.43	$
Trapping and	$ 9,709.87	$ 4,658.18	$	$ 693.34	$
Total	$ 39,338.06	$ 35,216.77	$	$ 10,973.92	$

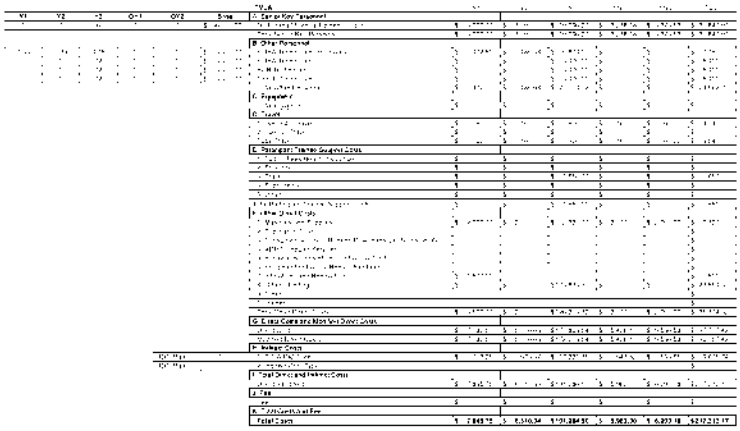
Visa and Permit	Y1	Y2	Y3	Y4	Y5	
COSTech application fee		50	50	50	50	50
COSTech clearance fee		300	300	300	300	300
Research fees (non-Tanzanian)		1800	1800	1800	1800	1800
TAWIRI Protected Area Permit		2000	2000			
Shipping samples				300	300	300
KCMC ethics approval		500				
NIMR - submit protocol		500				
NIMR - application fee		100				
NIMR - Expedited Review		1000				
NIMR - Renewal			100	100	100	100
NIMR - amendment		600	300		300	
Hummingbird IRB		2000	2000	2000	2000	2000
Cost per Person	Y1	Y2	Y3	Y4	Y5	
Rostal EHA		4150	4150	2150	2150	2150
Field Coordinator EHA		4150	4150	2150	2150	2150
Cleaveland UoG		0	2150	2150	2150	2150
Technician UoG		2150	2150	2150	2150	
Lankester SU		4150	4150	2150	2150	2150
Veterinarian WSU		50	50	0	0	0
Field Assistant WSU		50	50	0	50	0
PhD Student WSU		50	50	0	0	0
Masters' students EHA		0	50	100	100	50
Post-doctoral fellow		0	0	0	0	50

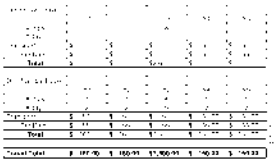


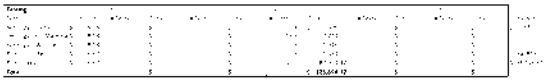


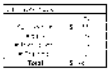


(b)(4)









Y1	Y2	Y3	OY1	OY2	Base
1	-	-	1	1	$ 30,000.00
12	12	0	3	3	$ 3,910.00

Travel					
	Y1	Y2	Y3	OY1	OY2
# trips	4	2	2	4	2
# days	4	2	2	4	2
Transport	$ 40.00	$ 40.00	$ 40.00	$ 40.00	$ 40.00
Per Diem	$ 66.00	$ 66.00	$ 66.00	$ 66.00	$ 66.00
Total	$ 530.00	$ 309.00	$ 318.00	$ 327.00	$ 330.00

Travel						
A. Senior/Key Personnel	Y1	Y2	Y3	OY1	OY2	Total
Principal Public Health Science Fellow	$ 7,850.00	$ 7,616.00	$ 7,862.28	$ 7,537.20	$ 7,612.75	$ 38,978.24
Total Senior/Key Personnel	$ 7,850.00	$ 7,616.00	$ 7,862.28	$ 7,537.20	$ 7,612.75	$ 38,978.24
B. Other Personnel						
Monthly Technician ($30/day x 0 days)	$ 1,830.00	$ 1,830.00	$ -	$ -	$ -	$ 3,660.00
Total Other Personnel	$ 1,830.00	$ 1,830.00	$ -	$ -	$ -	$ 3,660.00
C. Equipment						
Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
D. Travel						
1. Domestic Travel	$ 330.00	$ 330.00	$ 318.00	$ 327.00	$ 330.00	$ 1,650.00
2. Foreign Travel	$ -	$ -	$ -	$ -	$ -	$ -
Total Travel	$ 330.00	$ 330.00	$ 318.00	$ 327.00	$ 330.00	$ 1,650.00
E. Participant/Trainee Support Costs						
1. Tuition Fees, Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
3. Travel	$ -	$ -	$ -	$ -	$ -	$ -
4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
5. Other	$ -	$ -	$ -	$ -	$ -	$ -
Total Participant Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
F. Other Direct Costs						
1. Materials and Supplies						$ -
2. Publication Costs						$ -
3. Consultant Services (Salary $0.00, max 2k, $400/diem 0d)						$
4. ADP Computer Services						$
5. Subawards Consortia Contractual Costs						$
6. Equipment or Facility Rental, Use Fees						$ -
7. Advertisement Sponsoring						$ -
8. Other						$ -
9. Other						$ -
10. Other						$ -
Total Other Direct Costs	$ -	$ -	$ -	$ -	$ -	$ -
G. Direct Costs and Modified Direct Costs						
Direct Costs	$ 9,450.00	$ 9,484.00	$ 8,979.28	$ 8,038.82	$ 8,146.97	$ 22,692.84
Modified Direct Costs	$ 9,450.00	$ 9,484.00	$ 8,979.28	$ 8,038.82	$ 8,146.97	$ 22,692.84
H. Indirect Costs						
1. NIAID IDC Rate	$ 945.00	$ 948.40	$ 897.93	$ 803.88	$ 814.98	$ 2,269.28
2. Indirect Cost Type						$
I. Total Direct and Indirect Costs						
Direct + Indirect	$ 7,850.00	$ 7,732.40	$ 3,267.28	$ 3,364.70	$ 3,454.75	$ 24,269.12
J. Fee						
Fee	$ -	$ -	$ -	$ -	$ -	$ -
K. Total Costs and Fee						
Total Costs	$ 7,850.00	$ 7,732.40	$ 3,267.28	$ 3,364.70	$ 3,454.75	$ 24,269.12

	Y1	Y2	Y3	OY1	DY2	Base
	0.17	0.17	0.17	2	2	$ 17,500.00
	0.1	0.1	0.1	0.1	0.1	$ 7,734.00

	Y1	Y2	Y3	OY1	OY2	Total
One Health Desk						
A. Senior/Key Personnel						
Dr. Jeremy Ravenga, Molecular Epidemiology	$ 249.00	$ 255.47	$ 261.13	$ 3,153.55	$ 3,284.23	$ 7,239.45
Dr. Ali Nabi Bernard, Public Health Specialist	$ 287.32	$ 265.51	$ 273.52	$ 3,986.69	$ 3,191.57	$ 7,007.36
Total Senior/Key Personnel	$ 205.35	$ 221.03	$ 536.65	$ 7,257.27	$ 6,475.20	$ 14,327.36
B. Other Personnel						
Total Other Personnel	$ -	$ -	$ -	$ -	$ -	$ -
C. Equipment						
Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
D. Travel						
1. Domestic Travel	$ 000.00	$ 676.00	$ 230.50	$ 852.04	$ 875.37	$ 3,105.49
2. Foreign Travel	$	$	$	$	$	$ 155,971.74
Total Travel	$ 000.00	$ 676.00	$ 230.50	$ 852.04	$ 875.37	$ 3,105.49
E. Participant/Trainee Support Costs						
1. Tuition/Fees/Health Insurance						$ -
2. Stipends						$ -
3. Travel						$ -
4. Subsistence						$ -
5. Other						$ -
Total Participant Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
F. Other Direct Costs						
1. Materials And Supplies						$ -
2. Publication Costs						$ -
3. Consultant Services (Patient ID, Transport, Field Team Ops)						$ -
4. ADP Computer Services						$ -
5. Subawards Consortium/Contractual Costs						$ -
6. Equipment or Facility Fees/User Fees						$ -
7. Alterations and Renovations						$ -
8. Other (Primary, $2,500 p.a. & Tx $50/m Y1-3)						$ -
9. Other (Field Workwear)						$ -
10. Other (equipment maintenance)						$ -
Total Other Direct Costs	$ -	$ -	$ -	$ -	$ -	$ -
G. Direct Costs and Modified Direct Costs						
Direct Costs	$ 1,165.85	$ 1,139.03	$ 1,123.20	$ 6,842.21	$ 7,751.31	$ 17,312.29
Modified Direct Costs	$ 1,165.85	$ 1,139.03	$ 1,123.20	$ 6,842.21	$ 7,751.31	$ 17,312.29
H. Indirect Costs						
1. OHDA TC Rate	$ 119.25	$ 113.90	$ 117.32	$ 684.92	$ 715.15	$ 1,751.29
2. Indirect Cost Rate						$
I. Total Direct and Indirect Costs						
Direct + Indirect	$ 1,218.44	$ 1,252.93	$ 1,240.52	$ 7,527.13	$ 7,866.46	$ 19,064.07
J. Fee						
Fee	$ -	$ -	$ -	$ -	$ -	$ -
K. Total Costs and Fee						
Total Costs	$ 1,218.44	$ 1,252.93	$ 1,240.52	$ 7,527.13	$ 7,866.46	$ 19,064.07

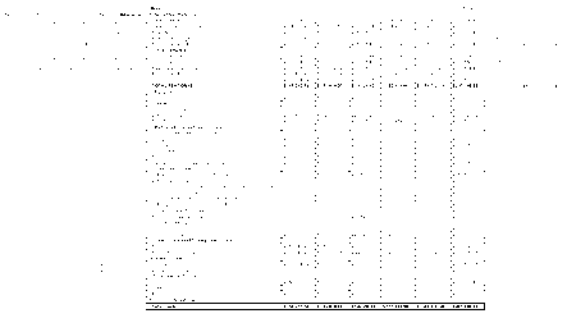
TDC Rate					
	Y1	Y2	Y3	Y4	Y5
# of TLS	1	1	1	1	1
# of Days	12	4	12	12	4
Transport	$ 24.00	$ 97.00	$ 48.00	$ 24.00	$ 97.00
Per Diem	$ 55.00	$ 97.00	$ 55.00	$ 55.00	$ 97.00
Total	$ 630.00	$ 618.00	$ 636.00	$ 654.00	$ 672.00

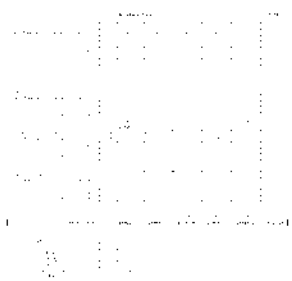
TC Rate	0.1	
TC Rate	0.1	

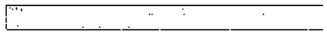
Y1	Y2	Y3	OY1	OY2	Base	PHE	Y1	Y2	Y3	OY1	OY2	Total
0	0	0	0	0.1	$ 127,407.00	Dr Roger Fowser, Virologist	$ -	$ -	$ -	$ -	$ 1,736.17	$ 1,736.17
						Total Senior/Key Personnel	$ -	$ -	$ -	$ -	$ 1,736.17	$ 1,736.17
						B. Other Personnel						$ -
0	0	0	0	1.375	$ 67,141.00	Dr. Stuart Dowell, Virologist	$ -	$ -	$ -	$ -	$ 9,794.18	$ 9,794.18
0	0	0	0	0.05	$ 85,201.00	Ken McLeod, Project Manager	$ -	$ -	$ -	$ -	$ 355.25	$ 355.25
0	0	0	0	1.2	$ 77,102.00	Kevin Richards, Technician	$ -	$ -	$ -	$ -	$ 7,737.36	$ 7,737.36
0	0	0	0	1.2	$ 68,667.00	James Person, Technician	$ -	$ -	$ -	$ -	$ 6,889.70	$ 6,889.70
						Total Other Personnel	$ -	$ -	$ -	$ -	$ 24,286.67	$ 24,286.67
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel						$ -
						2. Foreign Travel					$ 1,850.00	$ 1,850.00
						Total Travel	$ -	$ -	$ -	$ -	$ 1,850.00	$ 1,850.00
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ -	$ -	$ -	$ -
						4. Subsistance	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies						$ -
						2. Publication Costs						$ -
						3. Consultant Services (Rodent ID Fee, travel 2x, NHP team fee)						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees					$ 7,676.00	$ 7,676.00
						7. Alterations and Renovations						$ -
						8. Other (Testing)					$ 4,630.00	$ 4,630.00
						9. Other (shipping samples)					$ 1,267.00	$ 1,267.00
						10. Other (telephone & pcard)					$ 171.00	$ 171.00
						Total Other Direct Costs	$ -	$ -	$ -	$ -	$ 14,174.00	$ 14,174.00
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ -	$ -	$ -	$ -	$ 41,532.75	$ 41,532.75
						Modified Direct Costs						$ -
						H. Indirect Costs						
			IDC Rate-->	37.8%		1. PHE IDC Rate	$ -	$ -	$ -	$ -	$ 15,699.93	$ 15,699.93
			IDC Rate -->			2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ -	$ -	$ -	$ -	$ 57,232.68	$ 57,232.68
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	$ -	$ -	$ -	$ -	$ 57,232.68	$ 57,232.68

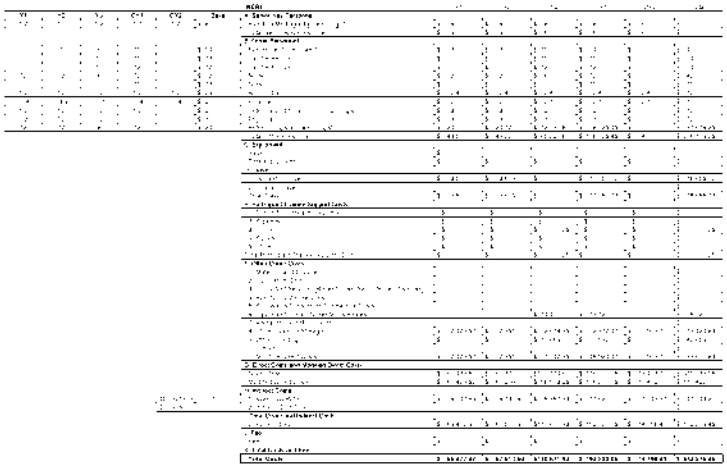
Travel			
Flight	$ 1,000.00	1 x 1,000.00	$ 1,000.00
Per Diem	$ 310.00	1	$ 930.00
Total			$ 1,930.00

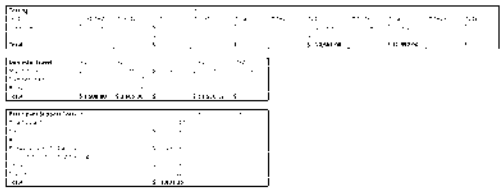
Materials and Supplies			
Cell Test	$ 45.00	100	$ 4,500.00
Lab Work	$ 3,705.00	2	$ 7,575.00
			$12,205.00











One Health Coordination Desk (OHCD-PMO) Budget Justification

A. Senior Personnel

We request a total of S14, to support Key Personnel over the five years of the proposed project.

Dr. Justine Assenga, Research Scientist, Molecular Epidemiologist, will commit 0 months per year for which we request salary support of $2 in Year 1, with a 3% increase per annum (p.a.). Dr. Justine Assenga is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk and will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, Dr. Assenga's time will increase in Y for a total of $7,2 over the five years of the project.

Dr. Jubilate Bernard, Research Scientist, Public Health Specialist, will commit 0 months per year for which we request salary support of $25 in Year 1, with a 3% increase p.a. Dr. Jubilate Bernard is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, Dr. Bernard's time will increase to months per year in - for a total of S7, over the five years of the project.

D. Travel

We request a total of S3,185 to support local travel for them in Tanzania over the five years of the proposed project.

We request $600 in Y1 so that both Dr. Assenga and Dr. Bernard may attend project meetings held in Tanzania and take other meetings to improve One Health stakeholder relationships.

Travel expenses will increase at a rate of 3% per year over the five years of the project.

H. Indirect Costs

We request a total of S , 5 in overhead over the five years of the project. The rate of overhead will be 10% each year, starting with S11 in Y1.

Deleted: 855

Deleted: 1.

Deleted: 50

Deleted: from 1 month to 12 months per year

Deleted: 4-5

Deleted: 4

Deleted: 7

Deleted: 1.

Deleted: 0

Deleted: from 1 month

Deleted: 12

Deleted: Y4

Deleted: 5

Deleted: 427

Deleted: for

Deleted: 3

Deleted: 18

Deleted: 0

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
www.ecohealthalliance.org <http://www.ecohealthalliance.org/>

Visit our blog: www.ecohealthalliance.org/blog <http://www.ecohealthalliance.org/blog>

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 16, 2019, at 2:24 PM (b)(6) <mailto:(b)(6) > wrote:

Thanks for following up because I did not receive that email on the 5th. I have checked all my folders and nothing comes up.

Can you please send it again and I will confirm as soon as I receive it.

-----Original Message-----
From: Dr. Melinda Rostal <rostal@ecohealthalliance.org <mailto:rostal@ecohealthalliance.org> >
Sent: Monday, December 16, 2019 2:19 PM
To (b)(6) <mailto:(b)(6) >
Cc: Aleksei Chmura <chmura@ecohealthalliance.org <mailto:chmura@ecohealthalliance.org> >; Joe Riccardi <riccardi@ecohealthalliance.org <mailto:riccardi@ecohealthalliance.org> >; Amanda Andre <amanda.andre@ecohealthalliance.org <mailto:amanda.andre@ecohealthalliance.org> >; Whitney Bagge <bagge@ecohealthalliance.org <mailto:bagge@ecohealthalliance.org> >
Subject: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(6)

I just wanted to confirm that you had received the documentation that I sent to you on December 5.

Kind regards,
Mindy

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> < Caution-http://www.ecohealthalliance.org/ >

Visit our blog: Caution-www.ecohealthalliance.org/blog <http://Caution-www.ecohealthalliance.org/blog> < Caution-http://www.ecohealthalliance.org/blog >

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 5, 2019, at 10:50 PM, Dr. Melinda Rostal <rostal@ecohealthalliance.org <mailto:rostal@ecohealthalliance.org> < Caution-mailto:rostal@ecohealthalliance.org > > wrote:

Dear (b)(6)

Please find attached the documentation requested for our FRBAA14-6-2-0356 cost proposal. We have responded to the clarification questions and indicated both the document and page number where the full documentation/justification may be viewed. For each partner we have provided two files:

(a) a PDF document of our updated justification using tracked changes according the the current costs for all items based on the documentation
(b) a PDF of the documentation that was requested on the clarification sheet

We have also included an Excel spreadsheet that includes our calculations for all costs and all partners corresponding to our updated justifications and documentation. Necessarily and following the documentation now provided, various costs have changed since our initial submission in April 2018 and our budget has been updated accordingly. Therefore, our overall budget request has also increased to $4,995,106.37 with annual amounts as follows.

Y1: $999,888.16
Y2: $997,047.51
Y3: $999,782.70
OY1: $998,704.80
OY2: $999,683.19.

Please email anytime or contact me directly at +1.651.308.5498 with any questions about our documentation, cost proposal, or other details.

Best,

Mindy

<FRBAA14-6-2-0356_Clarifications.xlsx>
<FRBAA14-6-2-0356 Detailed Budget.xlsx>
<01 - FRBAA14-6-2-0356 - EHA Budget Justification.pdf>
<01 - FRBAA14-6-2-0356 - EHA Documentation.pdf>
<02 - FRBAA14-6-2-0356 - KCRI _Budget Justification.pdf>
<02 - FRBAA14-6-2-0356 - KCRI Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO_Budget Justification.pdf>
<04 - FRBAA14-6-2-0356 - PHE Documentation.pdf>
<04 - FRBAA14-6-2-0356 - PHE_Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Documentation.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Budget Justification.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Documentation.pdf>
<07 - FRBAA14-6-2-0356 - UoG Budget Justification.pdf>
<07 - FRBAA14-6-2-0356 - UoG Documentation.pdf>
<08 - FRBAA14-6-2-0356 - WSU Budget Justification.pdf>
<08 - FRBAA14-6-2-0356 - WSU Documentation.pdf>

Melinda Rostal DVM, MPH
Senior Research Scientist

PREDICT 2 Surveillance Coordinator for EcoHealth Alliance

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> <
Caution-http://www.ecohealthalliance.org/ >

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

On Oct 29, 2019, at 10:45 AM, (b)(6) <mailto:(b)(6)> wrote:

Good Morning,

We have reviewed your cost proposal and are requesting responses to the attached clarification questions.

Please provide responses as soon as possible so that we can move forward with grant award. Please let me know if you have any questions.

V/r

(b)(6) Contractor
Contract Specialist ▪ TENICA
Defense Threat Reduction Agency (DTRA)
Office Phone: (b)(6)
(b)(6)

Cau

<FRBAA14-6-2-0356_Clarifications.xlsx>

From: Dr. Melinda Rostal
To: (b)(6)
Cc: Aleksei Chmura; Joe Riccardi; Amanda Andre; Whitney Bagge; (b)(6)
Subject: Re: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions 3/3
Date: Monday, December 16, 2019 2:42:02 PM
Attachments: 03 - FRBAA14-6-2-0356 - OHCD PMO Documentation.pdf
03 - FRBAA14-6-2-0356 - OHCD PMO Budget Justification.pdf
04 - FRBAA14-6-2-0356 - PHE Documentation.pdf
04 - FRBAA14-6-2-0356 - PHE Budget Justification.pdf
05 - FRBAA14-6-2-0356 - TAWIRI Budget Justification.pdf
05 - FRBAA14-6-2-0356 - TAWIRI Documentation.pdf
06 - FRBAA14-6-2-0356 - TVLA Documentation.pdf
06 - FRBAA14-6-2-0356 - TVLA Budget Justification.pdf
07 - FRBAA14-6-2-0356 - UoG Budget Justification.pdf
07 - FRBAA14-6-2-0356 - UoG Documentation.pdf
08 - FRBAA14-6-2-0356 - WSU Budget Justification.pdf
08 - FRBAA14-6-2-0356 - WSU Documentation.pdf

Here is the final batch (03 One Health Desk Justification, 03 One Health Desk documentation, 04 Public Health England Justification and 04 Public Health England documentation, 05 TAWIRI Justification, 05 TAWIRI documentation, 06 TVLA Justification, 06 TVLA documentation, 07 University of Glasgow Justification, 07 University of Glasgow documentation, 08 Washington State University/GAIIT Justification and 08 Washington State University/GAIIT documentation.

Best,
Mindy

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
www.ecohealthalliance.org <http://www.ecohealthalliance.org/>

Visit our blog: www.ecohealthalliance.org/blog <http://www.ecohealthalliance.org/blog>

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 16, 2019, at 2:24 PM, (b)(6) <mailto:(b)(6)> wrote:

Thanks for following up because I did not receive that email on the 5th. I have checked all my folders and nothing comes up.

99 7001 8426493 JUSTINE A ASSENGA

99-001 02/08/2023 TGS/J/1

DESCRIPTION	BALANCE	AMOUNT
Basic Salary		3,360,000.00
PSSSF		-168,000.00
Income Tax		-809,460.00
Natl Health Ins FundEmployee		-100,800.00
NET AMOUNT DUE	31/10/2019	**2,281,740.00**

62 3001 10761069 JUBILATE B MINJA

52 153 17/10/2040 TGHS/E/1

DESCRIPTION	BALANCE	AMOUNT
Basic Salary		1,490,000.00
Health Insurance Society		
Pension		-300,000.00
Income Tax		-74,000.00
National Social Security Fund Employee		-71,580.00
		-44,400.00
NET AMOUNT DUE		1,041,020.00

One Health Coordination Desk (OHCD-PMO) Budget Justification

A. Senior Personnel

We request a total of S14, to support Key Personnel over the five years of the proposed project.

Dr. Justine Assenga, Research Scientist, Molecular Epidemiologist, will commit 0 months per year for which we request salary support of $2 in Year 1, with a 3% increase per annum (p.a.). Dr. Justine Assenga is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk and will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, Dr. Assenga's time will increase in Y for a total of $7,2 over the five years of the project.

Dr. Jubilate Bernard, Research Scientist, Public Health Specialist, will commit 0 months per year for which we request salary support of $25 in Year 1, with a 3% increase p.a. Dr. Jubilate Bernard is the Animal Health Focal Person at the Ministry of Livestock and Fisheries One Health Coordination Desk will join meetings, assist with keeping the government ministries apprised of our activities, contribute to the development of the epidemiological plan as well as facilitate communication to stakeholders. In order to prepare for and facilitate the policy workshop and CCHF Symposium, Dr. Bernard's time will increase to months per year in - for a total of S7, over the five years of the project.

D. Travel

We request a total of S3,185 to support local travel for them in Tanzania over the five years of the proposed project.

We request $600 in Y1 so that both Dr. Assenga and Dr. Bernard may attend project meetings held in Tanzania and take other meetings to improve One Health stakeholder relationships.

Travel expenses will increase at a rate of 3% per year over the five years of the project.

H. Indirect Costs

We request a total of S , 5 in overhead over the five years of the project. The rate of overhead will be 10% each year, starting with S11 in Y1.

Deleted: 855

Deleted: 1.

Deleted: 50

Deleted: from 1 month to 12 months per year

Deleted: 4-5

Deleted: 4

Deleted: 7

Deleted: 1.

Deleted: 0

Deleted: from 1 month

Deleted: 12

Deleted: Y4

Deleted: 5

Deleted: 427

Deleted: for

Deleted: 3

Deleted: 18

Deleted: 0

Budget Documentation – Public Health England

1. Salaries.....2
    - Neil McLeod, Project Manager
    - Roger Hewson, Virologist
    - Stuart Dowall, Virologist
    - Kevin Richards, Technician
    - James Pitman, Technician
2. Other Direct Costs (excluding facilities).....3
    - International Travel, London to Dar es Salaam, Tanzania
    - Materials and supplies
    - Sample shipment
3. Appendix 1.....5
    - Screen shot of international travel, London to Dar es Salaam, Tanzania
4. Indirect cost rate.....6
5. Rate agreement.....7
6. Facilities cost.....10
    - Overall cost
    - Cost allocation for BSL-4 laboratory

Public Health England

National Infection Services
Manor Farm Road
Porton Down
Salisbury, Wilts
SP4 0JG

T +44 (0)1980 612642

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift Valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th Floor
New York, NY 10001

Dear Melinda

Salary confirmation for DTRA CCHF Grant

I hereby confirm that the current per annum salary of our key personnel as of today's date is as follows:

Neil McLeod - £66,609.96

Roger Hewson - £94,889.04

Stuart Dowall – £75,891.24

Kevin Richards - £56,501.28

James Pitman - £53,813.64

Above salaries include oncosts (NI & Pension). Please note the above salaries are subject to annual inflation.

Yours Sincerely

Ian Lang
Senior Finance Manager

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Other Direct Costs (exc. Facilities) confirmation for DTRA CCHF Tanzania grant:

PHE have costed £6,600 (which converted $7,119 in original justification) for materials and supplies to conduct 100 CCHFV virus neutralization assays to confirm the positive ELISA results on the wildlife samples

This budget is broken down as follows:

1. Travel Budget £1500
This would be for senior PHE scientist to attend meeting in the field in Tanzania. The costing is based on a projected flight cost of approx. £800 (see Appendix 1- page 3) with the remainder for travel to/from airports and accommodation and sustenance. PHE involvement would be in 2023/24 so it is not possible at this moment to forecast accurate costs for these items but any shortfall in budget will be covered by PHE.

2. Materials and supplies £3600

Agreed with to supply 100x CCHF virus neutralisation tests for £36 per test.

Materials include CCHF antibodies, IgG, cells and general laboratory consumables.

3. Postage of samples
Samples would be taken from the field laboratory and shipped on dry ice under UN packing code 3373 to PHE Porton Down site. The quotation provided by Dangerous Goods International for each delivery would be £525.60.

This postage cost is £1051.20.

The grand total for all other direct cost would be £6119.34. The costs of the items are based on the current prices. The reason to request the additional £~480 is to cover the inflationary costs over the 4 years between now and when we anticipate activity to start.

Your Sincerely,



Neil McLeod
Senior Scientific Project Manager
Tel: + 44 (01980 619907
Email: neil.mcleod@phe.gov.uk

Stop seeing this ad

Select your departure to Dar es Salaam Sat, Apr 11

Prices are roundtrip per person, include all taxes and fees, but do not include baggage fees.

1 Stop | Arrival time - Afternoon (12:00pm - 5:59pm) | LGW (London)

Sort & Filter | Clear | Show flexible dates

Sort by

Price (Lowest)

Stops | From:

1 Stop (31) $850

2+ Stops (70) $717

Airlines included | From:

9:45pm - 2:40pm +1
Emirates
Very Good Flight (8.2/10)
Details & baggage fees

14h 55m (1 stop)
LGW - 2h 40m in DXB - DAR

$1,066
roundtrip
Select

10:00am - 2:40pm +1
Emirates
Poor Flight (4.2/10)
Details & baggage fees

26h 40m (1 stop)
LGW - 14h 15m in DXB - DAR

$1,066
roundtrip
Select

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Briefing Note on current agreements and submissions with DCAA and DCMA for DTRA CCHF Tanzania grant:

PHE have an agreed rate of 37.8% for indirect costs for use on grants, contracts and other agreements with the Federal Government. This is enclosed with email dated 5th November 2019 (Public Health England RA). Please note this is an increase from the 37.5% rate the original costings were based upon, the rate has since been updated since the original proposal was submitted.

This agreement was with the US federal government on behalf of the Department of Health and Human Services. PHE is currently undertaking several contracts funded via US federal agencies NIAID, BARDA and FDA on a range of projects in the area of infectious disease research.

PHE also have a current submission for US-DTRA FRCWMD funding as follows:

Grant agreement: 12753455
Title: Ecological and Epidemiological Investigation of Crimean-Congo hemorrhagic fever virus (CCHFV) in Azerbaijan.
This application is in final stage and is still under consideration. The rate of 37.5% indirect costs was used in the submission.

Your Sincerely,

Neil McLeod

Neil McLeod
Senior Scientific Project Manager
Tel: + 44 (01980 619907
Email:

NONPROFIT RATE AGREEMENT

EIN: 1900215920A1

ORGANIZATION:
Public Health England
Porton Down, Salisbury
Wiltshire, England SP4 0JG

DATE:08/05/2019

FILING REF.: The preceding agreement was dated 12/06/2017

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

	EFFECTIVE PERIOD				
TYPE	**FROM**	**TO**	**RATE(%)**	**LOCATION**	**APPLICABLE TO**
FINAL	04/01/2017	03/31/2018	37.80	On-Site	All Programs
PROV.	04/01/2018	03/31/2021	37.80	On-Site	All Programs

*BASE

Total direct costs excluding capital expenditures (buildings, individual items of equipment; alterations and renovations) and subawards.

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

Fringe benefits applicable to direct salaries and wages are treated as direct costs.

TREATMENT OF PAID ABSENCES

Vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are claimed on grants, contracts and other agreements as part of the normal cost for salaries and wages. Separate claims are not made for the cost of these paid absences.

In accordance with HHS Grants AAGAM, Part 3.01.101, no indirect cost is awarded on grants from the Department of Health and Human Services.

Equipment means tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds the lesser of the capitalization level established by the non-Federal entity for financial statement purposes, or $5,000.

Your next proposal for fiscal year ending 03/31/2019 is due in our office by 09/30/2019.

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its indirect cost pool as finally accepted; such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as indirect costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from indirect to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing indirect costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of indirect costs allocable to these programs.

BY THE INSTITUTION:	ON BEHALF OF THE FEDERAL GOVERNMENT:
Public Health England	DEPARTMENT OF HEALTH AND HUMAN SERVICES
(INSTITUTION)	(AGENCY)
	(b)(6)
(SIGNATURE)	(SIGNATURE)
	(b)(6)
(NAME)	(NAME)
	Deputy Director, Cost Allocation Services
(TITLE)	(TITLE)
	8/5/2019
(DATE)	(DATE) 5552

HHS REPRESENTATIVE: Edwin Miranda

Telephone: (212) 264-2069

Public Health England

National Infections Service
Public Health England
Porton Down
Salisbury
Wilts
SP4 0JG
UK

www.gov.uk/phe

Date: 4th November 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
Rift valley Fever Virus Project Manager
EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

Dear Melinda,

PHE Facilities cost confirmation for DTRA CCHF Tanzania grant:

PHE have costed £5,896 for two weeks use of the high containment biosafety level 4 laboratory at PHE Porton Down site. The standard laboratory rental rate is set at £2948 per week for this laboratory.

The laboratory recharges are generated from a model that allocates a cost based on the specific lab or portion of a lab for the specific time period of use. The cost is a proportion of the total costs of the site allocated to the labs based on the weighted cost of subjective headings.
Table 1 (overleaf, page 2) shows a breakdown of the percentage cost allocations to each heading.

Your Sincerely,

Neil McLeod
Senior Scientific Project Manager
Tel: + 44 (01980 619907
Email:

Table 1. Cost allocations for PHE High Containment BSL-4 laboratory

	%
EMCOR base contract	44.12
Equip Rep & Maint	24.40
Other - Engineering services	14.61
Telecom charges	-
Rates	0.34
Gas Building 1	0.16
Gas Incinerator	-
Gas Process load / autoclave	6.09
Electricity share 1	0.55
Electricity share 2	0.47
Oil	-
Water	0.20
Accom hire	-
Waste Disposal	-
SubCont Fac Mgt	-
Other	-
Security	-
Soft Services Mgt	-
Capital Proj Mgt	2.36
FM Engineering	3.16
Site Mgt	-
Dep Alloc	-
Dep Site	0.40
Dep MB	2.34
Dep all but MB	-
Incinerator	0.50
Site share costs	0.28
	-
Total charge	100.00

Note: EMCOR are our Facilities managers

Public Health England-Porton Down Budget Justification

A. Senior Personnel

We request a total of $ to support Key Personnel (KP) during the project.

Roger Hewson, Ph.D, Research Scientist, Virologist will commit 0. months in OY2 of the project. KP Hewson will engage with project partners, supervise and collate scientific reporting from PHE. We request a total of $.

B. Other Personnel

We request a total of $ to support Other Personnel during the proposed project.

Technicians. Two CL4 laboratory will commit 1 month each in OY2 in order to confirm 100 wildlife samples using virus neutralization assays. CCHFV is a Hazard Group 4 pathogen necessitating work with infectious substances to be carried out at Containment Level 4, and the UK operates a dual worker or buddy system for all laboratory work with HG4 pathogens. We request $ per month for a total of for both

Project Manager. The project manager will commit 0. 5 months in OY2 in order to manage staff and ensure efficient project progress. We request $ in OY2. The project manager will also set up DEFRA license applications for sample transport and liaise with colleagues in Tanzania on sample details.

F. Other Direct Costs

We request a total of $1 ,1 for direct costs during the project.

Materials and Supplies

We will conduct 100 CCHFV virus neutralization assays to confirm the positive ELISA results on the wildlife samples, as this has not previously been assessed for this multispecies commercial ELISA. We request $ in OY2 to conduct the testing

Facility Rental

CCHFV is a Hazard Group 4 pathogen necessitating work with infectious substances to be carried out at Containment Level 4. We request $ in OY2 to support the use of the CL-4 laboratory for 2 weeks in order to complete the testing indicated above.

Deleted: 8,059

Deleted: 5

Deleted: 8,059

Deleted: 16,029

Deleted: virologists

Deleted: 6,000

Deleted: per person

Deleted: $11,808 12,000

Deleted: total for

Deleted: .

Deleted: 4.

Deleted: 029

Formatted: Normal, No bullets or numbering

Formatted: Font: Times New Roman, Bold

Formatted: Font: Not Italic

Deleted: 7

Deleted: 06

Deleted: This includes the cost of running the test as well as laboratory supplies such as petri dishes, culture media, reagents, tubes etc.

Deleted: 9,035

Deleted: procure these supplies and

Deleted: 6

Deleted: 8,071

H. Indirect Costs

We are requesting the federally agreed indirect cost of % on all direct costs during the project. We request $ in OY2.

Deleted: 50

Deleted: 20.

Deleted: 597

Deleted:

TAWIRI Budget Justification

Key Personnel

We request a total of $13,273 to support Key Personnel over the five years of the proposed project.

Julius Dotto Keyyu, Research Scientist, Disease Ecologist, will commit 1.0 months per year. We request salary of $2, in Year 1, with a 3% increase for Y2-Y5, respectively. Dr. Julius D. Keyyu is a Chief Research Officer who holds a PhD in ecosystem and population health specifically on disease ecology. Dr Keyyu will support the wildlife sampling team, create the animal epidemiological study design, implementation and analysis and facilitate communication with stakeholders.

Other Personnel

We request a total of $ to support Other Personnel over the five years of the proposed project.

will will be paid $60 per day for food an accommodation , working for 0 days ($60 x 0 days) for a total of $7,200, for Year 1 and Year 2 of the project.

Travel

We request a total of $1,59 to support international travel over the five years of the proposed project request $300 in Y1. International travel expenses will increase at a rate of 3% per year throughout the project.

Deleted: 814

Deleted: 14,400

Deleted: There will be threa

Deleted: personnel, who

Deleted: . They'll be/she

Deleted: each

Deleted: 4

Deleted: 4

Deleted: x 3 people

Deleted: 3

Deleted: .

We

Tanzania Wildlife Research Institute

Head Office P.O. Box 661, Arusha, Tanzania
Tel: +255 (0) 27 254 9571 / 254 8240, Fax: +255 (0) 27 254 8240
E-mail: [illegible]
Website: www.tawiri.or.tz

Our Ref: TWRI RG 22 VOL 69 88 68

Your Ref:

Date: 31 October 2019

Melinda Rostal DVM, MPH
Senior Research Scientist
PREDICT 2 Surveillance Coordinator for EcoHealth Alliance.
Rift Valley Fever Virus Project Manager.
EcoHealth Alliance.
460 West 34th Street – 17th floor.
New York, NY 10001

Dear Melinda.

RE: SALARY FOR DR. JULIUS D. KEYYU AND SUBSISTENCE (NIGHT OUT) ALLOWANCE DURING FIELD WORK

Please refer to the above heading and also to communications regarding implementation of the Crimean Congo Haemorrhagic Fever (CCHF) project.

The Tanzania Wildlife Research Institute (TAWIRI) is a parastatal organisation under the Ministry of Natural Resources and Tourism (TAWIRI) established by Act. No. 4 of 1980 of the Parliament (CAP 260 R.E. 2002), with the mandate to conduct, promote and oversee wildlife research in Tanzania.

This letter is to confirm that the monthly salary of Dr. Julius D. Keyyu is Five Million Eighty Hundred and Eight Thousand Tanzanian Shillings (TZS 5.808.000/=); and that the rate for daily subsistence (night out) allowance during field work as per the Government is TZS 120.000 (USD 60) per day to cater for accommodation and food.

Do not hesitate to contact me in case you need any clarification

Yours sincerely.
TANZANIA WILDLIFE RESEARCH INSTITUTE

Dr. Victor Kakengi
FOR: DIRECTOR GENERAL

Budget Documentation – Tanzanian Veterinary Laboratory Agency

1. Salaries, Travel, ODCs,.....2
    - Salaries
        i. Furaha Mramba, Medical Entomologist
        ii. Other Personnel: General Laboratory Technician
    - Travel
        i. Tanzanian Government per diem
        ii. Travel to Arusha from Dar es Salaam
    - Other Direct Costs
        i. Testing breakdown
        ii. Generator usage and cost breakdown
2. Other Direct Costs.....3
    - Supplies: Petri dishes
    - Generator shelter cost estimate

TANZANIA VETERINARY LABORATORY AGENCY

Tel: +255 22 2861152
Fax:+255 22 2864369
E-mail: furaha58@yahoo.com

All letters should be
Addressed to Chief Executive

TVLA

Veterinary Complex,
131 Nelson Mandela Road,
P.o. Box 9254,
15487 Dar es Salaam,
TANZANIA.

05/11/2019

Please quote
Ref. No. BD/332/372/12

Dear Dr. Melinda,

RE: CONFIRMATION AND JUSTIFICATION OF THE TVLA BUDGET

Senior Personnel.

Dr. Furaha Mramba, a Co-PI, and a Medical Entomologist, will commit 1 month per year. Her monthy salary is documented below and is approximately $3,000 in Year 1, with a 3% increase for Y2-OY2, respectively.

Other Personnel:

The average salary for a general laboratory technician at TVLA Laboratory in Arusha is $450 per month or S5,400 per year.

Travel

We confirm that the **Tanzanian Government Rate per night** is S55 and transportation to Arusha is $50.

Other Direct Costs

TVLA Arusha has agreed to the following diagnostic assay table for the CCHF project.

Assay	Number of Samples	Cost per Assay	Total Cost
ELISA	3200	S9.58	S30,656
PCR	3,496	S26.67	S93,238

We estimate that we will need the generator for 26.6 hours per month (S1.25/L*5hours/L*26.6 hours/month*12 months/year = S2000). In Y3 only, we request $300 for a 100 pack of 20 mL Petri dishes.

Grateful if this request will be considered
Faithfully yours,

Dr Joseph Masambu
DIRECTOROF FINANCE AND ADMINISTRATION – TVLA

Cart

Account: 884930003 EcoHealth Alliance

Item	Price	Qty	Subtotal
Fisherbrand™ Petri Dishes Specialty Catalog number FB0875711 **Type: Deep Dish, Size: 100 x 25mm**	**$160.00 / Case of 325**	2	**$320.00**

In Stock (2) - Estimated delivery 12/03/2019

Order Summary

Subtotal	$320.00
▲ Shipping and Handling *	$26.39
Shipping fuel surcharge	$4.45
Shipping charge	$21.94
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

Add all items to a list

Generate a Web Quc

View All Quotes | What's this?| missing translation for 'faq'

3

0203

28/11/2019

TANZANIA VETERINARY LABORATORY AGENCY
P O Box 1068 ARUSHA.

Being cost for the construction of a Generator shelter at TVLA, Arusha	USD 1,500,00
	1,500.00

USD 1,500.00

TVLA Budget Justification

A. Key Personnel

We request a total of S , to support Key Personnel over the five years of the proposed project.

Dr. Furaha Mramba, Co-PI, Entomologist, will commit 1 month per year. We request salary of S3,000 in Year 1, with a 3% increase for Y2- Y , respectively. Her time increase in Y3 to 6.0 months in order to support the testing of samples in the TVLA laboratory. Co-PI Mramba is the Chief Executive of TVLA and holds a PhD in medical entomology. Co-PI Mramba will conduct or supervise the identification and diagnostic testing of animals and ticks, oversee the design, implementation and analysis of the animal study and facilitate communication with stakeholders.

B. Other Personnel

We request a total of S23, to support Other Personnel over the five years of the proposed project.

Laboratory Technicians.

There will be three technicians, who will who commit months per year in Y1 and Y2 to assist with the installation of the equipment purchased for the TVLA laboratory in Arusha (e.g. generator for the building, an ultrafreezer – see the EcoHealth Alliance Y1 part C for a full list of items to be installed), for which we are requesting $. Salaries will increase 3% in subsequent years. They will commit to months for Y3 in order to assist with the diagnostic testing of samples. For this we are requesting S over the five years of the project.

During Year 3 we will hire three additional technicians to conduct the diagnostic testing of samples and tick identification. This includes one ELISA technician and one PCR technician that will be based in Arusha and who will commit 12 months per year for Y3 to assist with sera and ticks, respectively, for which we request $5, 00 per technician . The technician hired to identify ticks will be contracted for 12 months from the TVLA lab in Tanga, for which we request .

D. Travel

We request a total of S to support travel over the five years of the proposed project.

In order to complete the tick identifications in Y3 of the project, we request $ 0 that will cover -day trips to Arusha. Transportation is calculated at S50 per day (S50/day x trips S 00) and overnights are calculated at an average cost of S per day , for trips of days each (S /day x days x trips = S).

Co-PI Mramba will require one trip per year during Y1, Y2, OY1, and OY2 for project meetings and to visit stakeholders, calculated at $50 per day for transportation, and S per day for days for field visit ($1 per year). During Y3 when there is active laboratory work and tick identifications ongoing, co-PI Mramba will make trips to visit the laboratory in Arusha.

Deleted: 28
Deleted: 563
Deleted: s
Deleted: 5
Deleted: with
Deleted: 842
Deleted: 1
Deleted: 450
Deleted: of
Deleted: 12
Deleted: per year
Deleted: 6,642.36
Deleted: 0
Deleted: S7,200
Deleted: 2.51800
Deleted: 14
Deleted: six
Deleted: 14
Deleted: 6
Deleted: 3
Deleted: 10
Deleted: 6
Deleted: 14
Deleted: 10
Deleted: 14
Deleted: 6
Deleted: 840
Deleted: 10
Deleted: 7
Deleted: 20
Deleted: 3
Deleted: additional
Deleted: . for which we are requesting S480 in Y3
Deleted: Y3 for

E. Participant Support Costs

We request a total of $1,800 for a CCIIF Diagnostics Training Workshop held at TVLA during Y3 of the project. These funds will be used to support the travel costs of trainees during 5-day workshop .

F. Other Direct Costs

We request a total of $13 , for other direct costs over the five years of the proposed project.

We request $123,89 for testing during Y3 of the project, including PCR testing and serology. We request $30,656 for testing covering 1,200 cattle samples, 1,800 small mammal samples and 200 wildlife samples, at a discounted rate of $9.58 (the rate is discount as the University of Glasgow is providing the multispecies ELISA kits for analysis). We request $93,238 for testing covering 200 wildlife samples and 3296 tick pools, at a cost of 60,000 Tanzanian Shilling, or $26.67 USD, per test.

We request $10,3 0 over the five years of the project for supplies. There will a cost of $2,000 each year in fuel for the generator to maintain samples (which will begin to be collected in Year 1) at -80°C during power outages.

In Y3 only, we request $3 0 for a 100 pack of 20 mL Petri dishes.

H. Indirect Costs

We request a total of $19, in overhead, a rate of 10% per year on other direct costs, over the five years of the proposed project.

University of Glasgow (UoG)

A. Senior Personnel

We request a total of S to support co-PI/Key Personnel (KP) over the five years of the proposed project.

Sarah Cleaveland, Ph.D., co-PI, will commit 1.2 months (mo.) per annum (p.a.) for all five years, with an increase of approximately (allowing for exchange rates) 3. % annually. We request S1 , in Y1 and $ 9, 6 total. Co-PI Cleaveland will provide key support and oversight for the field epidemiological studies by contributing to the design and implementation of the field study, liaising with partner institutions and stakeholders in Tanzania and linking with policy makers at national, regional and international levels for the dissemination of findings and development of guidelines.

Brian Willett, Ph.D., Research Scientist, Viral Immunologist, will commit 0.6 mo. p.a. for all five years with an increase of approximately 3. % annually. We request $, in Y1 and S , for all five years. Key Personnel Willett will provide oversight, support and training for CCHFV serological and molecular analyses and will coordinate activities with collaborating laboratories (Public Health England, Pirbright Institute).

B. Other Personnel

We request a total of S1 to support Other Personnel over the five years of the proposed project.

Technician. A full-time laboratory technician based in KP Willett's laboratory will commit 3 mo. per year in Y1 2 and OY1. We request S , 5 in Y1 with a 4. % increase annually. The technician will commit 12 mo. per year in Y3 and OY1 as the in-country laboratory work will be conducted during these two years. We request $, 6 in Y3, totalling $, across all five years. The laboratory technician will support the laboratory analyses, including optimisation of assays, and establishment of laboratory diagnostic capacity in Tanzania.

John Claxton, Administrator, will commit 1.2 months p.a. for all five years with an approximately (allowing for exchange rates) % increase annually. We request $,56 in Y1 and a total of $,8 for all five years. Mr. Claxton, a highly experienced international project manager, will provide support for financial management and reporting, sub-contracts and agreements, ethical clearance, procurement and shipment of supplies.

D. Travel

We request a total of S 3, 2 for international travel across all five years.

We request trips per year for either co-PI Cleaveland or the laboratory technician in Y1-OY1. Each trip is estimated S1, 3 flight

Deleted: 12631.83107
Deleted: 4
Deleted: 7
Deleted: 625
Deleted: 4
Deleted: 00
Deleted: 4
Deleted: 6
Deleted: 801
Deleted: 36
Deleted: 507
Deleted: 6871.9535
Deleted: 0
Deleted: . Y
Deleted: .
Deleted: 10
Deleted: 39
Deleted: n
Deleted: approximately (allowing for exchange rates)
Deleted: 8
Deleted: (the other personnel are paid on a Grade 5 scale [8]
Deleted: 46
Deleted: 27
Deleted: 130
Deleted: 092
Deleted: 4.8
Deleted: 7
Deleted: 0
Deleted: 41
Deleted: 57
Deleted: 6
Deleted: 03
Deleted: 2
Deleted: at a
Deleted: 00
Deleted: . for a t
Deleted: cost of
Deleted: in Y1
Deleted:
Deleted: Additionally
Deleted: . there are
Deleted: per year
Deleted: .
Deleted: -2 f

In OY2 we request trip for KP Willett .

We request $, over five years for research visas. We request a permit for the technician in Y1 to assist with the installation of capacity building equipment at TVLA, 2 permits per year in Y2-OY1 for the technician and co-PI Cleaveland and one permit in OY2 for co-PI Cleaveland. We request $2, 0 in Y1 with a 3% increase across all years.

E. Participant Support Costs

We request $3, 00 in Y3 for travel subsistence costs for participants ($5 per day * 5 days * 10 participants *2 trainings). Costs for the UoG trainer are covered by travel costs.

F. Other Direct Costs.

We request a total of $6 , in other direct costs across 5 years.

In Y3 and OY1 we request $ p.a. for the shipment of samples from Tanzania to the University of Glasgow. This is required for quality assurance of assays carried out in Tanzania and based on recent estimates for similar shipments provided by .

We request a total of $58,500 for laboratory across the 5 years. Materials and consumables costs are based upon the average actual annual expenditure (over 4 years) by researchers within this laboratory performing similar experiments to those in the project. These costs were extracted from the University of Glasgow purchasing system Agresso , including antibody reagents, secondary antibody conjugates, specific control sera, buffers, blocking agents and substrates for ELISA. This will produce sufficient reagent to

Deleted: to Dar es Salaam

Deleted: with flights estimated at

Deleted: and

Deleted: lodging and meals for 2 days

Deleted: at $150 per day. I

Deleted: there will be an

Deleted: will have

Deleted: some

Deleted: updates

Deleted: finishing

Deleted: that we will need to discuss with the government stakeholders

Deleted: I

Deleted: these 2 trips will cost $1,240 total

Deleted: 2-OY2

Deleted:

Deleted: there will

Deleted: s to allow for longer stays in Tanzania to support the laboratory assays and establishment of diagnostic capacity of 180 and 101 total nights, respectively. The cost is $38 per night, for a total of $6,840 in Y3 and $3,953 with a 3% increase. · $700($70 x 10 days for food and lodging in Arusha) · $480(flight to Dodoma or Dar es Salaam) · $300($150 x 2 days for food and lodging in Dar es Salaam) $2,780 We request $5,560 in Y1 with a 3% increase in costs per year for a total of $23,260 across four years.

Deleted: In Y3 and OY1 we request an additional $28.52 per day for the technician to an extended stay (about 6 months and 2 months respectively) in Tanzania to support the laboratory assays and establishment of diagnostic capacity (this amount covers rental costs for staying at the UoG research house at KCMC-KCRI). We request $5,305($28.52 [2]

Deleted: 2

Deleted: trips to for co-PI Cleaveland and 1

Deleted: As this year will be more focused on building ... [3]

Deleted: 23

Deleted: 525

Deleted: 77

Deleted: 5

Deleted: 0

Deleted: 3

Deleted: 830

Deleted: 2.650

Deleted: with a 3% increase

Deleted: Arusha Freight

Deleted: *Lab work*

Deleted: work

Deleted: . All consumables purchased benefit from .. [4]

facilitate ELISA analyses at KCRI, UoG and the laboratories participating in the workshops. The s e funds will be used to purchase CCHF Multispecies ELISA kits (430 animals can be tested per kit) at the end of Y2 for analyses at TVLA on the 3,200 animal samples in Y3 and a contingency of kits sufficient to process an additional 1000 samples in each of for confirmatory analyses and assay validation at UoG. Thus, we request a sufficient number of kits to test 5, 0 samples over the three years

cell culture plasticware/media for the synthesis and purification of recombinant antigens (for the human ELISA) culture flasks, plates, media and supplements, ELISA plates, plate sealers, reservoirs, pipettes, tips and tubes. This includes using pre-cast polyacrylamide gels, buffers and supplies for the iBlot transfer system, Sarstedt tubes and storage boxes for sera. for molecular biologicals, nucleic acid purification kits, restriction enzymes and kits for mutagenesis and sequencing for vector preparation and cloning, and transfection. Also included in this category are preparing primers and probes for viral detection by real-time PCR for TVLA to use, confirmatory testing primers for sub-cloning and mutagenesis, and small-scale sequence confirmation of plasmid constructs general laboratory supplies, including microcentrifuge tubes, plates, petri dishes, fine chemicals

H. Indirect Costs

We request a total of $43, in overhead, a rate of 10% per year on other direct costs, over the five years of the proposed project.

Deleted: also

Deleted: of sufficient

Deleted: ($1,205 per kit * 7 kits = $8,435),

Deleted: Y4 ($1,205 per kit * 3 kits = $3,615) and Y5

Deleted: (2 kits = $2,410)

Deleted: 20

Deleted: (5,200/430 = 12 kits * $1,205 = $14,460.

Deleted: .

Deleted: This includes

Deleted: We request $3,322 in Y2 to prepare sufficient reagent for KCRI to begin testing at the start of Y3 and increasing to $9,364 p.a. in Y3 and OY1 for full production to be used by KCRI, given to the laboratories participating in the training and for UoG to confirm the results in 1000 samples

Deleted: .
We request $2,539 p.a. (Y2-OY1) for

Deleted: , and general laboratory costs.

Deleted: 3792

Budget Documentation – University of Glasgow

1) Salaries ..... Pg. 2

2) International Travel ..... Pg. 3 - 8
   - Glasgow to Kilimanjaro/Arusha
   - Kilimanjaro/Arusha to Dar es Salaam
   - Glasgow to Dar es Salaam
   - Research Permits

3) Other Direct Costs ..... Pg. 9 - 16
   - Shipping Costs
   - Lab Consumables
   - Diagnostics

University of Glasgow | College of Medical, Veterinary & Life Sciences

One Health Approach to Understanding the Epidemiology of Crimean-Congo Haemorrhagic Fever virus in Tanzania

Dear Mindy,

Please see below salary information, as requested by DTRA.

Name	Basic Annual Starting Salary	Annual Increment Date	Inflationary Uplift 2%
Professor Sarah Cleaveland	$130,046	1st August	1st August
Professor Brian Willets	$100,642	1st August	1st August
Ryan Carter	$31,832	1st May	1st August
John Claxton	$55,644	1st December	1st August

Dr Debbi MacMillan
Senior Project Coordinator

College of Medical, Veterinary and Life Sciences
Room 329, Wolfson Medical School Building
University of Glasgow
Glasgow, G12 8QQ

Email: Debbi.Macmillan@glasgow.ac.uk
Tel: +44 (0)141 330 4105

Web: http://www.gla.ac.uk/colleges/mvls/

The University of Glasgow, Charity Number SC004401

Flight costs

Trip Summary

Trip Summary ⌄

Trip Total: **$1,437.96**

Rates are quoted in US dollars

64502 customers protected their flight in the last 7 days. Add flight protection when you check out.

✔ **Nice Job! You picked one of our cheapest flights.**
Book now so you don't miss out on this price!

Mon, Jan 13 **From Glasgow Intl. (GLA)**
To Kilimanjaro Intl. (JRO)

Qatar Airways — Cheapest

5:20pm GLA	→	2:05pm JRO	17h 45m, 2 stops LHR, DOH Arrives Tue, Jan 14

Show flight and baggage fee details ⌄

Mon, Jan 20 **From Kilimanjaro Intl. (JRO)**
To Glasgow Intl. (GLA)

British Airways — Cheapest

3:15pm JRO	→	10:50am GLA	22h 35m, 3 stops DAR, DOH, LHR Arrives Tue, Jan 21

Show flight and baggage fee details ⌄

‹ **Change flights**

Upgrade your flight

Get more comforts and benefits by adding an upgrade.



Kilimanjaro Intl. (JRO) → Glasgow Intl. (GLA)
22h 35m

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

Show upgrades ⌃

from
+ $752.11
for all travelers

Standard Economy — **Included**
Cabin: Economy/Coach

- Checked Bags
- Seat Choice
- ✔ Carry On Bag
- Cancellation

Expedia

Review your trip

Trip Summary

Trip Summary

Trip Total: **$320.65**

Rates are quoted in US dollars

64520 customers protected their flight in the last 7 days. Add flight protection when you check out.

Nice Job! You picked one of our cheapest flights.
Book now so you don't miss out on this price!

Mon, Jan 13 **From Kilimanjaro Intl. (JRO)**
To Julius Nyerere Intl. (DAR)

Hahn Air Systems — Cheapest

7:30am JRO	→	1:20pm DAR	5h 50m, 1 stop ZNZ

Show flight and baggage fee details

Mon, Jan 20 **From Julius Nyerere Intl. (DAR)**
To Kilimanjaro Intl. (JRO)

PrecisionAir — Cheapest

3:10pm DAR	→	4:30pm JRO	1h 20m, Nonstop JRO

Show flight and baggage fee details

Change flights

Unlock up to 42% off select hotels when you book this flight
Your discount lasts until your trip starts

Important Flight Information

See more

Continue Booking

64520 customers protected their flight in the last 7 days. Add flight protection when you check out.

Round trip ▾ 1 passenger ▾ Economy ▾

Glasgow GLA ⇄ Dar es Salaam DAR Sun, Jan 5 ‹ › Sat, Jan 11 ‹ ›

Bags ▾ 1 stop or fewer × Airlines ▾ Price ▾ Times ▾ Connecting airports ▾ More ▾

Track prices Date grid Price graph Nearby airports

Departing flights

Total price includes taxes + fees for 1 adult. Additional bag fees and other fees may apply.

Sort by

Emirates	8:50 PM – 3:00 PM+1	15h 10m	1 stop	$1,364
	Emirates	GLA – DAR	2h 25m DXB	round trip

1 longer or more expensive flight

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF (b)(4)

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	Foreigners Affiliated to Local Research and Higher Learning Institutions	Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	(b)(4)	(b)(4)
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to (b)(4)

(b)(4)

and three passport size photos.

T218! 296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number:	994330001101
Service Provider Code:	SP433
Payer Name:	[illegible]
Address:	[illegible]
Payer Phone:	[illegible]

General Description

Research fee for Data Bankester to undertake its research Project: Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
[illegible]	1	[illegible]	[illegible]
[illegible]	1	[illegible]	[illegible]

Total: 3,860,000 USD

Amount in Words: Three Thousand Eight Hundred

Issued On:	[illegible]
Expires On:	[illegible]
Payment Mode:	[illegible]
Payment For:	[illegible]
Status:	[illegible]

Jinsi ya Kulipa

[illegible]

How to Pay

[illegible]

- [illegible]
- [illegible]
- [illegible]
- [illegible]

- [illegible]
- [illegible]
- [illegible]
- [illegible]

Shipping Costs

World Courier
AmerisourceBergen



WC Quote Reference:: QED064190516 v2

Information:

Quote for a shipment of::	Non haz RNA & DNA Samples
Customer Account Name::	University of Glasgow
Account Number::	6516
Customer Contact::	John Claxton
Contact Details::	John.Claxton@glasgow.ac.uk
Client Quote Reference:	N/A

Content:

Packaging Supplies	1 x GDI 30 L with Dry Ice & 1 x Biobag
Temperature	Frozen (Dry Ice)
Date	17-05-19
Completed By	Dionysios Papatheodorou

Conditions:

Validity: This Quote is Valid for 6 Months from the date of Issue

Currency: **GBP**

Terms: Please note our payment terms are 30 days from the date of invoice unless more restrictive terms are advised during account application. A charge of 0.667% per month will apply to past due balances on a per diem basis.

All work is carried out subject to current terms and conditions shown on the HWB. Full conditions are available on http://www.worldcourier.com/wc-conditions-of-carriage By accepting this quote you enter into an agreement to pay according to these terms.

The current Fuel & Security surcharge is: **15.6%**

							Transport:						Packaging, Supply & extra charges				Temperature Monitioring:		Total
							port-to-port			pre- / on-carriage									
	Description:	Origin City, Country	Destination City, Country	Routing:	Estimated Shipment weight	O/W per ½ kg	Base Rate up to 1kg	Est Overweight Charge	Transfer	Origin Driveaway	Destination Driveaway	Fuel & Security 15.6%	Packaging Supplies	Export Brokerage	Other Charges	Tranship Surcharge	Temperature Monitor	Temperature	Price for one shipment including FSS:
1	Non haz RNA & DNA Samples	Moshi / TZA	Glasgow / GBR	Via Transfer	25.0 kg	17.08	870.00	819.84	93.00	319.00	72.00	339.12	295.00	150.00	-	-	N/A	Frozen (Dry Ice)	**2,957.96**

Conditions:

The above quote is subject to variation depending on the final weight of the shipment.
If at the time of shipping the volumetric weight is found to be greater than the actual weight, overweight and the tranship surcharge will be applied using the volumetric weight, v = (L x W x **H**) / 6000, where the dimensions are in cm.
If additional attempts are required due to a rescheduled collection or delivery or to preposition / recover reusable packaging then additional charges will apply.
Final origin and destination drive charges are subject to variation based on exact pick up and delivery locations.
If this information was not provided during the quoting process then the displayed amount will be estimated based on a central point for the named city and subject to change.

Customs Taxes / Duty have not been included in this quote. Taxes/ Duty will be charged where applicable in line with declared Incoterms and in line with Local Legislation
Airline Warehousing and storage charges will be charged in addition when applicable
This Quote is only valid if mentioned when booking
All rates shown are route specific and subject to change depending on any specific collection time and delivery requirements advised at booking
The Fuel & Security surcharge is applied to the base, overweight and driveaway charges only. This rate is reviewed on a quarterly basis & will be charged at the current rate at the time of shipping.

All Quoted charges are exclusive of VAT. Export Brokerage has been added to this quotation if applicable. Any applicable Import Customs Brokerage charges have not been included in this quotation unless specified. Any brokerage services performed by WC will be charged at £81. If WC are invoiced by an external broker for this service then extra charges could apply in addition to this rate.
All Shipments Collected or delivered on a local weekend day or public holiday will incur a surcharge of £90. Weekday shipments collected or delivered between 1900-0700 will incur an after hours surcharge of £25
If additional attempts are required to either collect or deliver shipments or preposition / recover reusable packaging then a charge of £60 + Applicable drive charges will be applied
Charges for reusable packaging (VIP / GTC) may be subject to Extra rental days if the shipment duration exceeds 7 days or if the packaging is not made available on delivery. Dry Ice shipments will be monitrored and replenishments (if required) will be charged in addition to the above quoted amounts.

Notes:

Materials and consumables costs are based upon the average actual annual expenditure (over 4 years) by researchers within this laboratory performing similar experiments to those in the project. These costs were extracted from the University of Glasgow purchasing system Agresso

Account__T	date	Text	Amount GBP	Dollar cost
OTHER LABORATORY SUPPLIE	10/11/17	20057290 Specimen bag	506.00	694.84
MAIL COURIER AND FREIGHT S	10/11/17	carriage	8.55	11.74
OTHER LABORATORY SUPPLIE	10/11/17	20056402 Thermal control unit fibreboard outer refu	16.70	22.93
MAIL COURIER AND FREIGHT S	10/11/17	20056402 Thermal control unit fibreboard outer refu	10.26	14.09
PLASTICWARE	10/11/17	97256	36.30	49.85
SMALL EQUIPMENT (AS CONS	10/12/17	S7108110010100ul 8 channel multichannel pipetteO	340.00	466.89
PLASTICWARE	10/26/17	98215	112.53	154.53
PLASTICWARE	10/26/17	98215	192.10	263.79
BIOCHEMICALS	11/10/17	98695	177.60	243.88
PLASTICWARE	11/14/17	100439	72.60	99.69
PLASTICWARE	11/20/17	101801	73.18	100.49
TISSUE CULTURE AND BACTER	11/20/17	101801	11.00	15.11
OTHER LABORATORY SUPPLIE	11/20/17	101801	5.65	7.76
PLASTICWARE	11/29/17	102403	146.07	200.58
TISSUE CULTURE AND BACTER	11/29/17	102403	13.75	18.88
STATIONERY AND OFFICE SUP	11/29/17	102403	0.40	0.55
BIOCHEMICALS	11/30/17	HWB L4 Lab biochemicals Oct17 for N Logan	8.68	11.92
ORGANIC CHEMICALS	11/30/17	HWB L4 Lab organic chemicals Oct17 for N Logan	0.43	0.59
PLASTICWARE	11/30/17	HWB L4 Lab plasticware Oct17 for N Logan	2.89	3.97
PLASTICWARE	11/30/17	HWB L4 Cell Culture plasticware Oct17 for N Logan	16.71	22.95
OTHER LABORATORY SUPPLIE	11/30/17	HWB L4 Lab other lab supplies Oct17 for N Logan	0.59	0.81
MAIL COURIER AND FREIGHT S	11/30/17	HWB L4 Lab freight Oct17 for N Logan	0.82	1.13
CLEANING MATERIALS	11/30/17	HWB L4 Cell Culture cleaning materials Oct17 for N I	1.87	2.57
CLEANING MATERIALS	11/30/17	HWB L4 Lab cleaning materials Oct17 for N Logan	0.60	0.82
WORKSHOP CONSUMABLES	11/30/17	HWB L4 Cell Culture workshop cons Oct17 for N Loga	13.33	18.30
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	7.62	10.46
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	0.26	0.36
MAIL COURIER AND FREIGHT S	12/6/17	DHL/7574213301/LEEDS UNITED KINGDOM	0.26	0.36
MAIL COURIER AND FREIGHT S	12/6/17	DHL/7574213301/LEEDS UNITED KINGDOM	7.62	10.46
MAIL COURIER AND FREIGHT S	12/6/17	DHL/3746273661/GLASGOW UNITED KINGDOM	76.80	105.46
PLASTICWARE	1/8/18	104669	73.18	100.49
STATIONERY AND OFFICE SUP	1/8/18	104669	0.88	1.21

PLASTICWARE	1/24/18	105736	255.66	351.07
STATIONERY AND OFFICE SUP	1/24/18	105736	0.82	1.13
BONDED ALCOHOLS	1/31/18	HWB L4 Cell Culture bonded alchols Nov17 for N Log	2.46	3.38
BONDED ALCOHOLS	1/31/18	HWB L4 Lab bonded alcohols Dec17 for N Logan	0.75	1.03
DISPOSAL OF CHEMICAL & RAI	1/31/18	HWB L4 Cell Culture disp of chemical waste Nov17 f	0.48	0.66
DISPOSAL OF CLINICAL WASTE	1/31/18	HWB L4 Lab disp of clinical waste Nov17 for N Logar	3.31	4.55
ORGANIC CHEMICALS	1/31/18	HWB L4 Lab organic chemicals Nov17 for N Logan	2.32	3.19
PLASTICWARE	1/31/18	HWB L4 Lab plasticware Nov17 for N Logan	11.30	15.52
PLASTICWARE	1/31/18	HWB L4 Cell Culture plasticware Dec17 for N Logan	90.09	123.71
PLASTICWARE	1/31/18	HWB L4 Cell Culture plasticware Nov17 for N Logan	73.17	100.48
PLASTICWARE	1/31/18	HWB L4 Lab plasticware Dec17 for N Logan	5.79	7.95
OTHER LABORATORY SUPPLIE	1/31/18	HWB L4 Cell Culture other lab supplies Nov17 for N L	14.34	19.69
CLEANING MATERIALS	1/31/18	HWB L4 Cell Culture cleaning materials Dec17 for N	8.42	11.56
CLEANING MATERIALS	1/31/18	HWB L4 Cell Culture cleaning materials Nov17 for N	8.77	12.04
CLEANING MATERIALS	1/31/18	HWB L4 Lab cleaning materials Nov17 for N Logan	5.28	7.25
STATIONERY AND OFFICE SUP	1/31/18	HWB L4 Lab stationery Nov17 for N Logan	0.62	0.85
PLASTICWARE	2/5/18	106442	170.56	234.21
PLASTICWARE	2/8/18	106760	157.34	216.06
BIOCHEMICALS	2/27/18	X8 ZEOCIN 100MGML PACK OF 8 X 125ML	240.78	330.64
BONDED ALCOHOLS	2/28/18	HWB L4 Cell Culture bonded alcohols Jan18 for N Log	2.39	3.28
PLASTICWARE	2/28/18	HWB L4 Cell Culture plasticware Jan18 for N Logan	36.18	49.68
PLASTICWARE	2/28/18	HWB L4 Lab plasticware Jan18 for N Logan	5.05	6.93
COMPUTER CONSUMABLES	2/28/18	HWB L4 Lab computer consumables Jan18 for N Log	4.07	5.59
CLEANING MATERIALS	2/28/18	HWB L4 Cell Culture cleaning materials Jan18 for N L	22.94	31.50
CLEANING MATERIALS	2/28/18	HWB L4 Lab cleaning materials Jan18 for N Logan	1.85	2.54
STATIONERY AND OFFICE SUP	2/28/18	HWB L4 Lab stationery Jan18 for N Logan	0.15	0.21
STATIONERY AND OFFICE SUP	2/28/18	HWB L4 Cell Culture stationery Jan18 for N Logan	0.10	0.14
WORKSHOP CONSUMABLES	2/28/18	HWB L4 Cell Culture workshop consumables Jan18 fc	83.33	114.43
PLASTICWARE	3/5/18	109015	205.03	281.55
PLASTICWARE	3/15/18	109649	109.77	150.74
TISSUE CULTURE AND BACTER	3/15/18	109649	9.00	12.36
TISSUE CULTURE AND BACTER	3/15/18	109649	2.75	3.78
BIOCHEMICALS	3/21/18	110057	120.71	165.76

BIOCHEMICALS	3/31/18	HWB L4 Lab biochemicals Feb18 for N Logan	19.25	26.43
BONDED ALCOHOLS	3/31/18	HWB L4 Lab bonded alchols Feb18 for N Logan	0.77	1.06
DISPOSAL OF CHEMICAL & RAI	3/31/18	HWB L4 Lab disp of chemical waste Feb18 for N Log	0.31	0.43
PLASTICWARE	3/31/18	HWB L4 Cell Culture plasticware Feb18 for N Logan	35.39	48.60
PLASTICWARE	3/31/18	HWB L4 Lab plasticware Feb18 for N Logan	6.21	8.53
OTHER LABORATORY SUPPLIE	3/31/18	HWB L4 Lab other lab supplies Feb18 for N Logan	9.96	13.68
CLEANING MATERIALS	3/31/18	HWB L4 Lab cleaning materials Feb18 for N Logan	7.20	9.89
CLEANING MATERIALS	3/31/18	HWB L4 Cell Culture cleaning materials Feb18 for N	1.87	2.57
STATIONERY AND OFFICE SUP	3/31/18	HWB L4 Lab stationery Feb18 for N Logan	0.62	0.85
BIOCHEMICALS	4/12/18	111183	192.66	264.56
TISSUE CULTURE AND BACTER	4/16/18	111305	15.29	21.00
STATIONERY AND OFFICE SUP	4/16/18	111305	7.10	9.75
BIOCHEMICALS	4/25/18	order number for oligo card required	90.00	123.59
BONDED ALCOHOLS	4/30/18	HWB L4 Cell Culture bonded alcohols Mar18 for N Lo	2.39	3.28
DISPOSAL OF CLINICAL WASTE	4/30/18	HWB L4 Cell Culture disp of clinical waste Mar18 for	1.74	2.39
DISPOSAL OF CLINICAL WASTE	4/30/18	HWB L4 Lab disp of clinical waste Mar18 for N Logar	0.87	1.19
PLASTICWARE	4/30/18	112103	54.89	75.37
PLASTICWARE	4/30/18	HWB L4 Cell Culture plasticware Mar18 for N Logan	74.40	102.17
PLASTICWARE	4/30/18	HWB L4 Lab plasticware Mar18 for N Logan	2.89	3.97
TISSUE CULTURE AND BACTER	4/30/18	112103	2.86	3.93
TISSUE CULTURE AND BACTER	4/30/18	HWB L4 Cell Culture tissue culture Mar18 for N Loga	12.66	17.38
OTHER LABORATORY SUPPLIE	4/30/18	HWB L4 Cell Culture other lab supplies Mar18 for N L	14.34	19.69
LAB EQUIPMENT MAINTENAN	4/30/18	Repairs	142.00	194.99
CLEANING MATERIALS	4/30/18	HWB L4 Cell Culture cleaning materials Mar18 for N	5.29	7.26
WORKSHOP CONSUMABLES	4/30/18	HWB L4 Cell Culture workshop consumables Mar18 f	1.67	2.29
BIOCHEMICALS	5/4/18	1934975 HIGH-FIDELITY MASTER MIX	106.75	146.59
BIOCHEMICALS	5/14/18	1937687 E6300S	124.25	170.62
BIOCHEMICALS	5/17/18	1938305 RABBIT ANTI-HUMAN & LIGHT CHAIN ANTI	98.00	134.57
PLASTICWARE	5/17/18	113025	146.07	200.58
TISSUE CULTURE AND BACTER	5/17/18	113025	8.25	11.33
MAIL COURIER AND FREIGHT S	5/17/18	1938305 RABBIT ANTI-HUMAN & LIGHT CHAIN ANTI	30.00	41.20
PLASTICWARE	5/23/18	113380	109.77	150.74
PLASTICWARE	5/30/18	113791	73.18	100.49

TISSUE CULTURE AND BACTER	5/30/18	113791	22.22	30.51
DISPOSAL OF CHEMICAL & RAI	5/31/18	HWB L4 Cell Culture disp of chemical waste Apr18 fc	34.42	47.27
PLASTICWARE	5/31/18	HWB L4 Cell Culture plasticware Apr18 for N Logan	44.37	60.93
OTHER LABORATORY SUPPLIE	5/31/18	HWB L4 Lab other lab supplies Apr18 for N Logan	1.78	2.44
OTHER LABORATORY SUPPLIE	5/31/18	HWB L4 Cell Culture other lab supplies Apr18 for N L	2.03	2.79
CLEANING MATERIALS	5/31/18	HWB L4 Lab cleaning materials Apr18 for N Logan	1.50	2.06
CLEANING MATERIALS	5/31/18	HWB L4 Cell Culture cleaning materials Apr18 for N I	7.18	9.86
STATIONERY AND OFFICE SUP	5/31/18	HWB L4 Lab stationery Apr18 for N Logan	0.62	0.85
WORKSHOP CONSUMABLES	5/31/18	HWB L4 Lab workshop consumables Apr18 for N Log	0.06	0.08
WORKSHOP CONSUMABLES	5/31/18	HWB L4 Cell Culture workshop consumables Apr18 fc	42.22	57.98
BIOCHEMICALS	6/6/18	114194	28.80	39.55
PLASTICWARE	6/6/18	114180	218.96	300.68
OTHER LABORATORY SUPPLIE	6/7/18	114316	15.16	20.82
BIOCHEMICALS	6/13/18	114716	52.50	72.09
TISSUE CULTURE AND BACTER	6/13/18	114716	8.25	11.33
OTHER LABORATORY SUPPLIE	6/13/18	114316	45.48	62.45
STATIONERY AND OFFICE SUP	6/13/18	114716	0.34	0.47
PLASTICWARE	6/18/18	114954	109.77	150.74
PLASTICWARE	6/26/18	115526	146.36	200.98
TISSUE CULTURE AND BACTER	6/26/18	115526	8.14	11.18
TISSUE CULTURE AND BACTER	6/26/18	115526	16.50	22.66
PLASTICWARE	6/28/18	115713	133.68	183.57
BIOCHEMICALS	6/30/18	Transfer Garscube stores order 111897 for biochemi	130.26	178.87
BONDED ALCOHOLS	6/30/18	HWB L4 Cell Culture bonded alcohols May18 for N Lo	1.08	1.48
INORGANIC CHEMICALS	6/30/18	HWB L4 Lab inorganic chemicals May18 for N Logan	0.73	1.00
PLASTICWARE	6/30/18	Transfer Garscube stores orders 99847/102244/102	1103.06	1514.72
PLASTICWARE	6/30/18	HWB L4 Cell Culture plasticware May18 for N Logan	91.23	125.28
PLASTICWARE	6/30/18	HWB L4 Lab plasticware May18 for N Logan	6.67	9.16
TISSUE CULTURE AND BACTER	6/30/18	Part transfer Garscube stores order 104245 for tissu	10.10	13.87
OTHER LABORATORY SUPPLIE	6/30/18	HWB L4 Lab other lab supplies May18 for N Logan	1.31	1.80
OTHER LABORATORY SUPPLIE	6/30/18	HWB L4 Cell Culture other lab supplies May18 for N I	12.90	17.71
OTHER LABORATORY SUPPLIE	6/30/18	CVR Communal Consumable Charge 2017/18 for B W	1000.00	1373.20
OTHER LABORATORY SUPPLIE	6/30/18	CVR Communal Consumable Charge 2017/18 for M H	667.00	915.92

CLEANING MATERIALS	6/30/18	HWB L4 Lab cleaning materials May18 for N Logan	18.47	25.36
CLEANING MATERIALS	6/30/18	HWB L4 Cell Culture cleaning materials May18 for N	18.90	25.95
BONDED ALCOHOLS	7/31/18	HWB L4 Cell Culture bonded alcohols Jul18 for N Log	4.30	5.90
BONDED ALCOHOLS	7/31/18	HWB L4 Lab bonded alcohols Jul18 for N Logan	2.44	3.35
BONDED ALCOHOLS	7/31/18	HWB L4 Lab bonded alcohols Jun18 for N Logan	3.08	4.23
DISPOSAL OF CHEMICAL & RAI	7/31/18	HWB L4 Lab disp of chemical waste Jun18 for N Loga	45.64	62.67
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Cell Culture disp of clinical waste Mar18 adj	-3.48	-4.78
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Lab disp of clinical waste Mar18 adj for N Lo	-1.74	-2.39
DISPOSAL OF CLINICAL WASTE	7/31/18	HWB L4 Lab disp of clinical waste Nov17 adj for N Lo	-6.62	-9.09
INORGANIC CHEMICALS	7/31/18	HWB L4 Cell Culture inorganic chemicals Jul18 for N	2.22	3.05
ORGANIC CHEMICALS	7/31/18	HWB L4 Lab organic chemicals Jul18 for N Logan	0.86	1.18
PLASTICWARE	7/31/18	HWB L4 Cell Culture plasticware Jun18 for N Logan	232.54	319.32
PLASTICWARE	7/31/18	HWB L4 Cell Culture plasticware Jul18 for N Logan	303.62	416.93
PLASTICWARE	7/31/18	HWB L4 Lab plasticware Jun18 for N Logan	15.40	21.15
PLASTICWARE	7/31/18	HWB L4 Lab plasticware Jul18 for N Logan	9.73	13.36
TISSUE CULTURE AND BACTER	7/31/18	HWB L4 Lab tissue culture Jul18 for N Logan	61.02	83.79
OTHER LABORATORY SUPPLIE	7/31/18	HWB L4 Cell Culture other lab supplies Jun18 for N Lo	0.54	0.74
CLEANING MATERIALS	7/31/18	HWB L4 Cell Culture cleaning materials Jul18 for N L	4.93	6.77
CLEANING MATERIALS	7/31/18	HWB L4 Lab cleaning materials Jun18 for N Logan	2.48	3.41
CLEANING MATERIALS	7/31/18	HWB L4 Lab cleaning materials Jul18 for N Logan	2.16	2.97
CLEANING MATERIALS	7/31/18	HWB L4 Cell Culture cleaning materials Jun18 for N l	19.28	26.48
STATIONERY AND OFFICE SUP	7/31/18	HWB L4 Lab stationery Jun18 for N Logan	1.24	1.70
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop consumables Mar18 a	-3.34	-4.59
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop cons Oct17 adj for N l	-26.66	-36.61
WORKSHOP CONSUMABLES	7/31/18	HWB L4 Cell Culture workshop consumables Apr18 a	-84.44	-115.95
OTHER JANITORIAL COSTS	7/31/18	HWB L4 Lab other janitorial costs Jul18 for N Logan	7.62	10.46
OTHER JANITORIAL COSTS	7/31/18	HWB L4 Cell Culture other janitorial costs Jul18 for N	23.78	32.65
TISSUE CULTURE AND BACTER	8/20/18	119591	8.28	11.37
PLASTICWARE	8/29/18	120084	146.07	200.58
OTHER LABORATORY SUPPLIE	8/30/18	Tempus Blood RNA Tube	2302.80	3162.20
BIOCHEMICALS	9/6/18	SP5020 10 X casein solution	78.00	107.11
PLASTICWARE	9/12/18	120748	133.68	183.57
TISSUE CULTURE AND BACTER	9/12/18	120748	3.08	4.23

OTHER LABORATORY SUPPLIE	9/12/18	120748	14.46	19.86
OTHER LABORATORY SUPPLIE	9/13/18	6066759 Steadylite plus 1000ml kit as per quote 215	982.13	1348.66
MAIL COURIER AND FREIGHT	9/13/18	6066759 Steadylite plus 1000ml kit as per quote 215	17.25	23.69
PLASTICWARE	9/21/18	121304	170.27	233.81
TISSUE CULTURE AND BACTER	9/21/18	121304	22.86	31.39
LAB EQUIPMENT MAINTENAN	9/27/18	1450-471/normalisation standard/QUOTE 21570833	390.00	535.55
MAIL COURIER AND FREIGHT	9/27/18	1450-471/normalisation standard/QUOTE 21570833	35.00	48.06
BIOCHEMICALS	9/30/18	HWB L4 Lab biochemicalsAug18 for N Logan	19.80	27.19
BONDED ALCOHOLS	9/30/18	HWB L4 Cell Culture bonded alcohols Aug18 for N Lo	2.15	2.95
ORGANIC CHEMICALS	9/30/18	HWB L4 Lab organic chemicals Aug18 for N Logan	2.03	2.79
PLASTICWARE	9/30/18	HWB L4 Cell Culture plasticware Aug18 for N Logan	85.51	117.42
PLASTICWARE	9/30/18	HWB L4 Lab plasticware Aug18 for N Logan	13.64	18.73
TISSUE CULTURE AND BACTER	9/30/18	HWB L4 Lab tissue culture Aug18 for N Logan	19.96	27.41
OTHER LABORATORY SUPPLIE	9/30/18	HWB L4 Lab other lab supplies Aug18 for N Logan	0.23	0.32
CLEANING MATERIALS	9/30/18	HWB L4 Lab cleaning materials Aug18 for N Logan	1.25	1.72
CLEANING MATERIALS	9/30/18	HWB L4 Cell Culture cleaning materials Aug18 for N	3.64	5.00
OTHER JANITORIAL COSTS	9/30/18	HWB L4 Lab other janitorial costs Aug18 for N Logan	6.88	9.45
Total			**£ 14,067.33**	**$ 19,317.26**

IDvet
Innovative Diagnostics

Document N°	Account Nr	Account name		Date
CD184356	100844	UNIGLASGOW	F	15/10/2018
Reference	**Order confirmation**			
1983619				

Tel: +33(0)4 67 41 49 33 Fax: +33(0)4 67 45 36 95

Email : info@id-vet.com
Site : www.id-vet.com

Your contact : **Anna Greatrex (Int.** **Katja NOOR COROUGE**

Delivery address :

The Store -School of Veterinary Medicine
Level 1 Urquhart Building
Garscube Estate
464 Bearsden Road
G61 1QH Glasgow

ROYAUME UNI

Attention :

Invoicing Address

University of Glasgow - Finance Office
Main Building, East Quadrangle
G12 8QQ Glasgow, Scotland
ROYAUME UNI

Tel :
Fax :

VAT : GB 671 798 093
Siret :

	Code	Designation	Qty	Unit Price	% Discount	Net Price	Amount
001	CCHFDA-5P-E23	ID Screen® CCHF Double Antigen Multi-species	1,00	1 060,00		1 060,00	1 060,00
	Exp. : 09/2020	5 Plates - Double Antigen					

Total Qty : 1,00

Transport	Incoterms ® 2010
FEDEX	DAP Glasgow

Orders are generally sent within 48 hours

Ship :	30,00	Amount	EUR 1 090,00
Amount subjected to VAT :			
Exo :	1 090,00	**TOTAL**	EUR 1 090,00

Payment terms: Swift Bank Transfer at 30 days

IDvet
Innovative Diagnostics

310 rue Louis Pasteur - 34790 GRABELS - France
SIRET 478 123 219 00022 APE 7211Z TVA FR 17478123219

Coordonnées bancaires : Banque Dupuy de Parseval Montpellier
Code Banque 12939 Code Guichet 00031 N°Compte 40000760577 Clé 27
IBAN FR76 1293 9000 3140 0007 6057 727 SWIFT BIC : BDUPFR2S

New account in Dollars : HSBC Montpellier code banque 30056 code guichet 00967
n°compte 09670001413 clé : 64
IBAN : FR76 3005 6009 6709 6700 0141 364 SWIFT BIC CCFRFRPP

Budget Justification

Moved down [2]: Budget Justification

Deleted:

Moved (insertion) [2]

Formatted: Left

Deleted: Budget Justification
Washington State University /
WSU Global Animal Health Tanzania (GAHT)

Note: Cost calculations are rounded to nearest dollar

Senior/Key Personnel
Dr. Felix Lankester, Co-Investigator, 2.4 cal. mo. (years 1-2); 2.0 cal. mo. (years 3-5).
Dr. Lankester is a Clinical Assistant Professor at Washington State University's Paul G. Allen School for Global Animal Health. Now based in the UK, Dr. Lankester has conducted zoonotic disease research since 2009 and has extensive experience with project leadership within the African and One Health research contexts. He serves as Country Representative of WSU's non-profit subsidiary Global Animal Health Tanzania (GAHT), legally registered in Tanzania to facilitate in-country research and support research capacity-building activities on zoonotic infectious diseases. Dr. Lankester will commit 20% effort to the project in Years 1-2 and 16.67% effort in Years 3-5. He will oversee all GAHT activities and supervise GAHT project staff, assist in the coordination of the field activities, serve as liaison with high level Ministerial collaborators and interested parties within the Government of the United Republic of Tanzania, and will collaborate with the PI on data analysis and the drafting of manuscripts, reports and policy documents.
Salary request for Dr. Lankester is $26,192 in Year 1 and budgeted to inflate at 3% annually.
Fringe benefits for Dr. Lankester are calculated at 18% of salary. Year 1 request: $4,715

Senior/Key Personnel Total, 5-year project period: $147,198

B. Other Personnel
WSU Global Animal Health Tanzania (GAHT) maintains an office in Arusha, TZ, to support WSU investigators [1]

Moved (insertion) [1]

Moved up [1]: Travel support within Tanzania is also requested for Dr. Lankester and the Project Coordinator to carry out project activities. Dr. Lankester's travel includes:
Two road trips, 3 days each in Years 1 and 2 to field sites to oversee animal health team activities and sampling procedures. Year 1 budget includes lodging and meal per diem ($157/day x 3 days x 2 trips = $942) and fuel for 720 km per trip ($150 x 2 trips = $300) = $1,242; 3% inflation in Year 2.
One 2-day trip in Years 1 and 2 to visit the wildlife sampling field team. Year 1 costs include return flight Arusha to Seronera ($241) and lodging and per diem ($157/day x 2 days = $314): $555; budgeted with 3% inflation Year 2.
Field visits, Years 1 and 2, total $3,648.

One trip, 2 days each annually to Dar es Salaam and/or Dodoma for meetings with United Republic of Tanzania Ministry officials and other stakeholders. Year 1 costs

Budget Documentation – Washington State University

1) Salaries.....2
- Dr. Felix Lankester, Assistant Professor
- Mr. Godfrey Kassanga, Administrative Manager, GAHT
- Ms. Sarah Mollel, Program Coordinator, GAHT
- October 2019 GAHT Payroll information, with Tsh to USD exchange rate
- Draft employment contract, TBN, Project Veterinarian
- Draft employment contract, TBN, Field Assistant

2) GAHT Fringe Benefits.....13

3) Other Direct Costs.....15
- Permits
- Vehicle Maintenance
- Vehicle Insurance
- Supplies
- Medical Waste Disposal, KCMC
- Draft Personal Service / Consultant Contract, TBN, Mammologist
- Estimate of Translation Services

4) Indirect Cost Rate.....39

5) Travel.....45
- London to Arusha, TZ
- Arusha to Seronera, TZ
- Arusha to Dar es Salaam, TZ
- London to Europe
- Lodging and meal per diem rates, TZ


WSU AIS - wc3270
PPDS2310 DEPPS System 17:21:20 11/12/19
NS AP SL Employee/Appointment Select
WSU No 11363621
Name LANKESTER,FELIX
Appointments as of 10/22/19
Sel Posn Titl CSR Title Begin End FT Rate FTE Pay Rate TTPSLAymTytvcp Dept
1 114893 0267 010119 093021 10913.44 1.0000 10913.44/M E Y7NY 8670
Enter Sel number and press <Enter>
Page 1 of 1
Command ==>
PF4 = PF Key Help PF6 = Picklist PF12 = Menu
4B SWTC13652 023/014

WASHINGTON STATE UNIVERSITY

August 1st, 2019

Godfrey A. Kassanga
Mjimwema Area/Kigamboni
Dar es salaam
TANZANIA

Dear Godfrey Kassanga,

RE: APPOINTMENT AS ADMINISTRATIVE MANAGER FOR GLOBAL ANIMAL HEALTH TANZANIA

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Administrative Manager	
Working Title:	Administrative Manager	
Place of Recruitment:	Arusha	
Location of work:	Global Animal Health Tanzania, Uzunguni Area, Sekou Toure Road, Gymkhana, Arusha	
Reporting:	School for Global Animal Health, Director of Finance and Administration	
Appointment Duration:	1st of September 2019 to 31st of August 2020	
Gross Monthly Salary:	5,762,000 TZS	$2,516.68
Start Date:	1st of September, 2019	

Your position is responsible for the overall administrative coordination of Global Animal Health Tanzania (GAHT), a Non-Governmental Organization (NGO) in Arusha, Tanzania. In this position you will serve as the primary financial and personnel officer for GAHT and will operate with a broad level of independent judgment and decision making authority. You will report directly to the Paul G. Allen School for Global Animal Health, Director of Finance and Administration, an academic unit of Washington State University. You will manage the administrative functions of GAHT personnel, procurement, contracts, and finance units for GAHT. You will also manage the requisite NGO registrations and official documents, ensuring all are in order and filed with the respective United Republic of Tanzania agencies. Your responsibilities include assisting the Director of Finance and Administration and the President of

GAHT in the development of long-and-short-term strategic plans for GAHT as a sustainable and responsive NGO, leading and managing administrative activities associated with the GAHT office, and ensuring operations are aligned with GAHT and Washington State University policies and procedures as well as in compliance with United Republic of Tanzania laws, regulations, and policies.

A detailed description of the position scope of work is provided in the position description that will be given to you upon reporting.

Note: **See attached position description**

The terms of engagement are as follows:

1. **Engagement Duration:** The period of service is for one (1) year from the start date indicated herein above (1st of September, 2019 to 31st of August, 2020), on a renewable basis upon consultation with and advice from the Director of Finance and Administration and approval of the officers of GAHT. Renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal, even where you may have had a previous renewal of contract.

3. **Working Hours:** The normal working hours are 40 hours a week from 8:00am to 5:00pm, with one-hour lunch break, from Monday to Friday. At times you will be expected to work outside of the normal working hours, however the position is not eligible for overtime due to the senior level of the employment. You will have teleconference meetings, normally weekly, with the Paul G. Allen School for Global Animal Health administrative team as well as with faculty engaged in research in Tanzania. These meetings, due to time zone difference, are likely to be scheduled outside of your normal working hours.

4. **Salary:** You will be paid a Gross Monthly Salary of 5,762,000 TZS. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. **Benefits:** In addition to the salary, you will receive health insurance that you can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

6. **Annual Leave:** You will be entitled to annual leave of 22 days per year. These should be utilized within the duration of the contract through mutual agreement between you and your supervisor. You are also entitled to sick leave, maternity leave and compassionate leave as stipulated by law.

7. **Confidentiality:** During and after the term of employment (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to 3rd parties.

You will be required to complete training regarding prevention of discrimination and sexual harassment within six months of your date of hire. Information regarding this training is available at the following web site: hrs.wsu.edu/dshp.

All GAHT employees are required to adhere to the institution's policies and procedures. Please return a copy of this letter to Dr. Guy Palmer, President of GAHT, indicating whether you accept or decline the offer, not later than the 12th of August, 2019.

We are confident you will find this opportunity both challenging and rewarding, and we are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

Dr. Guy Palmer
Regents Professor
Senior Executive Director, Global Health
Washington State University
President, Global Animal Health-Tanzania

Rebecca Manning
Director of Finance and Administration
School for Global Animal Health
Secretary-Treasurer, Global Animal Health Tanzania

Acceptance

I, Godfrey Abdi Kasenga (ID NO. 19790707-11465
do hereby accept /~~decline~~ (delete whichever is not applicable) the appointment and terms provided thereto

Signature

August 5, 2019.
Date

March 22, 2019

Sarah Mollel
P.O. Box 772,
Arusha, Tanzania

Dear Sarah Mollel,

RE: APPOINTMENT AS PROGRAM COORDINATOR FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased renew your position as indicated below.

Position Title:	Program Coordinator	
Working Title:	Country Coordinator	
Place of Recruitment:	Arusha	
Location of work:	Global Animal Health Tanzania, Uzunguni Area, Sekou Toure Road, Gymkhana, Arusha	
Reporting:	School for Global Animal Health Administrative Manager	
Appointment Duration:	16th April, 2019 to 15th April, 2020	
Gross Monthly Salary:	4,095,793.97 TSH	$1788.93
Start Date:	16th of April 2019	

The position provides coordination and oversight for the numerous research projects that are carried out by Washington State University (WSU) and GAHT employees in Tanzania. Responsibilities include overseeing the purchase of supplies, disbursing funds, maintaining financial records for each project, managing reimbursements, processing payroll, managing all in country banking issues, working closely with in country auditors and legal counsel, assisting researchers in various research activities, organizing project related meetings and seminars, and managing the Arusha based GAHT office. Your position will report directly to School for Global Animal Health Administrative Manager. Additionally, you will receive direction and leadership from GAHT officers and WSU faculty coordinating research in Tanzania, and from the Washington State University administrative team, most directly from School for Global Animal Health Fiscal Analyst 3.

A detailed description of the position scope of work is provided in the position description.
Note: **See attached position description**

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (16 April 2019 to 15 April 2020), on a renewable basis upon consultation with and advice from the GAHT officers,and Administrative Manager Rebecca Manning. The contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract.

3. Working Hours: The normal working hours are 40 hours a week from 8:00am to 5:00pm, with one-hour lunch break, from Monday to Friday. At times the Program Coordinator will be expected to work outside of the normal working hours, however the position is not eligible for overtime due to the senior level of the employee. Weekly you will have skype meetings, which due to time zone difference are likely to be scheduled outside of normal working hours, with WSU Research faculty and administrative team.

4. Salary: You will be paid a Gross Monthly Salary of 4,095,793.97 TZS. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. Benefits: In addition to the salary, you will receive health insurance that can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

6. Annual Leave: You will be entitled to annual leave of 22 days per year. These should be utilized within the duration of the contract through mutual agreement between you and WSU research faculty. The employee is also entitled to sick leave, maternity leave and compassionate leave as stipulated by law.

7. Confidentiality: During and after the term of employment (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to 3rd parties.

All GAHT employees are required to adhere to the institution's policies and procedures. Please return a copy of this letter to Dr. Guy Palmer President of GAHT, indicating whether you accept or decline the offer, not later than April 15, 2019.

We are confident you will find this opportunity both challenging and rewarding, and we look forward to continuing to work with you at the Global Animal Health Tanzania program.

Sincerely,



Dr. Guy Palmer
Regents Professor
Senior Executive Director, School for Global Animal Health at Washington State University
President, Global Animal Health-Tanzania

Acceptance

I, Sarah Mollel ..... (ID NO. 11592849 .....)
do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto

April 11th 2019

Signature

Date

Date

Name
Address

Dear,

RE: APPOINTMENT AS PROJECT VETERINARIAN FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Project Veterinarian
Place of Recruitment:	Arusha
Location of work:	Arusha and Meru Region, Tanzania
Reporting:	Dr. Felix Lankester
Appointment Duration:	One year
Gross Monthly Salary:	5,446,800 Tsh $2,379
Start Date:	XXXX

The role of the Project Veterinarian is to participate in field activities for collection of biological samples from livestock and wildlife species, including collection of samples and management of sample transport to laboratory facilities, and collection of survey data.

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (xx/xx/xxxx to xx/xx/xxxx). The Contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract. You also recognize that your position may be retrenched in the event of cessation or reduction funding and you accept that you will be retrenched by being given one (1) month notice and other minimum terms required by local legislation.

2. Working Hours: The normal working hours are 40 hours a week from 8:30am to 5:30pm, with one-hour lunch break, from Monday to Friday. Occasionally you may be required to work beyond 40 hours and anything beyond 45 hours per week shall be considered overtime. Overtime shall be paid in accordance with local legislation requirements but only in instances where you have received prior written approval to work overtime.

3. Salary: You will be paid a Gross Monthly Salary of 5,446,800 Tsh. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

4. Benefits: In addition to the salary, you will receive health insurance that can enlist up to four immediate dependents who must be either your spouse or your legal child (biological child, legally adopted child or a child over whom you have a court mandated guardianship or custody).

5. Annual Leave: Upon completing 12 months of continuous service, you will be entitled to annual leave of 28 consecutive days per year. These should be utilized within the duration of the contract through mutual agreement between you and the Country Director. Employees are also entitled to sick leave, maternity leave, paternity leave and compassionate leave as stipulated by law and clarified in the Employee Handbook.

6. Bereavement: In the case where the employee losses his immediate family member (child or spouse) the organization will provide 1,000,000Tsh as a support to the employee. Furthermore, when the employee dies GAHT will assist the family on funeral arrangements by providing them with 3,000,000Tsh.

7. Confidentiality: During the term of employment, (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to third parties.

All GAHT employees are required to adhere to the institution's policies and procedures as issued from time to time.

Please return a copy of this letter to the GAHT Country Coordinator, indicating whether you accept or decline the offer by XXXX.

We are confident you will find this new opportunity both challenging and rewarding, and are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

.....

Dr. Guy Palmer
Regents Professor
Washington State University
Chairperson, Global Animal Health-Tanzania

Acceptance

I, ... do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto.

_____ _____

Signature Date

Date

Name
Address

Dear,

RE: APPOINTMENT AS FIELD ASSISTANT FOR GAHT

The Washington State University-Global Animal Health Tanzania (GAHT) program is pleased to offer you the position indicated below.

Position Title:	Field Assistant
Place of Recruitment:	Arusha
Location of work:	Arusha and Meru Region, Tanzania
Reporting:	Dr. Felix Lankester or Country Director
Appointment Duration:	One year
Gross Monthly Salary:	1,144,800 Tsh $1000
Full time equivalent:	50%
Start Date:	XXXX

The role of the Field Assistant is to drive project vehicles and assist with field activities.

The terms of engagement are as follows:

1. Engagement Duration: The period of service is for one (1) year from the start date indicated herein above (xx/xx/xxx to xx/xx/xxx). The Contemplated renewal is not automatic and no action or omission by the GAHT program or its management shall constitute or support any expectation of renewal even where you may have had a previous renewal of contract. You also recognize that your position may be retrenched in the event of cessation or reduction funding and you accept that you will be retrenched by being given one (1) month notice and other minimum terms required by local legislation.

2. Probation: You shall be subjected to a three-month probation period, after which a performance assessment will be conducted by the Country Director. Confirmation of appointment is subject to the satisfactory completion of the probationary period and approval by the Country Director.

During the probation period either party may terminate the contract for whatever reason upon giving one (1) week notice in writing or payment in lieu of such notice.

Thereafter either party may terminate the contract upon giving a minimum of 28 days' notice in writing or payment in lieu of such notice

3. **Working Hours:** The Field Assistant is expected to work the equivalent of 50% of a 40 hour per week full-time appointment. As this is not a full-time position, the hours of work will vary from week to week.

4. **Salary:** You will be paid a Gross Monthly Salary of 1,144,800 Tsh. The salary is paid in arrears at the end of each working month for the duration of engagement as per the employment contract.

The said gross salary shall be subjected to statutory deductions as provided in relevant Legislation including but not limited to PAYE (income tax) and pension deductions.

5. **Annual Leave:** Upon completing 12 months of continuous service you will be entitled to annual leave of 6 working days per year. These should be utilized within the duration of the contract through mutual agreement between you and the Country Director. Employees are also entitled to sick leave, maternity leave, paternity leave and compassionate leave as stipulated by law and clarified in the Employee Handbook.

6. **Confidentiality:** During the term of employment, (unless expressly authorized in writing) all information respecting the organization, management, policy, finances and others shall be confidential and not subject to disclosure to third parties.

All GAHT employees are required to adhere to the institution's policies and procedures. These policies are summarized in the Employee Handbook, which will be issued to all employees.

Please return a copy of this letter to the GAHT Country Director, indicating whether you accept or decline the offer, not later than XXXX.

We are confident you will find this new opportunity both challenging and rewarding, and are delighted that you have chosen to pursue your career with the Global Animal Health Tanzania program.

Sincerely,

.....

Dr. Guy Palmer
Regents Professor
Washington State University
Chairman, Global Animal Health-Tanzania

Acceptance

I, ...do hereby accept /decline (delete whichever is not applicable) the appointment and terms provided thereto.

_____ _____

Signature Date

HEALTH INSURANCE AND OTHER BENEFITS COSTS FOR GAHT EMPLOYEES

There are three major benefits for GAH employees (local staff) as follows;

1. 22 days per year as annual leave
2. 10% of gross salary as social security contribution, and
3. Health insurance for staff and up to 4 immediate dependents (spouse and children). The annual health insurance is TZS 22,725,629 equivalent to USD 9,900. Below is the proof of payments of Health Insurance for GAHT 7 employees for the period June 2019 – June 2020.

Paid 20,574,101.40 for field team's insurance



AAR INSURANCE TANZANIA LIMITED
Plot No. 74, Serengeti Rd / Waziba Street
Mwai Kibaki Rd, Mikocheni
P.O Box 9600, Dar es Salaam, Tanzania
Tel: +255 22 2760020 / 2760651
Fax: +255 22 2781472 / 2781204
Email: info@aar.co.tz

Profoma Invoice

GLOBAL ANIMAL HEALTH TANZANIA P.O BOX DAR ES SALAAM TANZANIA TIN NO VRN NO	DOCUMENT NO: AR/0159INV/0319 PO NUMBER DATE: 2019-06-21
AAR TIN NO: 105-677-647	Deliver To : GLOBAL ANIMAL HEALTH TANZANIA P.O BOX DAR ES SALAAM

Description : Comments				Amount
Card Membership Bronze Renewa	Lives 25			22,725,629.00
As per attached list				
Date From : 2019-06-22	Date To : 2020-06-21			
Due date	Amount Due	Disc Amount	Disc Date	
2019-06-21	22,725,629.00	0.00	2019-06-21	

PLEASE INDICATE THE DOCUMENT NUMBER IN THE PAYMENT

1. Bankers	2. Bankers: USD
Stanbic Tanzania Ltd	KCB Bank Tanzania Limited
Dar-es-salaam Branch	Oyster Bay Branch
Tshs Account No: 9030033019	Tshs Account No: 3300388821
US$ Account No: 9030033027	US$ Account No: 3300388848
Swift Code: SBICTZTX	Swift Code: KCBLTZTZ
Branch Code: 070631	Branch Code: 671711

	TZS
Subtotal before taxes	22,725,629.00
Total taxes	0.00
Total amount	22,725,629.00
Discount taken	0.00
Credit amount	0.00
Amount due	22,725,629.00

Signed by..... Date.....

For: AAR INSURANCE TANZANIA LIMITED

As per Insurance Act 2009, Insurance Premium must be paid before inception/renewal of the policy
All premium payment must be done through the bank, AAR will not be responsive for any payment made to any individual or office.

USD TO TZS EXCHANGE RATE AS OF 21 October 2019 — 2,289.52

Payroll - Global Animal Health — OCTOBER 2019

No	Employee name	Basic	Salary Arrears	Gross salary	NSSF	Taxable pay	PAYE	HFSLB	Net pay	SDL (4.5%)	WCF (1%)	Employer cost per staff
[illegible]	[illegible]	1,000,894		1,000,894	100,089.38	900,804	153,421		750,983	45,040	10,009	1,156,052
[illegible]	[illegible]	1,429,134		1,429,134	142,913.40	1,286,220	367,987		1,018,233	64,311	14,291	1,508,607
[illegible]	[illegible]	1,565,849		1,565,849	156,584.94	1,409,264	383,224		1,098,429	70,463	15,658	1,797,638
[illegible]	[illegible]	1,819,765		1,819,765	181,976.46	1,637,789	371,760		1,264,965	81,889	18,197	2,201,142
[illegible]	[illegible]	4,055,794		4,055,794	405,579.40	3,650,215	997,104	814,450.10	2,053,886	182,511	40,558	4,793,642
[illegible]	[illegible]	1,108,482		1,108,482	110,848.21	997,634	285,095		712,044	49,882	11,085	1,304,447
[illegible]	[illegible]	8,760,000		8,760,000	876,000.00	7,884,000	1,849,866		6,034,134	394,200	87,600	10,355,110
		20,865,825	-	20,865,825	2,086,589	18,779,243	4,808,473	814,369	13,356,401	938,962	208,658	24,100,078

Summary Payroll 2019

	TZS	USD
Net salary	13,356,401	5,834
PAYE	4,808,473	2,100
SDL (4.5%)	938,962	410
WCF (1%)	208,658	91
HESLB(15%)	814,369	356
TOTAL	24,100,078	10,526

GLOBAL ANIMAL HEALTH TANZANIA ★ P.O.BOX 14413 ARUSHA

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF

(b)(4)

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	Foreigners Affiliated to Local Research and Higher Learning Institutions	Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	(b)(4)	(b)(4)
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to (b)(4)

(b)(4)

and three passport size photos.

b) All researchers granted research permit that involve collecting human, plant or animal materials / data that will be exported outside Tanzania must submit a signed Material Transfer Agreement (MTA) / Data Transfer Agreement (DTA) between Tanzania host institution and the foreign counterpart. The MTA/DTA will indicate terms for collecting, storing/managing, transporting, disposal or returning of the materials/DATA to Tanzania after the closure of the research project.

c) An Applicant who has been permitted to conduct research in Tanzania is obliged to submit soft and **two (2) hard copies** (printed) and soft copy of his/her research report /thesis with COSTECH on completion of research.

d) COSTECH will have an access to data and research premises of the permitted research projects.

e) A Principal Investigator (PI) permitted to conduct research in Tanzania is obliged to submit a quarterly/annually report.

f) Persons who have not submitted satisfactory final reports / thesis on previous research work in Tanzania may not be cleared for new projects. Attention will be drawn to the sponsoring institutions and referees on shared responsibility of making sure that researchers sponsored by them observe the foregoing regulations. A breach of the regulations could result in refusal of permits for other researchers sponsored by same institutions or referees.

g) Any patent or intellectual property and royalty emanating from any research approved by the National Research Registration Committee (NRRC) should be owned by the respective research institutions involved.

T218296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number: 994330001101
Payment Reference: SP433
Payer Name: [illegible]
Address: [illegible]
Phone Number: [illegible]

General Description

Research Visa for Data Bankester to undertake his research Project Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
(b)(4)	1	(b)(4)	
	1		

Total: 3,800.00 USD

Amount in Words: Three Thousand Eight Hundred

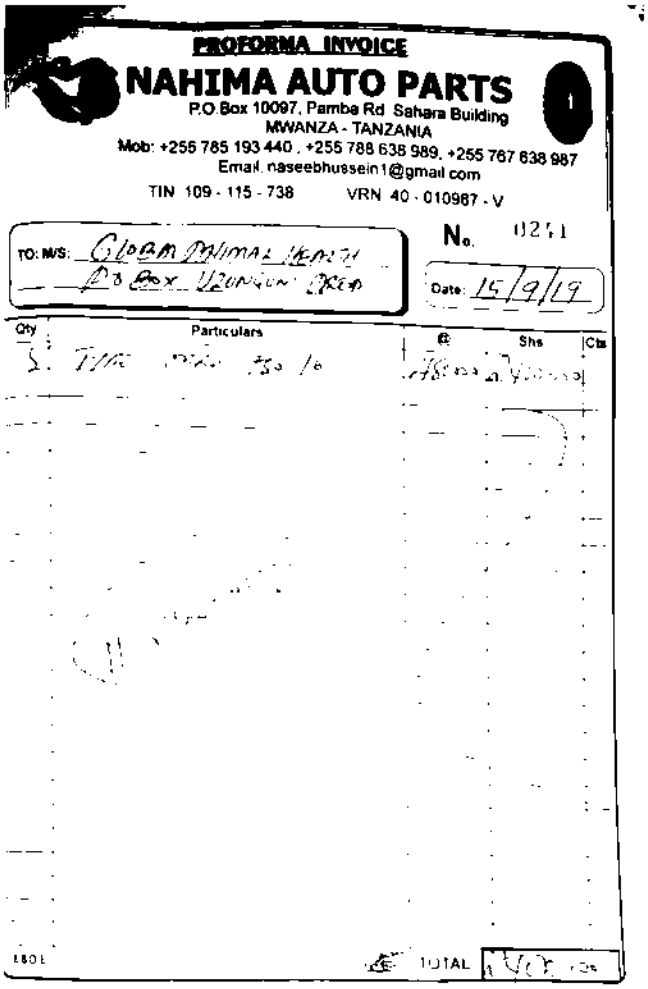
Issued Date:
Expiry Date:
Payment Mode:
Payment Date:
Status:

Payment Instructions

How to Pay

Average Annual Maintenance Costs for a vehicle.

Tyre changing every after 15,000km estimated 3 times a year. 5 tyres each TZS 480,000 ($210)



PROFORMA INVOICE

NAHIMA AUTO PARTS

P.O Box 10097, Pamba Rd Sahara Building
MWANZA - TANZANIA
Mob: +255 785 193 440 , +255 788 638 989, +255 767 638 987
Email. naseebhussein1@gmail com
TIN 109 - 115 - 738 VRN 40 - 010987 - V

TO: M/S: Gloam NAHIMA HEALTH
P.O Box UZUNGUNI AREA

No. 0251

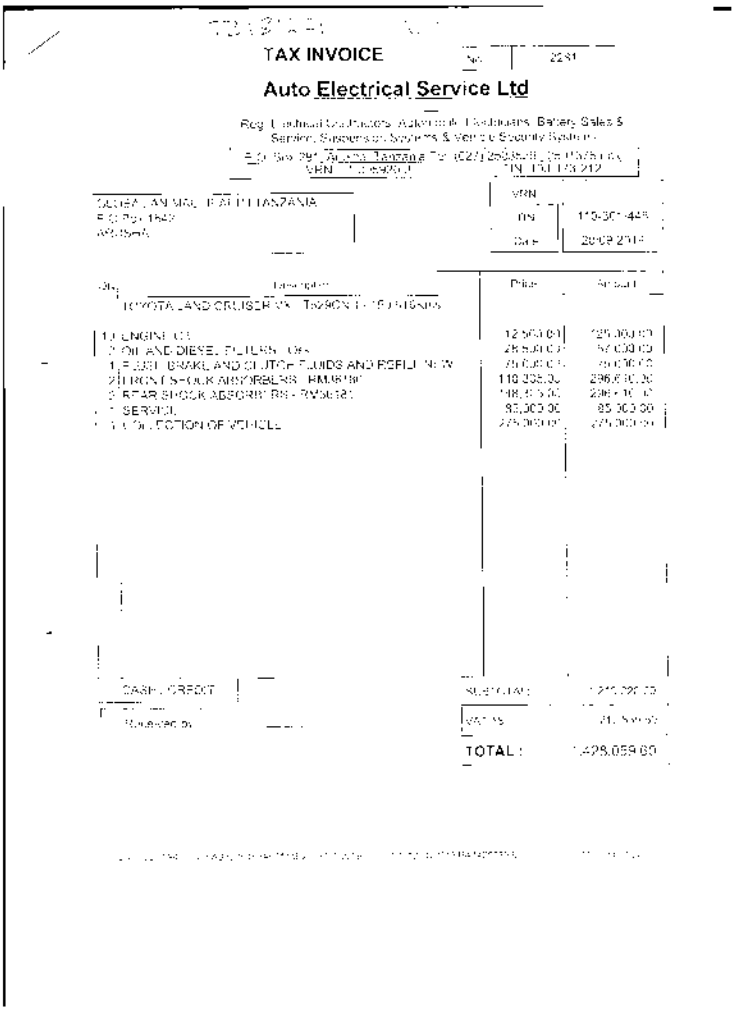
Date: 15/9/19

Qty	Particulars	@	Shs	Cts
5	TYRE 750 16			

E&OE

TOTAL

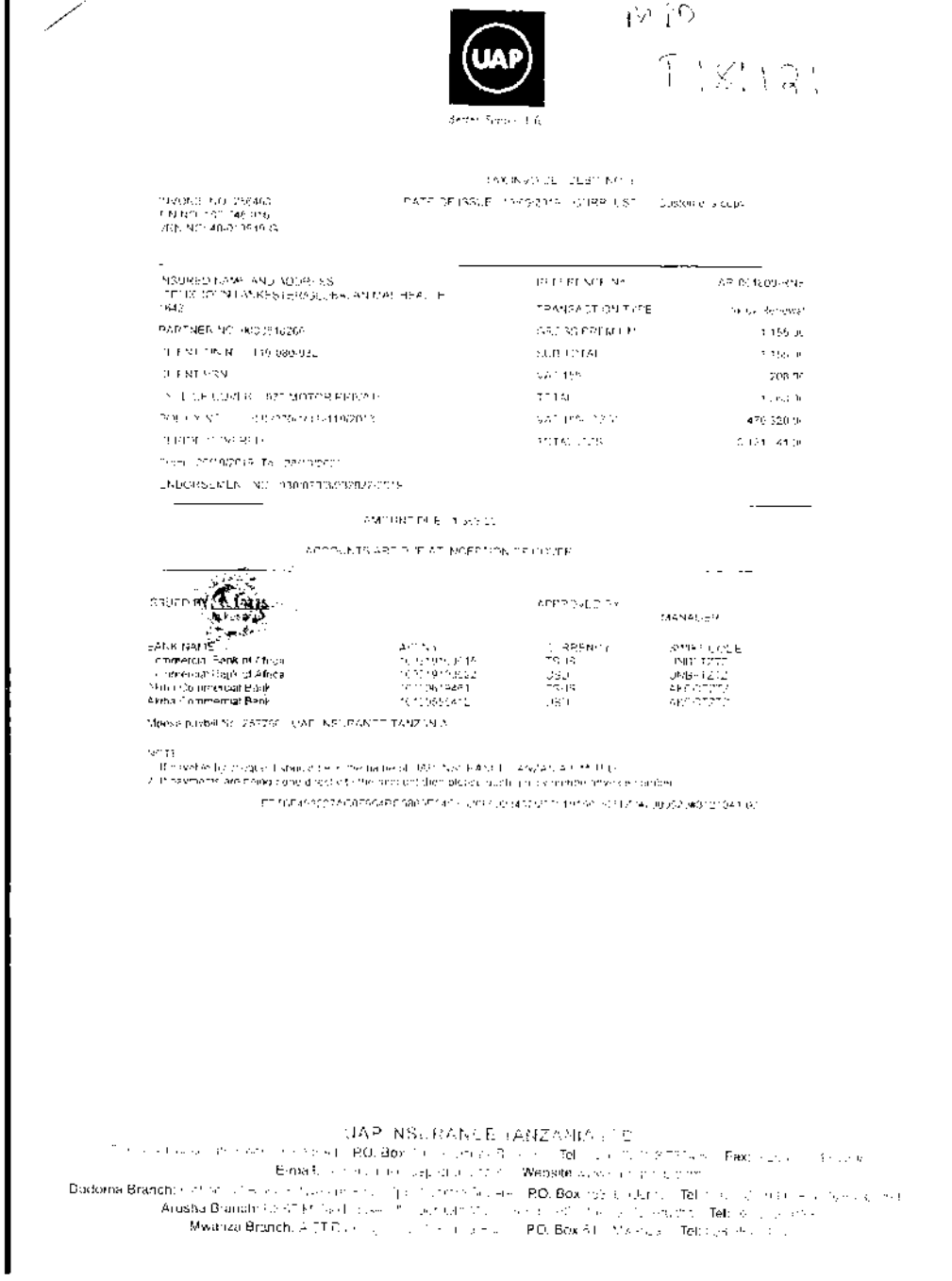
Routine Maintenance (replacement of; bush, fuel filter, air filter, shock absorbers, brake pads, and engine oil changing, etc) every after 5,000 km estimated each TZS 1,428,059.60 ($624)



TAX INVOICE

Auto Electrical Service Ltd

TOTAL : 1,428,059.60



Vehicle insurance: Tsh 3,121,041 / 2,289.52 = $1,363

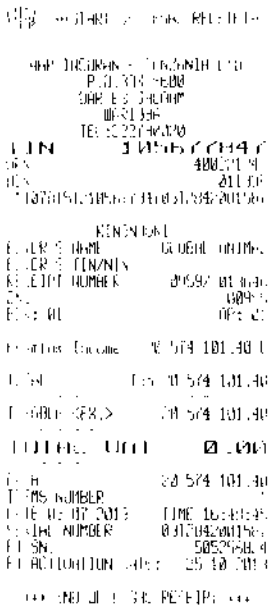
UAP Insurance Tanzania Ltd

RECEIPT

Payment receipt number:	ARR000001837 8/7/2019
On behalf of	GLOBAL ANIMAL HEALTH TANZANIA
Currency	Tanzanian Shilling
Amount	3,131,541.00
Amount in words	THREE MILLION ONE HUNDRED THIRTY ONE THOUSAND FORTY ONE ONLY
Method of payment	Cash Dep
Cheque number	LPO
Bankers	
Credit to	
Agent/Broker code	
Agent/Broker name	JARDINE & CO TANZANIA LIMITED
Type of payment	GLOBAL ANIMAL HEALTH
Policy number	TBA
Claim number	
Branch code	

Note: The receipt is subject to the realization of the amount stipulated

Issued by: Bakari Ahumani Signed:

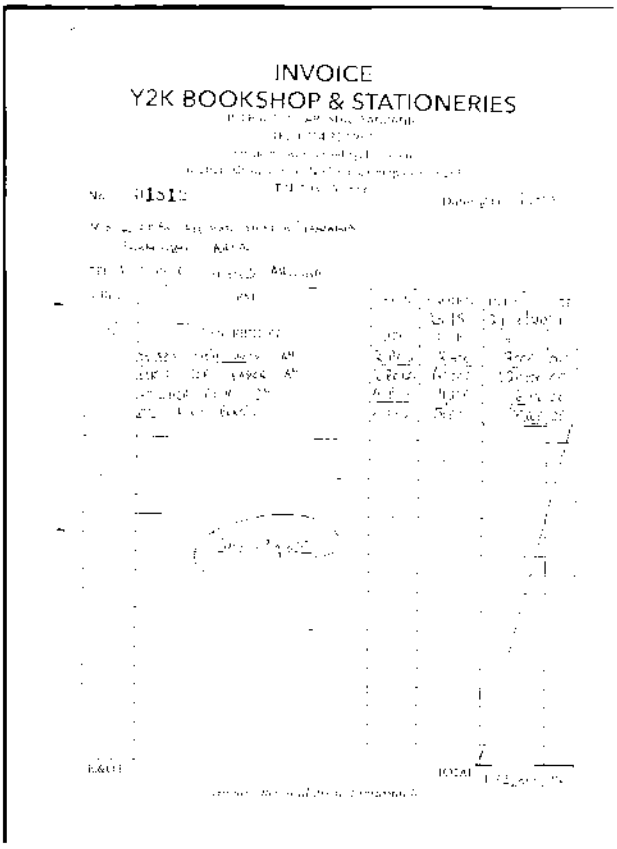


OFFICE SUPPLIES

The list of office supplies is not exhaustive and we do not have recent comprehensive list yet. Several items were purchased a couple of days ago as seen in the documents below. Note that similar purchase can occur throughout the year USD 2,000. Below is the likely list of supplies and receipt for some of items that we purchased.

LIST OF COMMON OFFICE SUPPLIES 0.00043 Ex rate oanda.com 11/5

Item	Average Price, TZS	USD Equivalent	Item	Average Price, TZS	USD Equivalent
A4 Printer paper	60,000.00	25.80	Hole puncher		-
Spiral bound notebooks - L	13,500.00	5.81	Legal pads	5,000.00	2.15
Box files	5,000.00	2.15	Manila folders	4,000.00	1.72
Stappler	7,500.00	3.23	Hanging folders	4,000.00	1.72
Punching machine	6,000.00	2.58	Paper clips	4,500.00	1.94
Pen	5,000.00	2.15	Binder clips	12,000.00	5.16
Pencils	2,500.00	1.08	Masking Tape	3,500.00	1.51
Highlighters	4,500.00	1.94	Packing Tape	4,500.00	1.94
Glue	6,000.00	2.58	White glue	6,500.00	2.80
Scissors	5,500.00	2.37	Pencil sharpner	2,500.00	1.08
Ruler	1,200.00	0.52	Erasers	1,500.00	0.65
Staplepins	3,500.00	1.51	Ink pad	3,500.00	1.51
Sticker notes	4,000.00	1.72	Correction fluid	2,500.00	1.08
Writing pads	6,000.00	2.58	Garbage bags	12,000.00	5.16
Electric extension cables	35,000.00	15.05	Broom	6,000.00	2.58
Dust bins	8,500.00	3.66	Dustpan	7,000.00	3.01
Office tray	25,000.00	10.75	Disinfectants	40,000.00	17.20
Paper shreader	320,000.00	137.60	Window cleaner	12,000.00	5.16
Notice board	70,000.00	30.10	Water dispenser refills	5,000.00	2.15
Cartilage	350,000.00	150.50	Coffee	12,000.00	5.16
Envelops	6,000.00	2.58			
Counter books	4,200.00	1.81			
Spiral note books - S	3,500.00	1.51			



INVOICE

Y2K BOOKSHOP & STATIONERIES

INVOICE

WSU budget documentation

KILIMANJARO CHRISTIAN MEDICAL CENTRE

Kilimanjaro Christian Medical Centre
An Institution of the Good Samaritan Foundation
P.O. Box 3010, Moshi, Tanzania
Telephone: 255 27 2754377/83// Fax: 255 27 2754381
Email: kcmcadmin@kcmc.ac.tz
Website: http://www.kcmc.ac.tz

Customer
Name: Global Animal
Address: Health Tanzania.
City/Town:
Tel:
TIN:
VRN:

Date: 21/11/2019.

No: 0069

S/NO	Qty	Particulars	PRICE	Amount
		Annual Disposal		USD 525=
		fee		
		US Dollar Five		
		Hundred twenty		
		five only.		
	Deposit Account No			
	Account Name: DIRECTOR KCMC			
	Account Number: 01710 5000986			
	Bank Name: NATIONAL BANK OF COMMERCE			
	(NBC)			
	Branch Name: MOSHI BRANCH			
	SWIFT CODE: NLCBTZTXOTM			
	Branch Code: 017.			
		SUB TOTAL		
		OTHER CHARGES		
		TOTAL		USD 525=

WASHINGTON STATE UNIVERSITY

WSU CONTRACT ##### DRAFT1

CONTRACT FOR PERSONAL SERVICES
BETWEEN

WASHINGTON STATE UNIVERSITY
AND

This contract is made and entered into by and between the state of Washington, **Washington State University**, hereinafter referred to as the "**UNIVERSITY**", and the below named firm or individual, hereinafter referred to as "**CONTRACTOR.**"

NAME
ADDRESS
CITY STATE AND ZIP
TELEPHONE
EMAIL
FEDERAL ID NO.
WASHINGTON STATE UBI NO
WSU VENDOR NO.
STATE OF WA OMWBE CERTIFICATION NO.

1. PURPOSE

The purpose of this Contract is to provide expertise for a federally funded project entitled, "Crimean Congo Hemorrhagic Fever: Reducing an emerging health threat in Tanzania," University lead investigator Dr. Felix Lankester. CONTRACTOR will serve as the project mammologist.

2. SCOPE OF WORK

A. The CONTRACTOR will provide services, and otherwise do all things necessary for or incidental to the performance of work, as set forth below:

1. Assist field teams with the live trapping, sample collection and identification of small mammal species
2. Ensure proper documentation of the species identified
3. Write bi-monthly reports and submit to the University lead investigator, which will include a summary of field activities
4. Attend study meetings as requested and report on progress of work

B. Exhibits A and B contain the General Terms and Conditions governing work to be performed under this contract, the nature of the working relationship between the UNIVERSITY and the CONTRACTOR, and specific obligations of both parties.

C. The CONTRACTOR shall produce the following deliverables by the dates indicated in the chart below:

DATE	DESCRIPTION OF DELIVERABLE ITEM
	• A schedule of travel to be undertaken with field teams to conduct sampling activities and species identification of small mammals • Bi-monthly reports of field activities and species identification • Attendance at study related meetings as requested

3. PERIOD OF PERFORMANCE

The period of performance under this contract will be from xxxx through xxxx.

The execution of this Contract shall constitute a ratification of that earlier verbal agreement between the parties, the terms and conditions of which are contained herein. Accordingly, the beginning date of performance under this Contract shall be xxxx regardless of the date of execution. UNIVERSITY shall reimburse the CONTRACTOR for those costs incurred in performance hereunder, for that period between the beginning date of performance and the date of execution of this Contract.

4. COMPENSATION AND PAYMENT

All compensation amounts and funds due to CONTRACTOR are stated in U.S. Dollars (USD Payments will be made in Tanzania Shilling by UNIVERSITY'S Local Affiliate, PFK Limited and non-government agency, Global Animal Health Tanzania (GAHT). UNIVERSITY and GAHT will not compensate CONTRACTOR for currency exchange fluctuations through the issuance of payment.

Payments to CONTRACTOR will be subjected to all Tanzanian tax regulation.

UNIVERSITY shall pay **an amount not to exceed $12,000.00** for the performance of all things necessary for or incidental to the performance of work as set forth in the Scope of Work. CONTRACTOR'S compensation for services rendered shall be based on the following rates or in accordance with the following terms:

A. **Fees:** At the rate of **$500.00** per month an amount not to exceed **$6,000.00 per year**; which amount is included in the not-to-exceed compensation amount.

B. **Expenses:** The UNIVERSITY shall provide coverage of travel expenses related to official work that has been approved in advance by the Project Manager, including:

1. Lodging and subsistence necessary during periods of required travel.

5. BILLING PROCEDURES

UNIVERSITY will pay CONTRACTOR upon receipt of properly completed invoices, which may be submitted to the Contract Manager via email. The billing address for invoices is:

Washington State University
Controllers Office
Attn: WSU Contract XXXX~ Rebecca Manning, Mail Code 7090
P.O. Box 641025
Pullman, WA 99164-1025

The invoices shall describe and document to the UNIVERSITY'S satisfaction a description of the work performed, the progress of the project, and fees. If expenses are invoiced, provide a detailed breakdown of each type. Any single expense in the amount of $50.00 or more must be accompanied by a receipt in order to receive reimbursement.

Payment shall be considered timely if made by the UNIVERSITY within thirty (30) days after receipt of properly completed invoices. Payment shall be sent to the address designated by the CONTRACTOR.

The UNIVERSITY may, in its sole discretion, terminate the contract or withhold payments claimed by the CONTRACTOR for services rendered if the CONTRACTOR fails to satisfactorily comply with any term or condition of this contract.

No payments in advance or in anticipation of services or supplies to be provided under this contract shall be made by the UNIVERSITY.

6. CONTRACT MANAGEMENT

A. The Contract Manager for each of the parties shall be the contact person for all communications regarding the performance of this contract and billing.

	CONTRACT MANAGER FOR THE CONTRACTOR	CONTRACT MANAGER FOR THE UNIVERSITY
NAME		Rebecca Manning
ADDRESS		Paul G. Allen School for Global Animal Health P.O. Box 647090
ADDRESS		Pullman, WA 99164-7090
TELEPHONE		509-335-5861
EMAIL		manningr@wsu.edu
		DES Training Completed? yes no

B. The Project Manager for each of the parties will be point of contact for scope of work. Project Manager for UNIVERSITY will receive and accept deliverables and determine if CONTRACTOR has satisfactorily completed the scope of work.

	PROJECT MANAGER FOR THE CONTRACTOR	PROJECT MANAGER FOR THE UNIVERSITY
NAME		Dr. Felix Lankester
ADDRESS		P. O. Box 647090
ADDRESS		Pullman, WA 99164-7090
TELEPHONE		+44 7426 426831
EMAIL		Felix.lankester@wsu.edu

7. INSURANCE

The CONTRACTOR shall insure themselves and any persons working for their organization; and they shall be exclusively liable for any claims arising from them and/or their employees, from performance of their obligations of this Contract.

CONTRACTOR shall submit to UNIVERSITY within 15 days of the Contract effective date, a certificate of insurance that outlines the coverage and limits defined in the Insurance section. The mailing address for certificate holder is:

Washington State University
Contract #####
PO Box 641020
Pullman, WA 99164-1020

8. ASSURANCES

UNIVERSITY and the CONTRACTOR agree that all activity pursuant to this contract will be in accordance with all the applicable current federal, state and local laws, rules, and regulations.

9. ORDER OF PRECEDENCE

Each of the Exhibits listed below is by this reference hereby incorporated into this contract. In the event of an inconsistency in this contract, the inconsistency shall be resolved by giving precedence in the following order:

1. Applicable Federal and state of Washington statutes and regulations
2. Special Terms and Conditions as contained in this basic contract instrument
3. Exhibit B – FAR Terms and Conditions (for Federal Grant Funded Purchases only)
4. Exhibit A UNIVERSITY General Terms and Conditions
5. Any other provision, term or material incorporated herein by reference or otherwise incorporated.

10. ENTIRE AGREEMENT

This contract including referenced exhibits represents all the terms and conditions agreed upon by the parties. No other statements or representations, written or oral, shall be deemed a part hereof.

11. CONFORMANCE

If any provision of this contract violates any statute or rule of law of the state of Washington, it is considered modified to conform to that statute or rule of law.

12. APPROVAL

This contract shall be subject to the written approval of the UNIVERSITY'S authorized representative and shall not be binding until so approved. The contract may be altered, amended, or waived only by a written amendment executed by both parties.

This CONTRACT, consisting of FOUR pages and two attachments named Exhibit A and Exhibit B, is executed by the persons signing below who warrant that they have the authority to execute the agreement.

TYPE CONTRACTOR NAME HERE		**WASHINGTON STATE UNIVERSITY**	
Signature	Date	Patty Gropp, C.P.M	Date
Name of signatory		Associate Director, Purchasing	
Title of signatory			
Email address of signatory			

WSU Contract XXXX
Exhibit A

GENERAL TERMS AND CONDITIONS FOR PERSONAL SERVICES CONTRACT

DEFINITIONS
As used throughout this CONTRACT, the following terms shall have the meaning set forth below:

A. "UNIVERSITY" shall mean Washington State University, an institution of higher education of the State of Washington, any division, section, office, unit or other entity of the UNIVERSITY, or any of the officers or other officials lawfully representing that UNIVERSITY.

B. "AGENT" shall mean the delegated individual authorized in writing to act on the UNIVERSITY'S behalf.

C. "CONTRACTOR" shall mean that firm, provider, organization, individual or other entity performing service(s) under this contract, and shall include all employees of the CONTRACTOR.

D. "SUBCONTRACTOR" shall mean one not in the employment of the CONTRACTOR, who is performing all or part of those services under this contract under a separate contract with the CONTRACTOR. The terms "SUBCONTRACTOR" and "SUBCONTRACTORS" means SUBCONTRACTOR(s) in any tier.

ACCESS TO DATA
In compliance with RCW 39.26.180, the CONTRACTOR shall provide access to data generated under this contract to UNIVERSITY, the Joint Legislative Audit and Review Committee, and the State Auditor at no additional cost. This includes access to all information that supports the findings, conclusions, and recommendations of the CONTRACTOR'S reports, including computer models and methodology for those models.

ADVANCE PAYMENTS PROHIBITED
In accordance with state law, no payments in advance of or in anticipation of goods or services to be provided under this CONTRACT shall be made by the UNIVERSITY.

AMENDMENTS
This CONTRACT may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

ASSIGNMENT
Neither this contract, nor any claim arising under this contract, shall be transferred or assigned by the CONTRACTOR without prior written consent of the UNIVERSITY.

ATTORNEYS' FEES
In the event of litigation or other action brought to enforce contract terms, each party agrees to bear its own attorney fees and costs.

CONFIDENTIALITY/SAFEGUARDING OF INFORMATION
The CONTRACTOR shall not use or disclose any information concerning the UNIVERSITY, or information that may be classified as confidential, for any purpose not directly connected with the administration of this contract, except with prior written consent of the UNIVERSITY, or as may be required by law.

CONFLICT OF INTEREST
Notwithstanding any determination by the Executive Ethics Board or other tribunal, the UNIVERSITY may, in its sole discretion, by written notice to the CONTRACTOR terminate this contract if it is found after due notice and examination by the UNIVERSITY that there is a violation of the Ethics in Public Service Act, Chapter 42.52 RCW; or any similar statute involving the CONTRACTOR in the procurement of, or performance under this contract.

In the event this contract is terminated as provided above, the UNIVERSITY shall be entitled to pursue the same remedies against the CONTRACTOR as it could pursue in the event of a breach of the contract by the CONTRACTOR. The rights and remedies of the UNIVERSITY provided for in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law. The existence of facts upon which the AGENT makes any determination under this clause shall be an issue and may be reviewed as provided in the "Disputes" clause of this contract.

COPYRIGHT PROVISIONS
Unless otherwise provided, all materials produced under this contract shall be considered "works for hire" as defined by the U.S. Copyright Act and shall be owned by the UNIVERSITY. The UNIVERSITY shall be considered the author of such materials. In the event the materials are not considered "works for hire" under the U.S. Copyright laws, CONTRACTOR hereby irrevocably assigns all right, title, and interest in materials, including all intellectual property rights, to the UNIVERSITY effective from the moment of creation of such materials.

Materials means all items in any format and includes, but is not limited to, data, reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register and the ability to transfer these rights.

For materials that are delivered under the contract, but that incorporate pre-existing materials not produced under the contract, CONTRACTOR hereby grants to the UNIVERSITY a nonexclusive, royalty-free, irrevocable license (with rights to sublicense others) in such materials to translate, reproduce, distribute, prepare derivative works, publicly perform, and publicly display. The CONTRACTOR warrants and represents that CONTRACTOR has all rights and permissions, including intellectual property rights, moral rights and rights of publicity, necessary to grant such a license to the UNIVERSITY.

The CONTRACTOR shall exert all reasonable effort to advise the UNIVERSITY, at the time of delivery of materials furnished under this contract, of all known or potential invasions of privacy contained therein and of any portion of such document that was not produced in the performance of this contract.

The UNIVERSITY shall receive prompt written notice of each notice or claim of infringement received by the CONTRACTOR with respect to any data delivered under this contract. The UNIVERSITY shall have the right to modify or remove any restrictive markings placed upon the data by the CONTRACTOR.

COVENANT AGAINST CONTINGENT FEES
The CONTRACTOR warrants that no person or selling agent has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee, excepting bona fide employees or bona fide established agents maintained by the CONTRACTOR for securing business.

The UNIVERSITY shall have the right, in the event of breach of this clause by the CONTRACTOR, to annul this contract without liability or, in its discretion, to deduct from the contract price or consideration or recover by other means the full amount of such commission, percentage, brokerage or contingent fee.

DISALLOWED COSTS
The Contractor is responsible for any audit exceptions or costs disallowed by the UNIVERSITY that are incurred by the Contractor or its Subcontractors.

DISPUTES
In the event that a dispute arises under this Contract that the parties can't resolve, they shall allow the dispute to be decided by a Dispute Panel in the following manner: each party to this Contract shall appoint one member to the Dispute Panel, and the members so appointed shall jointly appoint an additional member to the Dispute Panel. The Dispute Panel shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Panel shall be final and binding on the parties hereto. The parties shall equally share the costs, if any, for the services of the Dispute Panel.

Nothing in this contract shall be construed to limit the parties' choice of a mutually acceptable alternate dispute resolution method in addition to the dispute resolution procedure outlined above.

DUPLICATE PAYMENT
The UNIVERSITY shall not pay the CONTRACTOR, if the CONTRACTOR has charged or will charge Washington State University, the State of Washington or any other party under any other contract or agreement, for the same services or expenses.

FUNDING CONTINGENCY
In the event funding from state, federal, or other sources is withdrawn, reduced, or limited in any way after the effective date of this contract and prior to normal completion, the UNIVERSITY may terminate the contract under the "Termination for Convenience" clause, without the ten-day notice requirement, subject to renegotiation at the UNIVERSITY'S discretion under those new funding limitations and conditions.

GOVERNING LAW
This contract shall be construed and interpreted in accordance with the laws of the State of Washington, and the venue of any action brought hereunder shall be in the Superior Court for Whitman County.

INDEMNIFICATION
To the fullest extent permitted by law, CONTRACTOR shall indemnify, defend, and hold harmless Washington State University, the State of Washington, agencies of the State and all officials, agents and employees of the State, from and against all claims for injuries or death arising out of or resulting from the performance of the contract. "Claim," as used in this contract, means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorney's fees, attributable for bodily injury, sickness, disease, or death, or injury to or destruction of tangible property including loss of use resulting therefrom.

CONTRACTOR'S obligations to indemnify, defend, and hold harmless includes any claim by CONTRACTORS' agents, employees, representatives, or any subcontractor or its employees.

CONTRACTOR expressly agrees to indemnify, defend, and hold harmless Washington State University and the State of Washington for any claim arising out of or incident to CONTRACTOR'S or any subcontractor's performance or failure to perform the contract. CONTRACTOR'S obligation to indemnify, defend, and hold harmless Washington State University and the State of Washington shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials.

CONTRACTOR waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless Washington State University and the State of Washington and its agencies, officials, agents or employees.

INDEPENDENT CAPACITY OF THE CONTRACTOR
The parties intend that an independent contractor relationship will be created by this contract. The CONTRACTOR and his or her employees or agents performing under this contract are not employees or agents of the UNIVERSITY. The CONTRACTOR will not hold himself/herself out as or claim to be an officer or employee of the UNIVERSITY or of the State of Washington by reason hereof, nor will the CONTRACTOR make any claim of right, privilege or benefit that would accrue to such employee under law. Conduct and control of the work will be solely with the CONTRACTOR.

INDUSTRIAL INSURANCE COVERAGE
The CONTRACTOR shall comply with the provisions of Title 51 RCW, Industrial Insurance. If the CONTRACTOR fails to provide industrial insurance coverage or fails to pay premiums or penalties on behalf of its employees, as may be required by law, UNIVERSITY may collect from the CONTRACTOR the full amount payable to the Industrial Insurance accident fund. The UNIVERSITY may deduct the amount owed by the CONTRACTOR to the accident fund from the amount payable to the CONTRACTOR by the UNIVERSITY under this contract, and transmit the deducted amount to the Department of Labor and Industries, (L&I) Division of Insurance Services. This provision does not waive any of L&I's rights to collect from the CONTRACTOR.

LICENSING, ACCREDITATION AND REGISTRATION
The CONTRACTOR shall comply with all applicable local, state, and federal licensing, accreditation and registration requirements/standards, necessary for the performance of this contract.

LIMITATION OF AUTHORITY
Only a WSU UNIVERSITY'S personnel authorized in writing to bind UNIVERSITY (delegation to be made prior to action) shall have the express, implied, or apparent authority to alter, amend, modify, or waive any clause or condition of this contract. Any alterations, amendment, modifications, or waivers made by UNIVERSITY personnel or employees without such written authority will not be effective or binding unless also made in writing and signed by an authorized UNIVERSITY representative.

NONDISCRIMINATION
During the performance of this contract, the CONTRACTOR shall comply with all federal and state nondiscrimination laws, regulations and policies, including the AMERICANS WITH DISABILITIES ACT (ADA) OF 1990, PUBLIC LAW 101-336, also referred to as the "ADA" 28 CFR Part 35.

In the event of the CONTRACTOR'S non-compliance or refusal to comply with any nondiscrimination law, regulation, or policy, this contract may be rescinded, canceled or terminated in whole or in part, and the CONTRACTOR may be declared ineligible for further contracts with the UNIVERSITY. The CONTRACTOR shall, however, be given a reasonable time in which to cure this noncompliance. Any dispute may be resolved in accordance with the "Disputes" procedure set forth herein.

PRIVACY
Personal information including, but not limited to, "Protected Health Information," collected, used, or acquired in connection with this contract shall be protected against unauthorized use, disclosure, modification or loss. CONTRACTOR shall ensure its directors, officers, employees, subcontractors or agents use personal information solely for the purposes of accomplishing the services set forth herein. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the UNIVERSITY or as otherwise required by law.

Any breach of this provision may result in termination of the contract and the demand for return of all personal information. The CONTRACTOR agrees to indemnify and hold harmless the UNIVERSITY for any damages related to the CONTRACTOR'S unauthorized use of personal information.

PUBLICITY
The CONTRACTOR agrees to submit to the UNIVERSITY all advertising and publicity matters relating to this contract wherein the UNIVERSITY'S name is mentioned or language used from which the connection of the UNIVERSITY'S name may, in the UNIVERSITY'S judgment, be inferred or implied. The CONTRACTOR agrees not to publish or use such advertising and publicity matters without the prior written consent of the UNIVERSITY.

RECORDS MAINTENANCE
The CONTRACTOR shall maintain books, records, documents, data and other evidence relating to this contract and performance of the services described herein, including but not limited to accounting procedures and practices that sufficiently and properly reflect all direct and indirect costs of any nature expended in the performance of this contract.

CONTRACTOR shall retain such records for a period of six years following the date of final payment. At no additional cost, these records, including materials generated under the contract, shall be subject at all reasonable times to inspection, review or audit by the UNIVERSITY, personnel duly authorized by the UNIVERSITY, the Office of the State Auditor, and federal and state officials so authorized by law, regulation or agreement.

If any litigation, claim or audit is started before the expiration of the six (6) year period, the records shall be retained until all litigation, claims, or audit findings involving the records have been resolved.

REGISTRATION WITH DEPARTMENT OF REVENUE
If required to do so by law, the CONTRACTOR shall complete registration with the Washington State Department of Revenue and be responsible for payment of all taxes due on payments made under this contract.

RIGHT OF INSPECTION
The CONTRACTOR shall provide right of access to its facilities to the UNIVERSITY, or any of its officers, or to any other authorized agent or official of the state of Washington or the federal government, at all reasonable times, in order to monitor and evaluate performance, compliance, and/or quality assurance under this contract.

SEVERABILITY
The provisions of this contract are intended to be severable. If any term or provision is illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of the contract.

SITE SECURITY
While on UNIVERSITY premises, CONTRACTOR, its agents, employees, or subcontractors shall conform in all respects with UNIVERSITY'S physical, fire or other security policies or regulations.

SUBCONTRACTING
Neither the CONTRACTOR nor any approved SUBCONTRACTOR shall enter into subcontracts for any of the work contemplated under this Contract without obtaining prior written approval of the UNIVERSITY. In no event shall the existence of the subcontract operate to release or reduce the liability of the CONTRACTOR to the UNIVERSITY for any breach in the performance of the CONTRACTOR's duties. This clause does not include contracts of employment between the contractor and personnel assigned to work under this contract.

Additionally, the CONTRACTOR is responsible for ensuring that all terms, conditions, assurances and certifications set forth in this CONTRACT are carried forward to any subcontracts. CONTRACTOR and its subcontractors agree not to release, divulge, publish, transfer, sell or otherwise make known to unauthorized persons personal information without the express written consent of the UNIVERSITY or as provided by law.

TAXES
All payments accrued because of payroll taxes, unemployment contributions, any other related taxes, insurance or other expenses for the CONTRACTOR or its staff shall be the sole responsibility of the CONTRACTOR.

TERMINATION FOR CAUSE
In the event the UNIVERSITY determines the CONTRACTOR has failed to comply with the conditions of this contract in a timely manner, the UNIVERSITY has the right to suspend or terminate this contract. Before suspending or terminating the contract, the UNIVERSITY shall notify the CONTRACTOR in writing of the need to take corrective action. If corrective action is not taken within 30 calendar days of date of notice, the contract may be terminated or suspended.

In the event of termination or suspension, the CONTRACTOR shall be liable for damages as authorized by law including, but not limited to, any cost difference between the original contract and the replacement or cover contract and all administrative costs directly related to the replacement contract, e.g., cost of the competitive bidding, mailing, advertising and staff time.

The UNIVERSITY reserves the right to suspend all or part of the contract, withhold further payments, or prohibit the CONTRACTOR from incurring additional obligations of funds during investigation of the alleged compliance breach and pending corrective action by the CONTRACTOR or a decision by the UNIVERSITY to terminate the contract. A termination shall be deemed a "Termination for Convenience" if it is determined that the CONTRACTOR: (1) was not in default; or (2) failure to perform was outside of his or her control, fault or negligence.

The rights and remedies of the UNIVERSITY provided in this contract are not exclusive and are, in addition to any other rights and remedies, provided by law.

TERMINATION FOR CONVENIENCE
Except as otherwise provided in this Contract, the UNIVERSITY may, by 30 calendar days written notice terminate this Contract, in whole or in part. If this Contract is so terminated, the UNIVERSITY shall be liable only for payment required under the terms of this contract for services rendered or goods delivered prior to the effective date of termination.

TERMINATION PROCEDURES
Upon termination of this CONTRACT, the UNIVERSITY, in addition to any other rights provided in this CONTRACT, may require the CONTRACTOR to deliver to the UNIVERSITY any property specifically produced or acquired for the performance of such part of this contract as has been terminated. The provisions of the "Treatment of Assets" clause shall apply in such property transfer.

The UNIVERSITY shall pay to the CONTRACTOR the agreed upon price, if separately stated, for completed work and services accepted by the UNIVERSITY, and the amount agreed upon by the CONTRACTOR and the UNIVERSITY for (i) completed work and services for which no separate price is stated, (ii) partially completed work and services, (iii) other property or services that are accepted by the UNIVERSITY, and (iv) the protection and preservation of property, unless the termination is for default, in which case the AGENT shall determine the extent of the liability of the UNIVERSITY. Failure to agree with such determination shall be a dispute within the meaning of the "Disputes" clause of this contract. The UNIVERSITY may, in good faith, withhold from any amounts due the CONTRACTOR such sum as the AGENT determines to be necessary to protect the UNIVERSITY against potential loss or liability.

The rights and remedies of the UNIVERSITY provided in this section shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Contract.

After receipt of a notice of termination, and except as otherwise directed by the UNIVERSITY, the CONTRACTOR shall:

1. Stop work under the contract on the date, and to the extent specified, in the notice;
2. Place no further orders or subcontracts for materials, services, or facilities except as may be necessary for completion of such portion of the work under the contract that is not terminated;
3. Assign to the UNIVERSITY, in the manner, at the times, and to the extent directed by the UNIVERSITY, all of the rights, title, and interest of the CONTRACTOR under the orders and subcontracts so terminated, in which case the UNIVERSITY has the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
4. Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the UNIVERSITY to the extent UNIVERSITY may require, which approval or ratification shall be final for all the purposes of this clause;
5. Transfer title to the UNIVERSITY and deliver in the manner, at the times, and to the extent directed by the UNIVERSITY any property which, if the contract had been completed, would have been required to be furnished to the UNIVERSITY;
6. Complete performance of such part of the work as shall not have been terminated by the UNIVERSITY; and
7. Take such action as may be necessary, or as the UNIVERSITY may direct, for the protection and preservation of the property related to this contract, which is in the possession of the CONTRACTOR and in which the UNIVERSITY has or may acquire an interest.

TREATMENT OF ASSETS

A. Title to all property furnished by the UNIVERSITY shall remain in the UNIVERSITY. Title to all property furnished by the CONTRACTOR, for the cost of which the CONTRACTOR is entitled to be reimbursed as a direct item of cost under this contract, shall pass to and vest in the UNIVERSITY upon delivery of such property by the CONTRACTOR. Title to other property, the cost of which is reimbursable to the CONTRACTOR under this contract, shall pass to and vest in the UNIVERSITY upon (i) issuance for use of such property in the performance of this contract, or (ii) commencement of use of such property in the performance of this contract, or (iii) reimbursement of the cost thereof by the UNIVERSITY in whole or in part, whichever first occurs.

B. Any property of the UNIVERSITY furnished to the CONTRACTOR shall, unless otherwise provided herein or approved by the UNIVERSITY, be used only for the performance of this contract.

C. The CONTRACTOR shall be responsible for any loss or damage to property of the UNIVERSITY that results from the negligence of the CONTRACTOR or which results from the failure on the part of the CONTRACTOR to maintain and administer that property in accordance with sound management practices.

D. If any UNIVERSITY property is lost, destroyed or damaged, the CONTRACTOR shall immediately notify the UNIVERSITY and shall take all reasonable steps to protect the property from further damage.

E. The CONTRACTOR shall surrender to the UNIVERSITY all property of the UNIVERSITY prior to settlement upon completion, termination or cancellation of this contract

F. All reference to the CONTRACTOR under this clause shall also include CONTRACTOR'S employees, agents or SUBCONTRACTORS.

WAIVER

Waiver of any default or breach shall not be deemed a waiver of any subsequent default or breach. Any waiver shall not be construed to be a modification of the terms of this contract unless stated to be such in writing and signed by authorized representative of the UNIVERSITY.

CONTRACT TERMS AND CONDITIONS FOR FEDERAL GRANT FUNDED PURCHASES

The WASHINGTON STATE UNIVERSITY by and through its Board of Regents has entered into an agreement with the United States of America. This Contract is entered into with the Contractor in furtherance of the performance of the work required by that agreement. When interpreting applicable provisions of 2 CFR Part 200 and its appendices, "Federal Agency" or "Federal Awarding Agency" shall refer to the agency of the United States Government from whom the Washington State University ("WSU") has received grant funds to be expended under this Contract, "Non-Federal Entity" shall refer to the Washington State University, "Contractor" shall refer to the contractor with whom the Washington State University has entered into this contract and "Contract" shall refer to this contract between the Washington State University and Contractor.

By accepting this order or by entering into this Contract, a Contract between the Washington State University and the Contractor is formed. Contractor agrees to furnish the subject matter required by this order or Contract and agrees to all terms and conditions included by Washington State University, including the terms and conditions specified below. Any other applicable provisions of 2 CFR Part 200 are hereby incorporated by reference and shall have full force and effect.

1. **Breach, Default, Termination:** The Washington State University reserves the right to pursue all available legal, administrative, contractual or equitable remedies in the event of Contractor's breach of contract or violation of any term of this contract. The Washington State University shall have the right to terminate this contract for cause, and shall retain all rights and remedies against Contractor. The Washington State University shall also have the right to terminate this Contract for convenience upon thirty (30) days' notice to Contractor. Breach and/or Termination of this Contract shall be addressed in the manner prescribed in the WSU Standards Terms and Conditions.

2. **Equal Employment Opportunity:** Except as otherwise provided in 41 CFR Part 60, all "federally assisted construction contracts," as defined in 41 CFR Part 60-1.3 are subject to the Equal Opportunity clause contained in 41 CFR 60-1.4(b), incorporated by reference. Furthermore, the Equal Opportunity clause contained in 41 CFR 60-1.4(b) applies to all nonexempt subcontracts entered into by Contractor under this Contract, and Contractor agrees to include the Equal Opportunity clause contained in 41 CFR 60-1.4(b) in all nonexempt subcontracts.

3. **Davis-Bacon Act, as amended (40 U.S.C. 3141-3148):** Where applicable, all prime construction contracts in excess of $2,000 shall comply with the Davis-Bacon Act (40 U.S.C. 3141-3144, and 3146-3148) as supplemented by Department of Labor regulations (29 CFR Part 5, "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). In accordance with the Davis-Bacon Act, contractors must pay wages to laborers and mechanics at a rate not less than prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must pay wages not less than once per week. If the Davis-Bacon Act applies to this Contract award of this Contract is conditioned upon the acceptance of the wage determination. The Washington State University will report all suspected or reported violations of the Davis-Bacon Act to the Federal Awarding Agency.

4. **Copeland "Anti-Kickback" Act (40 U.S.C. 3145):** Where applicable, all prime construction contracts over $2,000 are subject to the Copeland "Anti-Kickback" Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, "**Contractors** and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States"). The Washington State University will report all suspected or reported violations to the Federal Awarding Agency. The Act provides that each contractor or subrecipient shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he is otherwise entitled. The recipient shall report all suspected or reported violations to the Federal awarding agency.

5. **Contract Work Hours and Safety Standards Act (40 U.S.C. 3701-3708):** Where applicable, all contracts over $100,000 which will involve the use of mechanics or laborers shall comply with 40 U.S.C. 3702 and 3704, as supplemented by Department of Labor regulations (29 CFR Part 5). Under 40 U.S.C. 3702 of the Act, each Contractor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of 40 U.S.C. 3704 apply to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

6. **Rights to Inventions Made Under a Contract or Agreement:** For Contracts awarded by the Washington State University under a "funding agreement," as defined in 37 CFR 401.2(a) between a Federal Awarding Agency and the Washington State University, if the Washington State University or Contractor wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under the "funding agreement," the Washington State University or Contractor must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

7. **Clean Air Act (42 U.S.C. 7401-7671q):** For Contracts and subgrants over $150,000, the Washington State University and Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q). The Washington State University shall report violations to the Federal Awarding Agency and the Regional Office of the Environmental Protection Agency (EPA).

8. **Federal Water Pollution Control Act (33 U.S.C. 1251-1387), as amended:** For Contracts and subgrants over $150,000, the Washington State University and Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act as amended (33 U.S.C. 1251-1387). The Washington State University shall report violations to the Federal Awarding Agency and the Regional Office of the Environmental Protection Agency (EPA).

9. **Energy Policy and Conservation Act (42 U.S.C. 6201):** The Contractor shall comply with all mandatory standards and policies relating to energy efficiency contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201).

10. **Debarment and Suspension (Executive Orders** 12549 **and 12689):** The Washington State University's award of this Contract is conditioned upon the Contractor's current and continued eligibility. Contractor is eligible unless Contractor is listed on the government-wide Excluded Parties List System in the System for Award Management (SAM), in accordance with the OMB guidelines at 2 CFR 180 that implement Executive Orders 12549 (3 CFR Part 1986 Comp., p. 189) and 12689 (3 CFR Part 1989 Comp., p. 235), "Debarment and Suspension." The Excluded Parties List System in SAM contains the names of parties debarred, suspended, or otherwise excluded by agencies, as well as parties declared ineligible under statutory or regulatory authority other than Executive Order 12549. If a contractor is listed on the Excluded Parties List System in SAM, Contractor shall have the obligation to promptly inform a Washington State University contract manager, and this Contract shall be immediately terminated without liability on the part of the Washington State University or the Federal Awarding Agency.

11. **Byrd Anti-Lobbying Amendment (31 U.S.C. 1352):** For Contracts over $150,000, Contractor warrants it filed the required certification prior to Contract award and payment. Contractor certifies that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Contractor shall require such certification and disclosure from any subcontractors used. Any further subcontractors must certify and disclose to the subcontractor awarding the subcontract. Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures under this Contract shall be forwarded up from tier to tier up to the Washington State University.

12. **Solid Waste Disposal Act (42 USC 6901-6992k):** Contractor must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, where the purchase price of the item exceeds $10,000 or the value of the quantity acquired by the preceding fiscal year exceeded $10,000; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

December 4, 2019

RE: TRANSLATION SERVICES ESTIMATES

We will be translating the survey tools from English into Swahili and vernacular tribal languages. Translation services will be sourced in Arusha town and are estimated at;

$800 Year 1;

$872 Year 4.

$1,672 total

Sincerely Yours,



Godfrey A. Kassanga
Administrative Manager/Finance and Operations

Global Animal Health Tanzania.

COLLEGES AND UNIVERSITIES RATE AGREEMENT

EIN:

ORGANIZATION:

Washington State University
French Admin. Bldg., Rm. 240Q
P.O. Box 641025
Pullman, WA 99164-1025

DATE:12/09/2015

FILING REF.: The preceding agreement was dated 07/08/2014

The rates approved in this agreement are for use on grants, contracts and other agreements with the Federal Government, subject to the conditions in Section III.

SECTION I: INDIRECT COST RATES

RATE TYPES: FIXED FINAL PROV. (PROVISIONAL) PRED. (PREDETERMINED)

EFFECTIVE PERIOD

TYPE	FROM	TO	RATE (%)	LOCATION	APPLICABLE TO
PRED.	07/01/2015	06/30/2016	51.00	On-Campus	Organized Research
PRED.	07/01/2016	06/30/2017	52.00	On-Campus	Organized Research
PRED.	07/01/2017	06/30/2019	53.00	On-Campus	Organized Research
PRED.	07/01/2015	06/30/2019	(b)(4)		
PRED.	07/01/2015	06/30/2019	57.50	On-Campus	Instruction
PRED.	07/01/2015	06/30/2019	26.00	Off-Campus	Instruction
PRED.	07/01/2015	06/30/2019	36.00	On-Campus	Other Sponsored Activities
PRED.	07/01/2015	06/30/2019	(b)(4)		
PROV.	07/01/2019	Until Amended	Use same rates and conditions as those cited for fiscal year ending June 30, 2019.		

*BASE

Modified total direct costs, consisting of all salaries and wages, fringe benefits, materials, supplies, services, travel and subgrants and subcontracts up to the first $25,000 of each subgrant or subcontract (regardless of the period covered by the subgrant or subcontract). Modified total direct costs shall exclude equipment, capital expenditures, charges for patient care, student tuition remission, rental costs of off-site facilities, scholarships, and fellowships as well as the portion of each subgrant and subcontract in excess of $25,000.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION I: FRINGE BENEFIT RATES**

TYPE	FROM	TO	RATE(%)	LOCATION	APPLICABLE TO
FIXED	7/1/2015	6/30/2016	33.60	CEEO (1)	Admin/Prof Employees, Faculty
FIXED	7/1/2015	6/30/2016	35.00	CEEO (1)	Classified Employees

** DESCRIPTION OF FRINGE BENEFITS RATE BASE:

Salaries and wages excluding vacation, holiday, sick leave pay and other paid absences, and direct charged fringe benefits.

(1) Cooperative Extension Energy Office

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION II: SPECIAL REMARKS

TREATMENT OF FRINGE BENEFITS:

Except for CEEO employees (Admin/Prof/Faculty and Classified Categories only), this organization charges the actual cost of each fringe benefit direct to Federal projects. However, it uses a fringe benefit rate which is applied to salaries and wages in budgeting fringe benefit costs under project proposals.

The following fringe benefits are treated as direct costs:
SOCIAL SECURITY, WORKERS COMPENSATION, HEALTH/LIFE/DISABILITY INSURANCE, UNEMPLOYMENT COMPENSATION, RETIREMENT (TIAA/CREF, PERS), AND QUALIFIED STUDENT TUITION REDUCTION (TUITION REMISSION).

For CEEO employees (Admin/Prof/Faculty and Classified Categories only), this organization uses a fringe benefit rate which is applied to salaries for budgeting and charging purposes for Federal projects. The following fringe benefits are included in CEEO fringe benefit rate: PAID ABSENCES

The following fringe benefits are treated as direct costs:
SOCIAL SECURITY, WORKERS COMPENSATION, HEALTH/LIFE/DISABILITY INSURANCE, UNEMPLOYMENT COMPENSATION, RETIREMENT (TIAA/CREF, PERS).

TREATMENT OF PAID ABSENCES:

Except for CEEO employees (Admin/Prof/Faculty and Classified Categories only), vacation, holiday, sick leave pay and other paid absences are included in salaries and wages and are charged to Federal projects as part of the normal charge for salaries and wages. Separate charges for the cost of these absences are not made.

For CEEO (Admin/Prof/Faculty and Classified Categories only), the cost of vacation, holiday, sick leave pay, and other paid absences are included in a fringe benefit rate and are not included in direct charges for salaries. Charges for salaries must exclude those paid to CEEO employees (Admin/Prof/Faculty and Classified Categories only) for periods when they are on vacation, holiday, or sick leave, or are otherwise absent from work.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

DEFINITION OF OFF-CAMPUS:

A project is considered off-campus if the activity is conducted at locations other than in University owned or operated facilities and indirect costs associated with physical plant and library are not considered applicable to the project.

DEFINITION OF EQUIPMENT:
Equipment is defined as tangible nonexpendable personal property having a useful life of more than one year and an acquisition cost of $5,000 or more per unit.

NEXT PROPOSALS DUE DATES:
Your next Facilities & Administrative proposal based on fiscal year ending 06/30/2018 is due in our office by 12/31/2018, and your next fringe benefits proposal based on your fiscal year ending 6/30/2015 is due in our office by 12/31/2015.

ORGANIZATION: Washington State University
AGREEMENT DATE: 12/9/2015

SECTION III: GENERAL

A. LIMITATIONS:

The rates in this Agreement are subject to any statutory or administrative limitations and apply to a given grant, contract or other agreement only to the extent that funds are available. Acceptance of the rates is subject to the following conditions: (1) Only costs incurred by the organization were included in its facilities and administrative cost pools as finally accepted: such costs are legal obligations of the organization and are allowable under the governing cost principles; (2) The same costs that have been treated as facilities and administrative costs are not claimed as direct costs; (3) Similar types of costs have been accorded consistent accounting treatment; and (4) The information provided by the organization which was used to establish the rates is not later found to be materially incomplete or inaccurate by the Federal Government. In such situations the rate(s) would be subject to renegotiation at the discretion of the Federal Government.

B. ACCOUNTING CHANGES:

This Agreement is based on the accounting system purported by the organization to be in effect during the Agreement period. Changes to the method of accounting for costs which affect the amount of reimbursement resulting from the use of this Agreement require prior approval of the authorized representative of the cognizant agency. Such changes include, but are not limited to, changes in the charging of a particular type of cost from facilities and administrative to direct. Failure to obtain approval may result in cost disallowances.

C. FIXED RATES:

If a fixed rate is in this Agreement, it is based on an estimate of the costs for the period covered by the rate. When the actual costs for this period are determined, an adjustment will be made to a rate of a future year(s) to compensate for the difference between the costs used to establish the fixed rate and actual costs.

D. USE BY OTHER FEDERAL AGENCIES:

The rates in this Agreement were approved in accordance with the authority in Title 2 of the Code of Federal Regulations, Part 200 (2 CFR 200), and should be applied to grants, contracts and other agreements covered by 2 CFR 200, subject to any limitations in A above. The organization may provide copies of the Agreement to other Federal Agencies to give them early notification of the Agreement.

E. OTHER:

If any Federal contract, grant or other agreement is reimbursing facilities and administrative costs by a means other than the approved rate(s) in this Agreement, the organization should (1) credit such costs to the affected programs, and (2) apply the approved rate(s) to the appropriate base to identify the proper amount of facilities and administrative costs allocable to these programs.

BY THE INSTITUTION:	ON BEHALF OF THE FEDERAL GOVERNMENT:
Washington State University	DEPARTMENT OF HEALTH AND HUMAN SERVICES
(INSTITUTION)	(AGENCY)
Matthew A. Skinner	Arif M. Karim -S (Digitally signed by Arif M. Karim -S, DN: c=US, o=U.S. Government, ou=HHS, ou=PSC, ou=People, cn=Arif M. Karim -S, 0.9.2342.19200300.100.1.1=17000217195, Date: 2016.01.06 11:51:36 -04'00')
(SIGNATURE)	(SIGNATURE)
MATTHEW A. SKINNER	Arif Karim
(NAME)	(NAME)
ASSOC. VICE PRESIDENT OF FINANCE	Director, Cost Allocation Services
(TITLE)	(TITLE)
JANUARY 6, 2016	12/9/2015
(DATE)	(DATE) 2144

HHS REPRESENTATIVE: Helen Fung

Telephone: (415) 437-7820

WASHINGTON STATE UNIVERSITY
FACILITIES AND ADMINISTRATIVE COST PROPOSAL
FYE JULY 1, 2015
TO FYE JUNE 30, 2019

EXHIBIT A

	ORGANIZED RESEARCH								
	JULY 1, 2015 THROUGH JUNE 30, 2016			JULY 1, 2016 THROUGH JUNE 30, 2017			JULY 1, 2017 THROUGH JUNE 30, 2019		
		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS
BUILDING		5.3%			7.1%			7.3%	
EQUIPMENT		2.7%			2.6%			2.8%	
OPERATIONS & MAINTENANCE		15.3%			12.8%			12.9%	
INTEREST		0.3%			2.2%			2.5%	
LIBRARY		1.4%			0.6%			0.8%	
UTILITY COST ADJUSTMENT					0.7%			0.7%	
GENERAL ADMINISTRATION	8.5%			9.2%			9.2%		
DEPARTMENT ADMINISTRATION	14.6%			14.2%			14.2%		
SPONSORED PROJECTS ADMINISTRATION	2.9%			2.6%			2.6%		
STUDENT SERVICES ADMINISTRATION									
ADMINISTRATION COMPONENTS	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%
TOTAL		51.0%	26.0%		52.0%	26.0%		53.0%	26.0%

	INSTRUCTION & DEPARTMENT RESEARCH			OTHER SPONSORED ACTIVITIES		
	JULY 1, 2015 THROUGH JUNE 30, 2019			JULY 1, 2015 THROUGH JUNE 30, 2019		
		ON-CAMPUS	OFF-CAMPUS		ON-CAMPUS	OFF-CAMPUS
BUILDING		10.5%			2.5%	
EQUIPMENT		1.5%			0.5%	
OPERATIONS & MAINTENANCE		11.5%			5.5%	
INTEREST		1.5%			0.5%	
LIBRARY		6.5%			1.0%	
GENERAL ADMINISTRATION	7.4%			9.4%		
DEPARTMENT ADMINISTRATION	11.2%			13.9%		
SPONSORED PROJECTS ADMINISTRATION	0.4%			2.7%		
STUDENT SERVICES ADMINISTRATION	7.0%					
ADMINISTRATION COMPONENTS	26.0%	26.0%	26.0%	26.0%	26.0%	26.0%
TOTAL		57.5%	26.0%		36.0%	26.0%

ADMINISTRATIVE COMPONENTS ARE CAPPED AT 26.0% IN ACCORDANCE WITH OMB A-21, DATED JULY 26, 1993.

CONCUR:

Matthew A. Skinner
(SIGNATURE)

ASSOC. VICE PRESIDENT OF FINANCE
TITLE

JANUARY 6, 2016
DATE

WSU budget documentation

WSU budget documentation

Expedia

List your property Hello, Sara My Lists 4 My Trips Support Español 简体中文

Flights Hotels Bundle and Save Cars Cruises Things to Do Vacation Rentals Deals

Rewards Mobile

Review your trip

Trip Summary

Trip Summary

Trip Total: **$964.60**

Rates are quoted in US dollars

71052 customers protected their flight in the last 7 days. Add flight protection when you check out.

Nice Job! You picked one of our cheapest flights.
Book now so you don't miss out on this price!

Sun, Feb 2 From **Heathrow (LHR)** To **Kilimanjaro Intl. (JRO)**

Kenya Airways **Cheapest**

5:25pm	→	9:30am	13h 5m, 1 stop
LHR		JRO	NBO
			Arrives Mon, Feb 3

Show flight and baggage fee details

Sat, Feb 8 From **Kilimanjaro Intl. (JRO)** To **Heathrow (LHR)**

Kenya Airways **Cheapest**

9:35pm	→	10:45am	16h 10m, 2 stops
JRO		LHR	DAR, AMS
			Arrives Sun, Feb 9

Show flight and baggage fee details

WSU budget documentation

Unlock up to 42% off select hotels when you book this flight
Your discount lasts until your trip starts

Continue Booking

71052 customers protected their flight in the last 7 days. Add flight protection when you check out.

Free Cancellation within 24 hours of booking!

Add your property to Expedia

Get the Expedia App - text yourself a link

Enter your phone number

Or scan the QR code!

Send

Up to 30% hotel discounts for app users

Access real customer reviews

Helpful in-trip updates

By providing your number, you agree to receive a one-time automated text message with a link to get the app. Our app offers promotions and booking services. No purchase necessary. Standard text message rates may apply.

Explore More

Expedia
About Expedia Jobs Investor Relations Advertising Newsroom
About Our Ads Privacy Policy Terms of Use Site Map Accessibility
Support

Expedia Rewards
Expedia Rewards Redeem Your Points Use Partner Points
VIP Access Hotels Expedia Rewards Credit Cards

Expedia Links
Low Cost Flights Rental Car Finder Expedia Rewards Travel Blog
New Hotels Accommodations

Expedia Sitemaps

The Rickshaw Travels Ltd.
Plot No 1006, Buzwagi Street, Msasani Peninsula, Dar es Salaam, Tanzania
Tel: +255 22 2602 303/304/305/610/612/613 |
Email: accounts@rickshawtravels.com
TIN 100 153 572 | VRN 100 006147 J

PROFORMA INVOICE

To:
******Cash Sales**

Dar Es Salaam, Tanzania

Proforma#: TZ1909-2493/TS
Date: 25/09/2019
Currency: USD.

Service	Description	Amount
AIR TICKET	Passenger Name: FELIX LANKESTER AIR EXCEL 11-Oct-19 041 Seronera 11:05 Arusha 12:10	241.00
Amount in Words (USD.): Two Hundred Forty One And Forty One Cents Only	Total Amount (USD.)	**241.00**
Amount in Words (TZS): Five Hundred Fifty Nine Thousand One Hundred Twenty And Twenty Cents Only	Total Amount (TZS.)	**559,120.00**

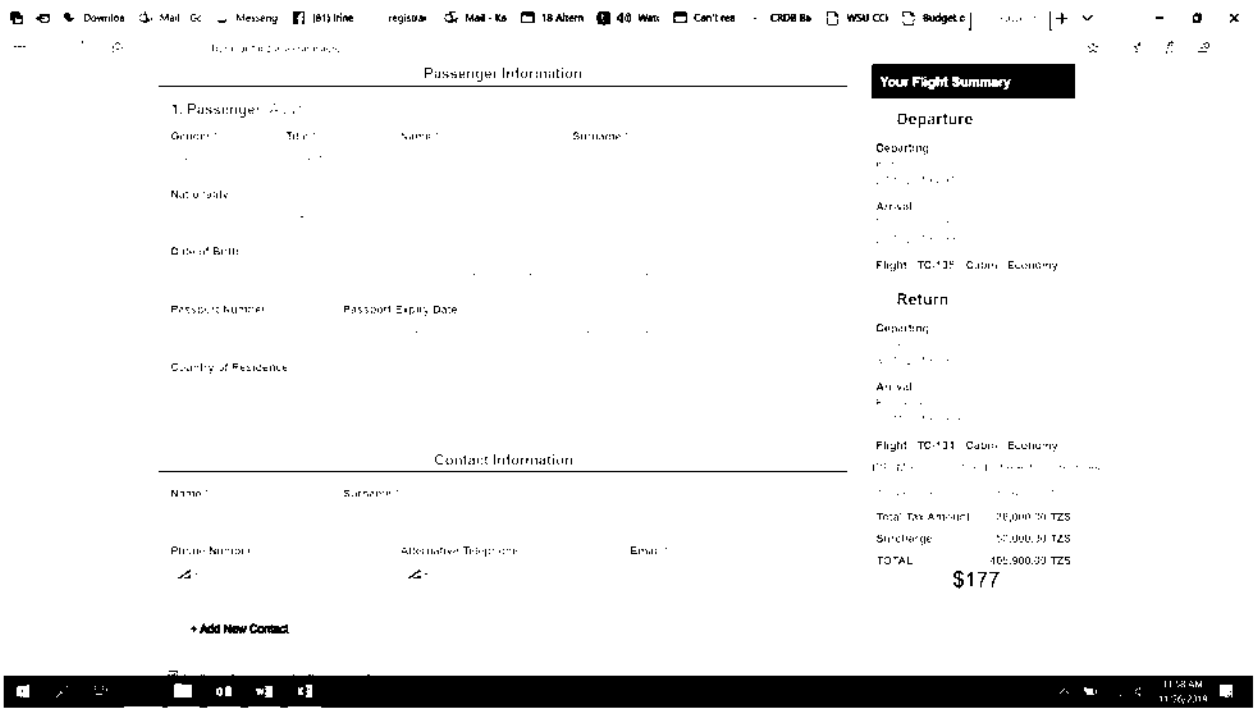
For Rickshaw Travels Ltd.

Account Name: The Rickshaw Travels Ltd

Bank of Africa Tanzania Ltd
P.O.Box 3054, Dar es Salaam, Tanzania
Account Number **10200127005** (USD) | **10200127013** (TZS)
Swift Code: **E U A F T Z T Z**

Diamond Trust Bank (T) Ltd
P.O Box 115, Dar Es Salaam, Tanzania
Account Number: **0172640002** (USD) | **017264001** (TSH)
Swift Code: **D T K E T Z T Z**

**This is a computer generated document and no signature is required.*



Passenger Information

1. Passenger

Gender * Title * Name * Surname *

Nationality

Date of Birth

Passport Number Passport Expiry Date

Country of Residence

Contact Information

Name * Surname *

Phone Number Alternative Telephone Email *

+ Add New Contact

Your Flight Summary

Departure

Departing

Arrival

Flight TC 125 Cabin Economy

Return

Departing

Arrival

Flight TC 131 Cabin Economy

Total Tax Amount 28,000.00 TZS

Surcharge 57,900.00 TZS

TOTAL 165,900.00 TZS

$177

Trip Summary

Trip Summary ⌄

Trip Total: **$315.25**

Only 7 tickets left at this price!

Rates are quoted in US dollars

50093 customers protected their flight in the last 7 days. Add flight protection when you check out.

✔ **Nice Job! You picked one of our cheapest flights.**
Book now so you don't miss out on this price!

Sun, Feb 9

From Heathrow (LHR)
To Roissy-Charles de Gaulle (CDG)

Alitalia — Cheapest

4:55pm	→	11:30pm	5h 35m, 1 stop
LHR		CDG	FCO

Fare Rules and Restrictions:

- Pay to choose your seat
- Bring a carry-on bag

Show flight and baggage fee details ⌄

Sat, Feb 15

From Roissy-Charles de Gaulle (CDG)
To Heathrow (LHR)

Air France — Cheapest

4:10pm	→	4:35pm	1h 25m, Nonstop
CDG		LHR	

Fare Rules and Restrictions:

- Pay to choose your seat
- Bring a carry-on bag

Show flight and baggage fee details ⌄

‹ Change flights

Upgrade your flight

Get more comforts and benefits by adding an upgrade.



Heathrow (LHR) → Roissy-Charles de Gaulle (CDG)
5h 35m

- Relax while packing! Get free bags
- Enjoy more flexibility with free cancellation
- Choose seats at no extra charge

Show upgrades ⌃

from
+ $58.61
for all travelers

U.S. DEPARTMENT of STATE
BUREAU of ADMINISTRATION

Foreign Per Diem Rates In U.S. Dollars
DSSR 925

Country: TANZANIA
Publication Date: 11/01/2019

Country Name	Post Name	Season Begin	Season End	Maximum Lodging Rate	M & IE Rate	Maximum Per Diem Rate	Footnote	Effective Date
TANZANIA	Arusha	01/01	12/31	143	91	234	View	06/01/2019
TANZANIA	Dar Es Salaam	01/01	12/31	207	106	313	View	06/01/2019
TANZANIA	Dodoma	01/01	12/31	112	60	172	N/A	06/01/2019
TANZANIA	Morogoro	01/01	12/31	137	60	197	View	06/01/2014
TANZANIA	Other	01/01	12/31	110	47	157	View	06/01/2014
TANZANIA	Zanzibar	01/01	12/31	187	106	293	View	06/01/2019

Can you please send it again and I will confirm as soon as I receive it.

-----Original Message-----
From: Dr. Melinda Rostal <rostal@ecohealthalliance.org <mailto:rostal@ecohealthalliance.org> >
Sent: Monday, December 16, 2019 2:19 PM
To: (b)(6)
<mailto:
(b)(6)
Cc: Aleksei Chmura <chmura@ecohealthalliance.org <mailto:chmura@ecohealthalliance.org> >; Joe Riccardi <riccardi@ecohealthalliance.org <mailto:riccardi@ecohealthalliance.org> >; Amanda Andre <amanda.andre@ecohealthalliance.org <mailto:amanda.andre@ecohealthalliance.org> >; Whitney Bagge <bagge@ecohealthalliance.org <mailto:bagge@ecohealthalliance.org> >
Subject: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(6)

I just wanted to confirm that you had received the documentation that I sent to you on December 5.

Kind regards,
Mindy

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> <
Caution-http://www.ecohealthalliance.org/ >

Visit our blog: Caution-www.ecohealthalliance.org/blog <http://Caution-www.ecohealthalliance.org/blog> <
Caution-http://www.ecohealthalliance.org/blog >

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 5, 2019, at 10:50 PM, Dr. Melinda Rostal <rostal@ecohealthalliance.org
<mailto:rostal@ecohealthalliance.org> < Caution-mailto:rostal@ecohealthalliance.org > > wrote:

Dear (b)(6)

Please find attached the documentation requested for our FRBAA14-6-2-0356 cost proposal. We have responded to the clarification questions and indicated both the document and page number where the full documentation/justification may be viewed. For each partner we have provided two files:

(a) a PDF document of our updated justification using tracked changes according the the current costs for all items based on the documentation
(b) a PDF of the documentation that was requested on the clarification sheet

We have also included an Excel spreadsheet that includes our calculations for all costs and all partners corresponding to our updated justifications and documentation. Necessarily and following the documentation now provided, various costs have changed since our initial submission in April 2018 and our budget has been updated accordingly. Therefore, our overall budget request has also increased to $4,995,106.37 with annual amounts as follows.

Y1: $999,888.16
Y2: $997,047.51
Y3: $999,782.70
OY1: $998,704.80
OY2: $999,683.19.

Please email anytime or contact me directly at +1.651.308.5498 with any questions about our documentation, cost proposal, or other details.

Best,

Mindy

<FRBAA14-6-2-0356_Clarifications.xlsx>
<FRBAA14-6-2-0356 Detailed Budget.xlsx>
<01 - FRBAA14-6-2-0356 - EHA Budget Justification.pdf>
<01 - FRBAA14-6-2-0356 - EHA Documentation.pdf>
<02 - FRBAA14-6-2-0356 - KCRI _Budget Justification.pdf>
<02 - FRBAA14-6-2-0356 - KCRI Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO_Budget Justification.pdf>
<04 - FRBAA14-6-2-0356 - PHE Documentation.pdf>
<04 - FRBAA14-6-2-0356 - PHE_Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Documentation.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Budget Justification.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Documentation.pdf>
<07 - FRBAA14-6-2-0356 - UoG Budget Justification.pdf>
<07 - FRBAA14-6-2-0356 - UoG Documentation.pdf>
<08 - FRBAA14-6-2-0356 - WSU Budget Justification.pdf>
<08 - FRBAA14-6-2-0356 - WSU Documentation.pdf>

Melinda Rostal DVM, MPH

Senior Research Scientist

PREDICT 2 Surveillance Coordinator for EcoHealth Alliance

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> <
Caution-http://www.ecohealthalliance.org/ >

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

On Oct 29, 2019, at 10:45 AM (b)(6) <mailto (b)(6) > wrote:

Good Morning,

We have reviewed your cost proposal and are requesting responses to the attached clarification questions. Please provide responses as soon as possible so that we can move forward with grant award. Please let me know if you have any questions.

V/r
(b)(6) Contractor
Contract Specialist ▪ TENICA
Defense Threat Reduction Agency (DTRA)
Office Phone: (b)(6)
Cau (b)(6)

<FRBAA14-6-2-0356_Clarifications.xlsx>

From: Dr. Melinda Rostal
To: (b)(6)
Cc: Aleksei Chmura; Joe Riccardi; Amanda Andre; Whitney Bagge; (b)(6)
Subject: Re: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions 2/3
Date: Monday, December 16, 2019 2:42:17 PM
Attachments: 01 - FRBAA14-6-2-0356 - EHA Documentation.pdf

Here is the second batch (01 EHA documentation only):

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
www.ecohealthalliance.org <http://www.ecohealthalliance.org/>

Visit our blog: www.ecohealthalliance.org/blog <http://www.ecohealthalliance.org/blog>

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 16, 2019, at 2:24 PM (b)(6) <mailto:(b)(6)> wrote:

Thanks for following up because I did not receive that email on the 5th. I have checked all my folders and nothing comes up.

Can you please send it again and I will confirm as soon as I receive it.

-----Original Message-----
From: Dr. Melinda Rostal <rostal@ecohealthalliance.org <mailto:rostal@ecohealthalliance.org> >
Sent: Monday, December 16, 2019 2:19 PM
To: (b)(6) <mailto:(b)(6)>
Cc: Aleksei Chmura <chmura@ecohealthalliance.org <mailto:chmura@ecohealthalliance.org> >; Joe Riccardi <riccardi@ecohealthalliance.org <mailto:riccardi@ecohealthalliance.org> >; Amanda Andre <amanda.andre@ecohealthalliance.org <mailto:amanda.andre@ecohealthalliance.org> >; Whitney Bagge <bagge@ecohealthalliance.org <mailto:bagge@ecohealthalliance.org> >
Subject: [Non-DoD Source] Re: FRBAA14-6-2-0356 Clarification Questions

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the

Budget Documentation for EHA Prime Budget for FRBAA14-6-2-0356
Crimean-Congo Hemorrhagic Fever: Reducing an Emerging Health Threat in Tanzania

Table of Contents

EHA Salary documentation....2
Comparison of Rental car vs purchase....3
Shipping Invoice....8
Label printer labels....9
Label printer, resin and software for printer....10
Computers, mouse and keyboard....11
Arc GIS software....14
Field Supplies and Items to Build Capacity at TVLA....16
    Field supplies....16
    Biosafety Equipment....20
    Items to build capacity at TVLA....23
Tablets and cases....26
Tomahawk Traps....27
Tattoo equipment for marking hares......30
Rodent ear tages....31
Portable anesthesia machine, carrying case and anesthetic drugs....32
Equipment....36
Documentation of HummingbirdIRB costs....49
Documentation of price of ethical clearance in Tanzania....51
Documentation of cost of conducting research in Tanzania....53
Documentation of costs associated with Y3 workshop supplies....57
Documentation of Open Access journal publication fees....60
Documentation of Software fees....61
Fringe Benefit Policy....65
Negotiated Indirect Rate....67
Documentation of example of domestic conference registration rate (APHA)....69
Documentation of example of domestic conference flight (APHA)....70
Documentation of example of international conference registration rate (ICEID)....71
Documentation of example of international conference flight (ICEID)....70
Documentation of Recruitment costs for Tanzanian Post-doctoral fellow....74
Documentation of hotel conference rental for the annual stakeholders' meeting and the OY2 symposium....78
Documentation of portion of Internet/Communications applied to this grant....81
Documentation of example of Internet/Communications bill....82
Documentation of server costs....84
Documentation of Consumer Price Index for NYC/Newark/Jersey City....85

EcoHealth Alliance Salaries

Paygroup: 5D7 Paygroup Name: Ecohealth Alliance Inc Report: Earnings Record Check Dates From : 07/11/2019 To: 06/30/2020

07/01/2019- 06-30-2020	Andre, Amanda	000083	Regular	55,706.00
07/01/2019- 06-30-2020	Karesh, William	100015	Regular	284,108.00
07/01/2019- 06-30-2020	Rostal, Melinda	100014	Regular	101,556.00
07/01/2019- 06-30-2020	Zambrana Torrelio, Carlos	100011	Regular	119,070.00
07/01/2019- 06-30-2020	Research Assistant TBD		Regular	58,500.00
07/01/2019- 06-30-2020	Post Doc/Field Coord TBD		Regular	65,000.00

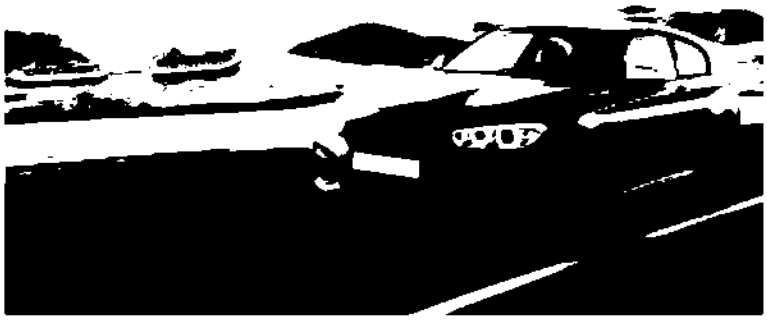
Rental car vs purchase of vehicles

Holiday Autos
Your car hire to Dar International Airport - complete your booking
November 4, 2019 at 12:39 PM

holiday autos

Book now

Book now



$103.74 per day

Total: $3112.27

Toyota Prado or similar



Pick-up date:
Dar International Airport
Thu, 14 Nov 2019 12:00
Return date:
Dar International Airport
Sat, 14 Dec 2019 12:00

first

5 5 5

Pick-up location:
In terminal counter, shuttle to car

Fuel Policy:
Fuel: Pick up and return full.

Important information

Popular Driver Payment Insurance Supplier

Fuel policy

Full to Full

Your vehicle will be supplied with a full tank of fuel. To avoid incurring fuel charges, you will need to return it with the same amount of fuel as it had when you collected it. You may be required to leave a fuel deposit reserved or charged on your credit card, this will be released or refunded when you return the car full. Missing fuel will be charged on your return. The price per litre charged by the rental agent may be significantly higher than the price at the local service station. A refuelling charge may also be applicable.

Fuel charges are payable at the rental desk unless otherwise stated in the top section of rate details.

Mileage policy

Limited

(b)(6)

Special equipment/optional extras

Booster seat: 10 USD (Excludes tax); On request

Child toddler seat: 10 USD (Excludes tax); On request

Infant child seat: 10 USD (Excludes tax); On request

GPS: 10 USD per day. Includes 14% tax; On request

Special equipment/optional extras may be requested at the time of booking, but they are not included in the rental price. They are paid in the local currency at the rental desk.

Conditions of optional extras

Please note the following: The price of optional extras is subject to change without notice.

We use cookies to give you the best experience on our website. By using our website you agree to our use of cookies in accordance with our .

Accept



Kilometers included per day: 120

Special equipment/optional extras

Booster seat: 10 USD (Excludes tax): On request

Child toddler seat: 10 USD (Excludes tax); On request

Infant child seat: 10 USD (Excludes tax); On request

GPS: 10 USD per day. Includes 14% tax; On request

Special equipment/optional extras may be requested at the time of booking, but they are not included in the rental price. They are paid in the local currency at the rental desk.

Conditions of optional extras

Please note the following: The price of optional extras is subject to change without notice. Optional extras are subject to availability. Charges made at the desk may be subject to local/airport surcharges.

Travel Restrictions

All international/State cross-border travel is disallowed.

Vehicles are prohibited to enter or be driven through the National Parks and Game Reserves within Tanzania. Should the renter drive the rented vehicle into the national park, a penalty of $1000 (non-refundable) will be charged. For a comprehensive list of all National Parks and Game Reserves kindly visit the Tanzania National Parks website.

Car types

The vehicle displayed and models listed are the most common vehicles used by our car rental partners. We cannot

JAPAN TIME: Nov / 26 / 2019 07:17 AM (JST)

Hi Your Name

tradecarview tradecarview Sign up Log in +81 3 4570 4354 Language English Currency USD

Search from Stock Useful Links Need Help

tradecarview™

Japan's largest online used car marketplace.

Need Help?

Japan Used Car > Japanese Used Car > Toyota > Land Cruiser Prado > 2018 > Toyota Land Cruiser Prado 2018







Specific Information Option Seller's Information Catalog

Specific information

VIN (vehicle certification Number) /Serial No	TRJ150-0084***	Full VIN/Serial No will be shown on Proforma Invoice and Invoice
Model Code	TRJ150W	
Registration Year / Month	2018/03	

2018 Toyota Land Cruiser Prado

TX

TOYOTA LAND CRUISER PRADO TX 4WD

24,205 km | Automatic | No Accident Gasoline/Petrol 2,700cc

STOCK 1 inquiries for this car

Car Price (FOB) **US$32,216**

Estimated Total Price **US$34,098**

*The price is not fixed. Let's try to negotiate!

Selected C&F + Pre-ship inspection

Nearest port DAR ES SALAAM

Change destination

1 Click "Send" for free inquiry

Contact syuei trading (

I want to negotiate the best price

I want to know the shipping schedule

I want to know about the condition of the car

★ Add to Favorite

Send

If you do not have a login ID, please register for free first

I want to receive special promotions by emails

By clicking 'Send' button, you agree to the following terms

> Tradecarview Terms of Use

> Privacy Policy

Manufacture Year / Month	Confirm with the Seller
Mileage	24,200 km
Transmission	Automatic
Engine Capacity (Displacement)	2,700cc
Fuel	Gasoline/Petrol
BodyStyle1	SUV
BodyStyle2	-
Steering	Right
Exterior Color	Black
Interior Color	Black
Drive Type	4wheel drive
Door	5
Number of Seats	5
Dimension	476cm×189cm×185cm=16.64m³
Condition	Used
ID	5/2150 191124120615
Remarks (Any Problems)	-
Comment	Very clean interior Looks & runs great Low mileage
Expiry Date	Dec / 24 / 2019 (JST)



Options

Safety

Driver Airbag	**Anti-Lock Brakes**	**Passenger Airbag**	Alarm
Side Airbag			

Comfort

Power Steering	**A/C:front**	**Remote Keyless Entry**	Navigation System
A/C:rear	**Cruise Control**	**Digital Meter**	**Tilt Steering**

Sound System

CD Player	AM/FM Radio	AM/FM Stereo	DVD
CD Changer	Aftermarket Speaker	Hard Disc	Satellite Radio

Windows

Power Windows	**Rear Window Defroster**	**Tinted Glass**	**Rear Window Wiper**

Other Features

Power Door Locks	**Alloy Wheels**	**Power Mirrors**	Sunroof
Third Row Seats	Power Slide Door		

Other selling points

No Accident history	**Maintenance Records Available**		**One Owner**
New Tires	**Non-Smoker**	Fully Loaded	Performance Tires
Turbo	Upgraded Sound System	Custom Wheels	**Repainted Car**

Seat

Leather Seats	Power Seats	Child Seat	Bucket Seat

EcoHealth Alliance, Inc.

Materials and Supplies - Example of shipping supplies to Africa

18087

Payee DHL Airways
Vendor ID DHL

Account #:

18087
8/7/2019

Invoice	Description	Discount	Amount
ZYP0004758177	Shipping for AL to Brazzaville	$0.00	$5,010.78
	Total :	$0.00	$5,010.78

DHL Express
OUTBOUND INVOICE

DHL Express USA INC
16416 Northchase Dr
Houston TX 77060

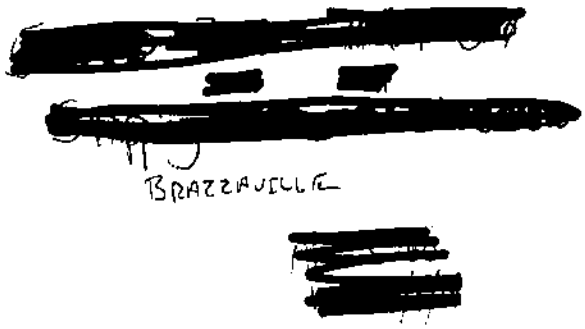
ECOHEALTH ALLIANCE
ACCOUNTS PAYABLE
460 W 34TH ST FL 17
NEW YORK NY 10001

Invoice Number:	ZYP0004758177
Account Number:	854613698
Invoice Date:	07/31/2019
Payment Due Date:	08/15/2019
Number of Pages:	1 of 1

For Invoice Inquiries:
Telephone: 1-800-722-0081
Website: www.mybill.dhl.com

Waybill Account Ship Date	Prod Cd	Origin Shipper	Destination Receiver	Pcs / Wgt Cd	Tend Wgt	Billed Wgt	Extra Charge Description	Total Charge
5034891110	P	ZYP	[redacted]	4	140.00	178.00	EXPRESS WORLDWIDE NONDOC	4,537.22
854613698		[redacted]			lb	lb	DUTIES TAXES PAID	15.00
07/17/2019		Ecohealth Alliance					NON STANDARD P CKUP	4.40
		460 W 34TH ST FL 17					FUEL SURCHARGE	454.16
		NEW YORK NY 10001		V				
			Brazzavil e Brazzaville 00000					

Description of Contents: Solar Panel Donations
Dimensions: 44.00 x 30.00 x 4.00, 44.00 x 30.00 x 4.00, 4.00 x 13.00 x 13.00, 31.00 x 23.00 x 19.00



Total Due (USD): $ 5,010.78

Weight Code: A = Customer Actual Weight V = Customer Volumetric Weight B = DHL Actual Weight W = DHL Volumetric Weight

Remit To: DHL Express - USA, 16592 Collections Center Drive, Chicago IL 60693

Federal ID: 94-3380425

Electronic Imaging Materials, Inc.
20 Forge Street Keene, NH 03431
603.357.1459 Fax: 603.357.1542
www.barcode-labels.com

Date Wed, Nov 6, 2019
Estimate No.* 756164
*This is not your part number. It will be given at first order
Account No. 33361

Here is Your Custom Quotation

Customer

Mindy Rostal (212) 380-4489
EcoHealth Alliance, Inc.
460 West 34th Street
17th Floor
New York, NY 10001
US

Printer Labels

Application- 685 2.75" x 0.6875" clear Sens-A-Mark® CryoLabel®, 1.0" x 0.6875" silver

Product Size- 2.75 X 0.6875 Rectangle with 0.078125 C. Radius

Colors- Silver

Materials- Stock#685 2.0 mil Gloss Clear TT CryoLabel® Plastic W/Permanent Acrylic Adhesive
Best Used Within 12 Months Of Manufacture

See Notes.....

Finishing- Finished in Rolls of 5,000, 1 Across, on a 3" Core.
See Note, 6.2" OD

Notes-

Quantity	**50,000**
Price (1000):	$26.69
Total	$1,334.50
Grand Total	$1,334.50

SHIP DATE: 7-10 business days ARO (After Receipt of Order). Prep fees may change when design received. Valid 30 days. E-mailed POs requested; Confirmed by e-mail. All EXW (Ex Works) Keene, NH. Qty may vary +/-10% w/order considered complete. End-User responsible for thorough Product testing. **Customer is responsible for paying all applicable shipping charges, sales/use taxes and for all applicable import taxes/duties/customs fees.**

ALL SALES ARE EXPRESSLY LIMITED TO THESE TERMS AND THE TERMS AND CONDITIONS AT BARCODE-LABELS.COM/TERMS. SELLER OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS.

Thank You,
Ed August
Account Manager

Electronic Imaging Materials, Inc.
20 Forge Street Keene, NH 03431
603.357.1459 Fax: 603.357.1542
www.barcode-labels.com

Estimate

Prepared: 11/6/2019

Estimate No. 831471
Customer PO No.

Printer, Resin and Software

Ordered By -
EcoHealth Alliance, Inc.
Attn: Mindy Rostal (212) 380-4489
460 West 34th Street
17th Floor
New York NY 10001 US

Ship To -
EcoHealth Alliance, Inc.
460 West 34th Street
17th Floor
New York, NY 10001
US
Attn: Mindy Rostal

We Would Like To Confirm Your Estimate With The Following:

Ordered	Product Number	Description	Price		Prod. Total
1	95123	Zebra ZT230 printer, 300dpi, USB & serial ports ZPL, US power cord & plug, tear bar, USB cable, 6ips, 4.09" print width	$1,290.20	Each	$1,290.20
1	95131	Zebra ZT230 printer, 300dpi, USB/parallel & Ethernet ZPL, USB cable, tear bar, US power cord & plug, 6ips, 4.09" print width	$1,625.45	Each	$1,625.45
4	T68433300	4.33" x 300 meter EIMINC® T68 premium resin ribbon note: 1 ribbon per 14,537 (685 2.75" x 0.6875") labels	$28.89	Each	$115.56
1	SEA-BTP-1	Seagull BarTender® 2019 Professional Application license plus one Printer license, includes one-year standard support	$450.45	Each	$450.45
1	MISC2	FREE, FAST, FUN, FRIENDLY & FLEXIBLE TECH SUPPORT techsupport@eiminc.com or (800) 535-6987	$0.00	Each	$0.00
1	MISC5	Shipping & handling not included. Customer is responsible for paying all applicable sales/use taxes and import taxes/duties/ customs fees.	$0.00	Each	$0.00

ALL SALES ARE EXPRESSLY LIMITED TO THESE TERMS AND THE TERMS AND CONDITIONS AT BARCODE-LABELS.COM/TERMS. SELLER OBJECTS TO ANY DIFFERENT OR ADDITIONAL TERMS.

Ed August
Sales Representative

Emily De Maria
Customer Service

15

Bag

[redacted]

Computer (with AppleCare), mouse and keyboard unit: $2126 each

Here's what's in your bag.

Get free shipping and free returns on all orders.

Magic Keyboard - US English 5 $495.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: [redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details

Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware.
Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: [redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



Magic Mouse 2 - Silver 5 $395.00

Remove

Add a gift message Add

Order by 5pm, delivers:
Today within 2 hours - Fastest
Thu, Nov 7 - Free
Delivery options for: 1000[redacted]

Pickup:
Today at Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 1000[redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 1000[redacted]

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 10001

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores



13-inch MacBook Air - Space Gray 1 $1,699.00

Show product details Remove

AppleCare+ for MacBook/MacBook Air $249.00
Automatically registered with your Apple hardware. Remove

Add a gift message or gift wrap Add

Order today, delivers:
Nov 15 - Nov 19 - Free
Delivery options for: 10001

Pickup:
Ships to store. Available Nov 19 at
Apple West 14th Street
Show more stores

Subtotal	$10,630.00
Shipping	FREE
Estimated tax for: 10001††	$943.41

Have a promo code? Enter it now

Total **$11,573.41**

Get 3% Daily Cash with Apple Card, or get special financing ›

A few recommendations.

Products

Solutions

Support & Services

News

About

Buy Now

ArcGIS Pro

cGIS Pro

onal use

Non-commercial use

ArcGI
Type
with t
inclu
Apps
GI

Professional User
ir team members
. GIS Professional
ArcGIS Essential
0 Service Credits.
els: Advanced,

Basic

- Create beautiful maps
- Visualize in 2D and 3D
- Analyze geographic information
- Edit and manage geospatial data
- Publish and share

$700 / year

Quantity – 0 +

Standard

- Create beautiful maps
- Visualize in 2D and 3D
- Analyze geographic information
- Enable multiuser editing
- Perform advanced geospatial data management
- Publish and share

$2,750 / year

Quantity – 0 +

Advanced

- Create beautiful maps and advanced cartographic products
- Visualize in 2D and 3D
- Analyze geographic information with advanced tools
- Enable multiuser editing
- Perform advanced geospatial data management
- Publish and share
- Utilize extensive database management tools

$3,800 / year

Quantity – 0 +

Field Supplies

Cart

Account: 884930003 EcoHealth Alliance

	Item	Price	Qty	Subtotal
	Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper Catalog number 23-021-018 **by BD 368045** Regulated **Diameter (Metric) Outer:...**	**$42.25 / Pack of 100** **$331.66 / Case of 10 PK**	9	**$2,984.94**
	Nunc™ Biobanking and Cell Culture Cryogenic Tubes Catalog number 12-565-171N **by Thermo Scientific™ 368632** **Capacity (Metric): 1.8mL, Thread Style: Internal, Length (Metric): 49mm, Desc...**	**$241.93 / Pack of 450** **$967.73 / Case of 4 PK**	9	**$8,709.57**

In Stock (4) - Estimated delivery 11/08/2019

On Order (5) - Estimated delivery 11/20/2019

In Stock (3) - Estimated delivery 11/07/2019

On Order (6) - Estimated delivery 11/20/2019

Order Summary

Subtotal	$61,326.04
▲ Shipping and Handling *	$1,134.08
Hazardous material charge	$23.25
Shipping fuel surcharge	$4.45
Shipping charge	$1,106.38
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this? | FAQ

	Item	Price	Qty	Subtotal
	Vacutainer™ Venous Blood Collection Tubes: Vacutainer Plus™ Plastic Serum Tubes, Silicone-Coated, with Conventional Stopper Catalog number 02-657-27 **by BD 366668** Regulated **Diameter (Metric) Outer:...**	**$34.00 / Pack of 100** **$261.62 / Case of 10 PK**	3	**$784.86** ●
	In Stock (3) - Estimated delivery 11/07/2019			
	PC MTUBE 1.3ML SERUM/PK100 Catalog number NC9444309 **by Sarstedt Inc** **41.1501.105**	**$36.50 / Pack of 100**	10	**$365.00**
	Ships from manufacturer - Usually Ships in 2 Business Days			
	Vacutainer™ Tube Holder Catalog number 22-289-953 **by BD 364815** Regulated **HLDR 1-USE NOSTCKBL 250/PK RX**	**$22.99 / Pack of 250** **$91.90 / Case of 4 PK**	5	**$459.50** ●
	In Stock (5) - Estimated delivery 11/07/2019			
	Vacutainer™ Eclipse™ Blood Collection Needle Catalog number 02-683-101 **by BD 368607** Regulated **Gauge: 21g, Includes: Built-in safety shield, Color: Green hub**	**$42.55 / Pack of 48** **$339.50 / Case of 10 PK**	5	**$1,697.50** ●

Item	Price	Qty	Subtotal
	In Stock (5) - Estimated delivery 11/07/2019		
 Monoject™ Supra/Hone™ Thin Wall Blood Collection Needles Catalog number 22-030573 **by Covidien 8881216066** Regulated **Needle Gauge: 22 G**	**$31.83 / Pack of 100** **$270.89 / Case of 10 PK**	2	**$541.78**
	On Order (2) - Estimated delivery 12/13/2019		
3cc Syringes Catalog number 14-840-77 **by Exel International 26200** Regulated **Termination: Luer-lock**	**$24.00 / Pack of 100** **$196.73 / Case of 10 PK**	3	**$590.19**
	In Stock (2) - Estimated delivery 11/07/2019		
	On Order (1) - Estimated delivery 11/21/2019		
 Monoject™ Softpack Hypodermic Needles with Polypropylene Hub Catalog number 05-561-22 **by Covidien 8881250222** Regulated **Needle Gauge: 22 G, Length (English) Needle: 1 in., Length (Metric) Needl...**	**$25.86 / Pack of 100** **$218.36 / Case of 10 PK**	3	**$655.08**

	Item	Price	Qty	Subtotal
		In Stock (1) - Estimated delivery 11/11/2019 **On Order** (2) - Estimated delivery 11/26/2019		
	Syringe with Sub-Q Needle Catalog number 14-829-10F **by BD 309597** Regulated **SYRINGE TB 26GX58 1CC 100PK RX**	**$35.25 / Pack of 100** **$213.21 / Case of 8 PK**	2	**$426.42**
		In Stock (2) - Estimated delivery 11/07/2019		
	Graham Field Thumb Dressing Forceps Catalog number 19-027503 **by Graham-Field™ 2750** **Length (English): 5 in.,** **Length (Metric): 127 mm**	**$9.00 / Each**	4	**$36.00**
		On Order (4) - Estimated delivery 12/13/2019		
[redacted]	Fisherbrand™ 50mL Graduated Polypropylene Centrifuge Tube Catalog number 14-375-150 **CENT TB FREESTNDNG 50ML 500/CS**	**$415.00 / Case of 500**	6	**$2,490.00**
		In Stock (6) - Estimated delivery 11/07/2019		

Biosafety Equipment

	Item	Price	Qty	Subtotal
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170D **Size: X-Large**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	5	**$1,662.50**
	In Stock (5) - Estimated delivery 11/07/2019			
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170B **Size: Medium**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	7	**$2,327.50**
	On Order (7) - Estimated delivery 11/15/2019			
	Fisherbrand™ Extended Cuff Nitrile Exam Gloves Catalog number 19-041-170A **Size: Small**	**$39.05 / Pack of 50** **$332.50 / Case of 10 PK**	4	**$1,330.00**
	In Stock (4) - Estimated delivery 11/07/2019			
	Sharps Disposal Containers Catalog number 14-830-124 **by Covidien 8970** **Capacity (English): 2 gal.,** **Capacity (Metric): 7.6 L,** **Closure Type: Rotor Lid**	**$228.33 / Case of 20**	3	**$684.99**

Item	Price	Qty	Subtotal

In Stock (3) - Estimated delivery 11/07/2019



Red Color Polyethylene Liner Printed with BioHazard Symbol, 2 mil Thick, 16 x 14 x 36 Inch Bags, 50 per Package
Catalog number 50-998-764
by Research Products International Corp 246107

$38.13 / Pack of 50 | 3 | **$114.39**

Ships from manufacturer - Usually Ships in 1 Business Days



KleenGuard™ A60 Bloodborne Pathogen and Chemical Splash Protection Coveralls
Catalog number 19-057-404B
by Kimberly-Clark Professional™ 45023
Closure Type: Zipper front, Description: Hooded, seamless zi...

$470.00 / Case of 24 | 22 | **$10,340.00**

On Order (22) - Estimated delivery 12/10/2019

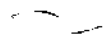


KleenGuard™ A60 Bloodborne Pathogen and Chemical Splash Protection Coveralls
Catalog number 19-057-404A
by Kimberly-Clark Professional™ 45022
Closure Type: Zipper front, Description: Hooded, seamless zi...

$470.00 / Case of 24 | 23 | **$10,810.00**

In Stock (10) - Estimated delivery 11/07/2019

On Order (13) - Estimated delivery 12/10/2019

	Item	Price	Qty	Subtotal
	Comfort Plus Disposable Filtering Facepiece Respirator, N95 Catalog number 19-120-299 **by 3M™ 8211** **Certifications/Compliance: NIOSH 42 CFR Part 84, N95, NIOSH TC-84A-1299, Design T...**	**$44.41 / Pack of 10** **$314.00 / Case of 8 PK**	14	**$4,396.00**
	In Stock (3) - Estimated delivery 11/07/2019 **On Order** (11) - Estimated delivery 11/27/2019			
	Qualitative Fit-Test Kit, Bitter Catalog number 19-002-720 **by 3M™ FT30** **Product Type: Bitter Fit Test Kit, Quantity: 1**	**$436.00 / Each**	1	**$436.00**
	In Stock (1) - Estimated delivery 11/11/2019			
	Metaliks™ Eyewear Catalog number 19-810-520 **by 3M™ 115540000020** **Frame Color: Bronze, Lens Type: Anti-fog, Lens Tint: Clear**	**$32.30 / Each** **$282.50 / Case of 20 EA**	10	**$323.00**
	On Order (10) - Estimated delivery 12/06/2019			

	Item	Price	Qty	Subtotal
	Ethanol, 70% Solution, Molecular Biology Grade, Denatured, Fisher BioReagents™ Catalog number BP82031GAL **Quantity: 1 gal., Packaging: Poly Bottle**	**$82.00 / Each** **$264.00 / Case of 4 EA**	1	**$82.00** ●

On Order (1) - Estimated delivery 11/11/2019

Items for Building TVLA Capacity

	TSG Series Countertop Refrigerator Catalog number TSG205SA **by Thermo Scientific™ TSG205SA** **TSG CT SOLID DOOR, 5-15P**	**$2,740.00 / Each**	1	**$2,740.00**

Ships from manufacturer - Usually Ships in 3 Business Days

	Fisherbrand™ Traceable™ Refrigerator/Freezer Plus Thermometer Catalog number 15-077-721 **5ML VACCN THRMTR .5 DEG 1EA**	**$101.00 / Each**	1	**$101.00**

On Order (1) - Estimated delivery 11/21/2019

	Lamp Assembly for FLx800™ Microplate Reader Catalog number BT7080500 **by BioTek™ 7080500** **LAMP ASSEMBLY FOR FLX800**	**$174.10 / Each**	1	**$174.10**

This item is not returnable. View return policy

Ships from manufacturer - Usually Ships in 5 Business Days

	Item	Price	Qty	Subtotal
	LMC-2000 Series Compound Microscope Catalog number LMC2PH1 **by Laxco™ LMC2PH1** **Head Style: Binocular, Lighting Type: 3w LED, Phase Contrast, Magnification Power: 10X, 20X, 4...**	**$3,347.30 / Each**	1	**$3,347.30**
		Ships from manufacturer - Usually Ships in 18 Business Days		
	[DW-20] Deionized Water Distiller with Gauge Catalog number 50-187-1175 **by Labomed Inc DW20**	**$2,458.50 / Each**	1	**$2,458.50**
		Ships from manufacturer - Usually Ships in 40 Business Days		
	24006 ISFET POCKET PH METER Catalog number NC1478483 **by Deltatrak Inc 24006**	**$257.92 / Each**	1	**$257.92**
		Ships from manufacturer - Usually Ships in 2 Business Days		

Add all items to a list

CappWash™ (b)(6) APS BE

CappWash™ is the ideal washing tool for small scale immuno assays

- Compact and made for small-scale work
- Unique two-in-one design
- Simple washing matches all well types
- No programming and no electrical wiring connection required

The vacuum pump is available for 115V connections

Fitting into even the tightest budget, CappWash™ is a perfect alternative for washing micro plates and strips.

Order Now

ORDER Grid A

Add to Cart

Description	Supplier No.	VWR Catalog Number	Unit	Availability	Price	Quantity
CappWash™ Kit, Includes W-12, WP-115V, WB-1, WB-3, WB-4, and W-1000 (3 meters)	W-12KIT-115V	490015-894	Each	Ordered Upon Request	(b)(6)	0

Add to Cart

Customize Columns | Barcode Label Format: Avery 5161 1" x 4

Customize Grid | Export to Excel

Add to Shopping List | Add to Quote

Existing List New List

Enter List Name:

Tablets and case: $228.98 each

Try Prime All

Hello, Melinda
Account & Lists Orders Try Prime Cart

Ecohealth Alliance Inc
Whole Foods Browsing History Melinda's Amazon.com

Shop new HoliDeals

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Your order qualifies for FREE Shipping.
Choose this option at checkout. See details

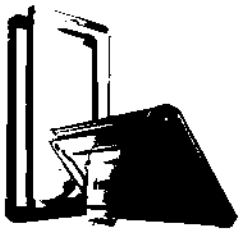
Subtotal (13 items): $1,225.87

This order contains a gift

Proceed to checkout

Shopping Cart

Price



SupCase Unicorn Beetle Pro Series Designed for Galaxy Tab A 10.1 (2019 Release), Full-Body Rugged Heavy Duty Protective Case with Built-in Screen Protector for Galaxy Tab A 10.1 Inch 2019 (Black) $26.99

In Stock
Eligible for FREE Shipping
This is a gift Learn more
Qty: 8 Delete Save for later
Compare with similar items



Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) $201.99

In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 5 Delete Save for later
Compare with similar items

Note we will order 8, only 5 were allowed to be ordered at a time. This adds another $605.97 to the total

Subtotal (13 items): $1,225.87
Updated Subtotal (16 items): $1,831.84

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Sponsored Products related to items in your cart



Fire HD 10 Case 2017... 26
$29.99
See all buying options



Galaxy Tab A 10.1 Case... 14
$16.99
See all buying options



Amazon Fire 7 Tablet... 1,625
$14.99
See all buying options



Soke Galaxy Tab A... 296
$19.99
See all buying options

Customers who shopped for SupCase Unicorn Beetle Pro Series Designed for... also shopped for:

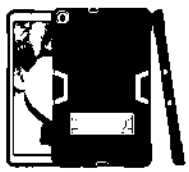
Page 1 of 4



SupCase [Unicorn Beetle... 675
$26.99
Add to Cart



Galaxy Tab A 10.1 2019... 122
$26.95
Add to Cart



Cartis Galaxy Tab A 10.1"... 123
$13.99
Add to Cart

Gift ideas inspired by your shopping history

Traps

Tomahawk Live Trap

All categories > Search products

Home > Cart contents

Ordering multiple items? We may be able to reduce shipping cost for your order. Please read this memo. Thank you!

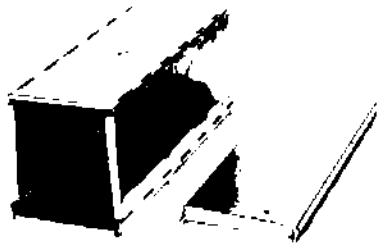
If you are ordering many different items our website may not accurately calculate shipping for you. We can combine products and ship them together in boxes to save shipping cost. During the final stage of the checkout process select the "Double Check My Shipping Cost" option as your payment method. We will contact you with a quote for reduced shipping. You can also call us at 800-272-8727 and we can quote you by phone.

CART CONTENTS

CONTINUE SHOPPING

CLEAR CART

PROCEED TO CHECKOUT



LFAHD - 9 x 3 x 3.5 - Folding, Aluminum Trap ⊗

CODE: LFAHD

$27.23

- 33 +

$898.59



200 - Collapsible Squirrel Trap with Two Trap Doors ⊗

CODE: 200

ADD POWDER COATING. :

(+15%)

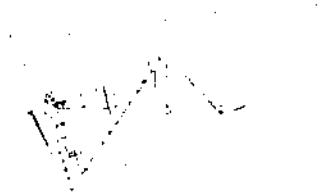
ADD A PLASTIC TRAP COVER FOR THIS TRAP. ❓:

(+$16.45)

$44.82

- 40 +

$1,792.80



205 - Collapsible Cat, Opossum, Rabbit Trap with One Trap Door ⊗

CODE: 205

ADD POWDER COATING. :

(+15%)

ADD A PLASTIC TRAP COVER FOR THIS TRAP. ❶:

(+$25.95)

$63.45

− 60 +

$3,807.00

Gift certificate or promo code [redacted]

Subtotal	$6,498.39
FedEx (✈ CHANGE)	$357.54
TOTAL COST	**$6,855.93**

Tattoo kit to mark hares

Get a $15 credit
when you purchase $50 or more in Amazon Gift Cards (restrictions apply) Learn More

Add $17.68 of eligible items to your order to qualify for FREE Shipping. See details

Subtotal (3 items): $85.32

Proceed to checkout

Shopping Cart

Price



Speedball 2-Ounce India Ink, Super Black $7.32
In Stock
Eligible for FREE Shipping
Gift options not available. Learn more
Qty: 1 Delete Save for later
Compare with similar items



Grand Champion 1/4 inch Tattoo 0-9 $15.00
In Stock
Shipped from: BUNNYRABBITcom
Gift options not available. Learn more
Qty: 1 Delete Save for later



Grand Champion 1/4 inch Tattoo Kit with Case $63.00
Only 10 left in stock - order soon.
Shipped from: BUNNYRABBITcom
Gift options not available. Learn more
Qty: 1 Delete Save for later

Samsung Galaxy Tab A 10.1 32 GB Wifi Tablet Black (2019) was removed from Shopping Cart.

Subtotal (3 items): $85.32

The price and availability of items at Amazon.com are subject to change. The Cart is a temporary place to store a list of your items and reflects each item's most recent price. Learn more
Do you have a gift card or promotional code? We'll ask you to enter your claim code when it's time to pay.

Your recently viewed items



Samsonite Ripstop 179
$113.87
Add to Cart



Samsonite Solyte DLX //
$109.12
Add to Cart



Samsonite Solyte DLX //
$166.99
Add to Cart



American Tourister Belle 278
$92.36
Add to Cart

Sponsored Products related to items in your cart What's this?

Page 1 of 3



ZZKOKO Calligraphy Ink Bottle, 12 Colors Dip



Daveliou Pink Calligraphy Pens Set - 17 Piece Kit

Kent Scientific

Rodent Ear tags

Products

Items (1)



Laser Etched Ear Tags, One-Sided

1,000 Laser Etched Ear Tags (Custom Specified Numbering)

Item #: INS1005-1LSZ

$315

1

× Remove

Save for later

$315

Update Cart

Summary

Subtotal: $315

Shipping and tax will be calculated when we process your order and will be added to the amount you are charged.

Total: **$315**

email

password

Login To Checkout

Forget your password?

Checkout as Guest ›

Discount Code

Apply

© 2006 - 2019 Kent Scientific Corporation. All rights reserved.

Anesthesia Machine

Shopping Cart

	Product Name	Move to Quote	Unit Price	Qty	Subtotal
(https://www.harvardapparatus.com/universal-rebreathing-anesthesia-f-circuit-1.html)	Universal F Circuit, 60 in (https://www.harvardapparatus.com/universal-rebreathing-anesthesia-f-circuit-1.html)		$30.00	1	$30.00
 (https://www.harvardapparatus.com/tabletop-anesthesia-systems.html)	Harvard Apparatus Single Animal Tabletop Isoflurane Anesthesia System with Small Induction Box (https://www.harvardapparatus.com/tabletop-anesthesia-systems.html)		$2,963.00	1	$2,963.00
 (https://www.harvardapparatus.com/cat-anesthesia-masks.html)	Cat Ventilation/Anesthesia Mask, Small, 5.1 cm (2 in) diameter, molded on 15 mm standard male connections (https://www.harvardapparatus.com/cat-anesthesia-masks.html)		$15.00	1	$15.00

Continue Shopping Update Shopping Cart

Estimate Shipping and Tax

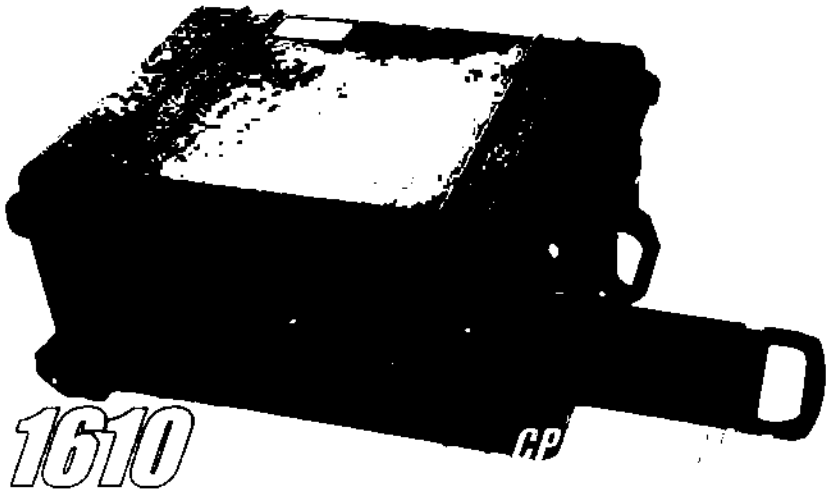
Discount Codes

Enter your coupon code if you have

Subtotal	$3,008.00
Grand Total	**$3,008.00**

Pelican Case 1610

Order your pelican case now! 1-800-882-4730



22.25"L x 17.12"W x 2" Lid over 8.5" Base

24.56"L x 19.31"W x 11.93"H

Empty 20 lbs. Case with Foam: 22.5 lbs

120 lbs

AVAILABLE COLORS

BLACK DESERT TAN OD GREEN

TAN & OD GREEN PLEASE CHECK AVAILABILITY

Pelican 1610 roll model case

With Fold Down Handle & Wheels. Available in **Black and** ready for shipping in 24 hrs. or less. **Desert Tan** and **OD Green** colors are available upon request (longer lead time and minimum quantities apply)

SMALLER Click LARGER

Case to carry anesthesia machine

1610 Case Part Numbers:

1

APP-1610E
Price $215.95

BUY!

IN STOCK

Empty case, no foam (E suffix) (No re stocking charge applies)



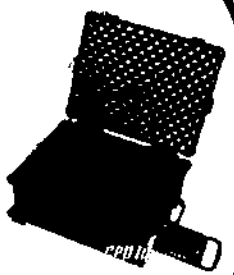
Strongest case on the market, suitable for rugged equipment that does not require additional foam protection.

2

APP-1610F
Price $256.95

BUY!

IN STOCK



Foam Filled (F suffix) Pick "N" Pluck
Polyurethane
layers, 3 pcs are Pick "N" Pluck 2.38" thick one base pad and one convoluted egg crate foam lid pad.
(No re stocking charge applies)

3

APP-1614PD
Price $332.14

BUY!

Pelican case 1610 with **Padded Dividers** (No re stocking charge applies)



Accessories to organize your gear. Made of durable nylon and foam. Individual compartments are adjustable using a hook and loop Velcro® system.

Anesthesia Medications

CHECKOUT

1 SHOPPING CART — 2 PROMOTIONS (/MY-ACCOUNT/CHECKOUT?S=PROMOTIONS) — 3 PAYMENT & DELIVERY OPTIONS (/MY-ACCOUNT/CHECKOUT?S=CONFIRMATION) — 4 COMPLETED

Load Items from Saved Order

Navigate to Saved List

SAVE ORDER (/MY-ACCOUNT/CHECKOUT?S=SAVE) CLEAR CART

CHECKOUT (/MY-ACCOUNT/CHECKOUT?S=PROMOTIONS)

Estimate total: **$3,072.98**



(/Product?sku=029405)

ISOTHESIA (ISOFLURANE) SOLUTION

Availability This item is scheduled to arrive the next business day. It is not for transportation by air.

Brand Products
Practice Preferred

Unit Price $27.83
Unit Total $1,141.03

41 REMOVE ()

SKU	029405
Size	250mL
Case Qty	6
In Stock	In Stock: 1620

CONSUMER COMMODITY ORM-D



(/Product?sku=029404)

ISOTHESIA (ISOFLURANE) SOLUTION

Availability This item is scheduled to arrive the next business day. It is not for transportation by air.

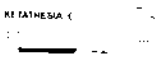
Brand Products
Practice Preferred

Unit Price $17.82
Unit Total $1,283.04

72 REMOVE ()

SKU	029404
Size	100mL
Case Qty	6
In Stock	In Stock: 116

CONSUMER COMMODITY ORM-D



KETATHESIA INJECTION, 100MG/ML C3N



DIAZEPAM INJECTION, 5MG/ML, C4

Equipment

Cart

Account: 884930003 EcoHealth Alliance

	Item	Price	Qty	Subtotal
	Sorvall™ ST 16 Centrifuge Series Catalog number 75-004-240 **by Thermo Scientific™ 75004240** **Description: Sorvall ST 16 Centrifuge, Capacity: 4 x 400mL, Electrical Requirements: 230V 50/60Hz**	**$6,680.00 / Each**	1	**$6,680.00**
		Ships from manufacturer - Usually Ships in 27 Business Days		
[redacted]	Fisherbrand™ Isotemp™ -86°C Ultra-Low Temperature Chest Freezers, 20 cu. ft. Catalog number I920CD **Electrical Requirements: 208 - 230 V 60 Hz**	**$15,630.00 / Each**	1	**$15,630.00**
		Ships from manufacturer - Usually Ships in 35 Business Days		

Add all items to a list

Order Summary

Subtotal	$22,310.00
▲ Shipping and Handling *	$424.99
Shipping charge	$424.99
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this?| FAQ

Melinda Rostal DVM, MPH
Senior Research Scientist

PREDICT 2 Surveillance Coordinator for EcoHealth Alliance
EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
www.ecohealthalliance.org

November 20th, 2019

Generator

Genset Model
C22 D5, 22kVA Standby, 20kVA , Diesel, Open

Bill of Material

Emergency Standby Power (ESP)
Emissions Level : No Certification
Local Codes and/or Regulation : CE
Output Voltage : 200/115, 3 Phase, Wye, 4 Wire
Engine
X2.5G2
Engine Air Cleaner - Duty Rating : Heavy Duty
Engine Oil Heater : None Supplied
Engine Speed Governing : Mechanical Droop Governor
Engine Coolant Heater : None Supplied
Sub-Base Anti-Vibration Mounts
None Supplied
Main Generator
S0L2G1, 50 Hertz (Hz), 200V and 400V, 163C, Emergency Standby Power (ESP)
Generator Accessories
Voltage Regulator - Torque Match
Main Generator Heater : None Supplied
Exhaust System
Silencer Grade : Residential, Flange On Connection Inlet 3 Inch, Outlet 3 Inch, Side Entry
Exhaust System Accessories : Bellows, System Fixing Kit
Cooling System
Genset Mounted Radiator, 50C / 122F, Genset Mounted
Engine Coolant Mixture : 50% Antifreeze, 50% Water
Primary Electrical Isolation Device
One Circuit Breaker
Primary Electrical Isolation Device
80A MCB, 440V IEC, 4 Pole, 100%, Left
Entrance Box / Terminal Housing
Cable Entrance Box Required : None Supplied
Control System Options
PowerStart 0600
Control Panel Mounting (Viewed From Generator End) : Left Facing

Control Language : English
Warning - Low Battery Voltage
Emergency Stop Switch - External
Control Cabinet Heater : None Supplied
Starting Batteries
Pure Lead-Tin Thin Plate Valve Regulated Lead-Acid (VRLA) Battery - Maintenance Free
Battery Charger
Set Mounted, 6A, 110 - 240 V
Genset Testing
Genset Testing : Standard Factory Test
Test Records : Certified Test
Warranty
Standby, 40 Months, 800 Hours
Literature Language
English
Packing
Cover - Shipping

Net package price, ... (b)(4)

Notes:

1. Spec sheet provided to quote
2. Price includes freight Factory via standard ground to nearest port of generator manufacturer, Shipping to final destination Tanzania by others and not included in this quote.
3. Price does not include field connections, installation or rigging.
4. This proposal is based on information supplied to Cummins which may or may not have been correct or complete. The customer is responsible for reviewing this proposal for compliance with the complete and final drawings and specifications.
5. All quotations automatically expire thirty (30) days from date issued.

We thank you for giving us the opportunity to quote this equipment. If you need any further assistance or clarification, please do not hesitate to contact us

Sincerely,

Colm Kelly

Senior Sales Representative

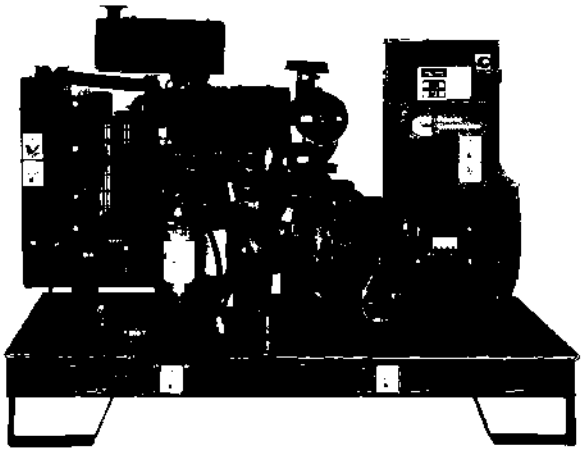
Specification sheet

BOM for our standard C22D5 Open type @50Hz using the X2.5 engine.

Diesel generator set X2.5 series engine

15 kVA - 28 kVA 50 Hz

10.8 kW - 20 kW 60 Hz



Description

This Cummins® commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for Stationary Standby, Prime Power, and Continuous Duty applications.

Features

Cummins heavy-duty engine - Rugged 4-cycle industrial diesel delivers reliable power, low emissions and fast response to load changes.

Optional excitation boost system (EBS) - Offers enhanced motor starting and fault clearing short circuit capability.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings; low waveform distortion with non-linear loads and fault clearing short-circuits capability.

Cooling system - Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Control system - PowerStart control, microprocessor-based generator set monitoring and control system provides a simple operator interface to the generator set, manual and remote start/stop control and shutdown fault indication.

Enclosures - Optional weather-protective and sound-attenuated enclosure.

Warranty - Backed by a comprehensive warranty and worldwide distributor network.

	3-Phase ratings				1-Phase ratings*				
	Standby rating		Prime rating		Standby rating		Prime rating		Data sheet
Model	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	50 Hz kVA (kW)	60 Hz kW (kVA)	
C17 D5	16.5 (13)		15 (12)		13 (13)		11.8 (11.8)		DS338-CPGK
C22 D5	22 (18)		20 (16)		17 (17)		15.5 (15.5)		DS340-CPGK
[illegible]	[illegible]		25 (20)		22 (22)		20 (20)		DS342-CPGK
C12 D6		12 (15)		10.9 (13.6)		12 (12)		10.9 (10.9)	DS339-CPGK
C16 D6		16 (20)		15 (18)		16 (16)		14.5 (14.5)	DS341-CPGK
C20 D6		20 (25)		18 (22)		20 (20)		18.1 (18.1)	DS343-CPGK

*1.0 PF

Generator set specifications

Governor regulation class	ISO 8528 G2
Voltage regulation, no load to full load	± 2.5%
Random voltage variation	± 2.5%
Frequency regulation	Droop
Random frequency variation	± 0.75 %
Radio frequency emissions compliance	BS EN 61000-6-1 / BS EN 61000-6-3

Engine specifications

Design	4 cycle, in-line, naturally aspirated
Bore	91.4 mm
Stroke	127 mm
Displacement	2.5 liter (153 in^3)
Cylinder block	Alloy cast iron, in-line, 3 cylinder
Battery charging alternator	36 A
Starting voltage	12 volt, negative ground
Fuel system	Direct injection
Fuel filter	Spin on fuel filters with water separator
Air cleaner type	Dry replaceable element
Lube oil filter type(s)	Spin on full flow filter, filtration efficiency 25 micron 99% (min)
Standard cooling system	122 ºF (50 ºC) ambient radiator with coolant recovery system

Alternator specifications

Design	Brushless, single bearing
Stator	2/3 pitch
Insulation system	Class H
Standard temperature rise	125-163 ºC
Exciter type	Self excited
Phase rotation	A (U), B (V), C (W)
Alternator cooling	Direct drive centrifugal blower fan
AC waveform Total Harmonic Distortion (THDV)	No load to full linear load < 5%. For any single harmonic < 2.5%
Telephone Influence Factor (TIF)	< 75 (for 60 Hz)
Telephone Harmonic Factor (THF)	< 2% (for 50 Hz)

Available voltages

50 Hz Line–Line/Line-Neutral			60 Hz Line–Line/Line-Neutral		
3-phase		1-phase	3-phase		1-phase
• 416/240	• 208/120	• 230	• 480/277	• 220/127	• 240
• 400/230	• 200/115	•	• 440/255		•
• 380/220	• 190/110		• 416/240		

Note: Consult factory for other voltages.

Generator set options

Engine
- Electronic engine governing
- Coolant heater 120/240 V

Cooling
- Antifreeze 50/50 (Ethylene glycol)

Enclosure
- Optional silent power canopy

Base frame
- Dual skin fully contained fuel tank
- 500 litre fuel tank
- Set mounted battery

Alternator
- Alternator heater
- Control panel
- PowerCommand 1.1
- 2/4 pole main circuit breaker
- Aux 101

Warranty
- 2 years for Prime application
- 5 years for Standby application

- 1500/3000 hours service kit
- Optional language literature
- Engine oil heater 120/240 V
- External fuel fill (3 way valve)

Note: Some options may not be available on all models - consult factory for availability.

Control system

Generator set control PowerStart 600 – The PowerStart contol is a microprocessor-based generator set monitoring and control system. The control provides a simple operator interface to the generator set, auto/ manual and remote start/stop control and shutdown fault indication. The integration of all control functions into a single control provides enhanced reliability and performance compared to conventional generator set control systems. This control has been designed and tested to meet the harsh environment in which gensets are typically applied.

- The PowerStart generator set control is suitable for use on a wide range of generator sets in non-paralleling applications. It is suitable for use with reconnectable or non-reconnectable generators, can be configured for either 50 Hz or 60 Hz and voltage and power connection from 190-600 VAC line-to-line.
- This control includes an intuitive operator interface that allows for complete genset control as well as system metering, fault annunciation, maintenance alarm, over imbalance current, configuration and diagnostics. The interface includes seven generator set status LED lamps with both internationally accepted symbols and English text to comply with customer needs. The interface also includes an LED backlit LCD display with tactile-feel soft-switches for easy operation and screen navigation. The manual/auto/stop switch function is integrated into the interface panel.
- All data on the control can be viewed by scrolling through screens with the navigation keys. The control displays the current active fault and a time-ordered history of the five previous faults.
- Power for this control is derived from the generator set starting batteries and functions over a voltage range from 8VDC to 16 VDC.

Major Features

- Integrated 128x64 Pixel monochrome graphic LCD Display
- 12 and 24V battery operation
- Genset monitoring-monitor status of all critical engine and alternator functions
- Digital genset metering (AC and DC)
- Genset battery monitoring system to warn against a weak battery connection
- Configurable for single phase or three phase or split phase AC metering
- Engine starting includes solid state output to operate external relay to start the engine, fuel shut off (FSO) and glow Plug
- Genset Protection: protects engine and alternator
- Real time clock for fault and event stamping
- Fuel level measurement using 4-20mA input sensor
- Exerciser clock and time of delay start/stop initiate a test without load.
- Maintenance due alarm based on engine running time and real time clock
- Auto Main Failure (AMF) Provides load transfer operation in open transition mode
- AMF Test with or without load options
- Utility Voltage monitoring and protection
- Remote start capability in Auto mode
- Advanced service ability using Inpower™ a PC based Software service tool
- Modbus interface for interconnecting to customer PLC/BMS
- Configurable Inputs and Outputs
- Environmental protection: The Control is designed for reliable operation in harsh environment
- Warranty and service backed by a comprehensive warranty and worldwide distributor service network
- Certification-suitable for use on generator sets that are designed, manufactured, tested and certified relevant ISO, IEC and CE standards.

Base control functions

LCD capability

LED INDICATING LAMPS

- For Genset Running, Remote Start, AMF Test Active, Genset Shutdown, Warning, Load connected to Genset, Load connected to Utility, Manual Mode, Stop Mode and Auto Mode.

LCD display

- 128 x 64 Pixel Monochrome Graphics display

OPERATION INTERFACE

Six tactile-feel soft switches for LCD navigation, genset operation and control setup. These switches are indicated by internationally accepted symbols and English text.

OPERATOR ADJUSTMENTS

- The LCD includes provisions for necessary set up and adjustment functions.
- Data Log includes engine run time and controller ontime Fault History.
- Provides a record of the most recent fault Condition with Engine run time stamp, RTC stamp and occurances
- Up to 5 events are stored in the control non-volatile memory.

AMF FUNCTIONALITY

When Auto Mains Failure is enabled and controller is in Auto Mode and if utility goes off then control starts the Genset automatically and transfers load onto Genset. If Utility returns and is healthy then load again gets retransferred onto Utility. AMF provides load transfer operation in Open Transition transfer mode.

FUEL LEVEL FEATURE

The Control will show the warning fault when the fuel level in the tank goes below the predefined threshold. Control includes time delays to prevent nuisance warning signals.

Exercise Scheduler

It is used only when genset is in Auto mode. It is used to start a Scheduler schedule at No Load condition. A trim Exercise Scheduler Enable is available to enable or disable the feature.

Maintenance

Maintenance due alarm based on Engine Running Time or Real time clock

Control data

Access to the control software part number and software version are provided from the LCD or InPower™.

Alternator data

- Voltage (single or three phase line-to-line and line-to- neutral)
- Current (single or three phase)
- kVA, kVAR, kW, Power Factor (Three phase and total)
- Frequency
- Totalized positive and negative kWH, kVARH, kVAH

Utility AC data

- Voltage (three/single phase LL and LN) - Frequency

ENGINE DATA

- Starting battery voltage
- Engine running hours
- Engine temperature
- Engine oil pressure

Service adjustments

- The control includes provisions for adjustment and calibration of generator set control functions. Functions include:
- Voltage selection
- Frequency selection
- Genset and Utility AC Meter Calibration

ENGINE CONTROL

- CT ratio, and Genset ratings setup
- Start/Stop time delay setup
- Real time clock setup with daylight saving
- AMF Setup with test mode and transfer/retransfer time delays
- Modbus baud rate, parity setup
- Exercise scheduler repeat interval, Day, time and duration setup
- Maintenance due setup
- LCD brightness and contrast control

Battery operation

- Control will operate on 12V/24V batteries

Auto start mode

Accepts a ground signal from remote devices to automatically start the generator set. The remote start signal will also wake up the control from sleep mode. The control can incorporate a time delay start and stop.

Emergency stop

The control annunciates when an emergency stop signal is received and the generator set immediately shuts down. The generator set is prevented from running or cranking with the switch engaged E-stop switch.

Sleep mode

The control includes a configurable low current draw state to minimize starting battery current draw when the genset is not operating.

Engine starting

The control supports automatic engine starting. Primary and backup start disconnects are achieved by battery charging alternator feedback or main alternator output frequency. The control also supports configurable glow plug control when applicable.

Cycle cranking

Configurable for the number of starting cycles (1 to 7) and duration of crank and rest periods. Control includes starter protection algorithms to prevent the operator from specifying a starting sequence that might be damaging.

Time delay start and stop (cooldown) Configurable for time delay of 0-300 seconds prior to starting after receiving a remote start signal and for

time delay of 0-600 seconds prior to shutdown after signal to stop in normal operation modes. Default for both time delay periods is 0 seconds.

Auto Mains Failure functions

AMF primarily means that the genset controller is controlling both the genset breaker and a utility breaker in a transfer pair arrangement. AMF is only for use in a single genset / single utility arrangement. AMF's primary job is to keep loads powered. AMF completely manages the system by automatically starting the genset and transferring load when it detects utility failure. AMF has numerous built-in configurable sensors to determine the availability of the utility and genset sources. Sensors include under voltage, overvoltage, over/under frequency and breaker failure. PS0600 control supports only open transition (Break before Make) AMF functionality.

AMF Test mode

AMF supports test mode with or without load options along with test mode duration.

Load Transfer Switch Type

AMF breaker outputs can be continuous (contact pair) or pulsed (GTEC) type based on load transfer switch selection.

Undervoltage sensor

- Three phase LL and LN undervoltage sensing for pickup 85-100% and dropout adjustable from 75-98% of nominal and dropout adjustable delay from 0.1-30 sec

Overvoltage sensor

- Three phase LL and LN overvoltage sensing for dropout adjustable from 105-135% of nominal and dropout adjustable delay from 0.5-120 sec

Over/under frequency sensor

- Underfrequency sensing for pickup 85-100% and dropout adjustable from 70-85% of nominal and dropout adjustable delay from 0.1-15 sec
- Overfrequency sensing for dropout adjustable from 105-115% of nominal and dropout adjustable delay from 0.1-15 sec

Timers

- Control provides transfer time delays including Time delay engine start (0-3600 sec), time delay normal to emergency (0-300 sec) and programmed transition delay (0-600 sec). impending failure.

- **Cranking lockout** - The control will not allow the starter to attempt to engage or to crank the engine when the engine is running.

- Control provides retransfer time delays including time delay emergency to normal (0-1800 sec) and programmed transition delay (0-600 sec), time delay engine cooldown (0-3600 sec)

Protective functions:

On operation of a protective function, the control will indicate a fault by illuminating the appropriate status LED, as well as display the fault code and fault description on the LCD. The nature of the fault and time of occurrence are logged in the control. The service manual and InPower™ Service Tool provide service keys and procedures based on the service codes provided. In Power is used to configure settings.

Configurable alarm input

The control accepts maximum three alarm inputs (contact closed to ground) to cause a shutdown or warning response from the control.

Emergency stop

- Annunciate whenever an emergency stop signal is received from external switch.

Engine protection

- **Low lube oil pressure warning/shutdown** - Level is pre-set to match the capabilities of the engine used. Control includes time delays to prevent nuisance shutdown signals.
- **High coolant temperature warning/shutdown** - Level is pre-set to match the capabilities of the engine used. Control includes time delays to prevent nuisance shutdown signals.
- **Low coolant temperature warning** - Indicates that engine temperature may not be high enough for 1 min. and start or proper load acceptance.
- **Sensor failure indication** - Logic is provided on the base control to detect analog sensor or interconnecting wiring failures.

General engine protection:

Low Fuel Level Warning - Indicates that engine fuel level reached the Low Fuel Level Warning Threshold (30% by default).

Charging Alternator Failure Warning - Indicates that engine charging alternator voltage reached the low/high charging alternator threshold when charging alternator enable trim is enabled.

- **Low and high battery voltage warning** - Indicates status of battery charging system (failure) by continuously monitoring battery voltage.
- **Weak battery warning** - The control will test the battery each time the generator set is signaled to start and indicate a warning if the battery indicates

- **Fail to start shutdown** - The control will indicate a fault if the generator set fails to start by the completion of the engine crack sequence.

ALTERNATOR PROTECTION

Battleshort Mode

- When enabled and Battle short switch is active, the control will allow non-critical shutdown faults to be bypassed. If a bypass shutdown fault occurs, the fault code and description will still be annunciated, but the genset will not shutdown. This will be followed by a fail to shutdown fault. Emergency stop critical shutdown faults are not bypassed.

Please refer to control service and operator manual for list of critical faults

High AC voltage shutdown (59)

- Output voltage on any phase exceeds pre-set values. Values adjustable from 105-125% of nominal voltage, with time delay adjustable from 1-10 seconds. Default value is 110% for 5 seconds.

Low AC voltage shutdown (27)

- Voltage on any phase has dropped below a preset value. Adjustable over a range of 50-95% of voltage, time delay 2-20 seconds. Default value is 90% for 5 seconds.

Under frequency shutdown (81 u)

- Generator set output frequency cannot be maintained. Settings are adjustable from 2-10 Hz below nominal governor set point, for a 500-2000 half cycles delay. Default: 5 Hz, 1000 half cycles.

Over frequency shutdown/warning (81 o)

- Generator set is operating at a potentially damaging frequency level. Settings are adjustable from 2-10 Hz above nominal governor set point for 100-2000 half cycles delay. Default: 5 Hz, 1000 half cycles.

Loss of sensing voltage shutdown

- Shutdown of generator set will occur on loss of voltage sensing inputs to the control.

Current Imbalance Warning Fault

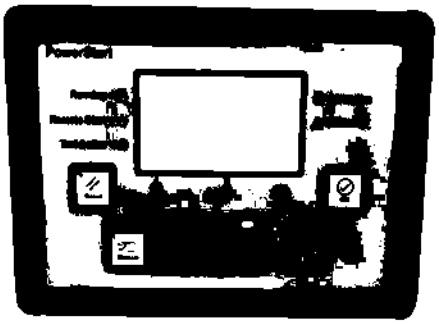
- Issues warning when current imbalance is observed per phase when genset is in running state.

High Current warning/shutdown (51)

- Implementation of the thermal damage curve with instantaneous trip level calculated based on current transformer ratio and application power rating.

Auto Mains Failure Protections:

- Breaker/ATS Switch fail to close warning - when the control signals a ATS switch to close, it will monitor the ATS switch feedback contacts and verifies that switch is closed. If the control does not sense ATS switch closure within an adjustable time period of ter the close signal, the fail to close warning will be initiated.
- Breaker/ATS Switch fail to open warning - when the control signals a ATS switch to open, it will monitor the ATS switch feedback contacts and verifies that switch is opened. If the control does not sense ATS switch opened within an adjustable time period after the open signal, the fail to open warning will be initiated.



Environment

The control is designed for proper operation without recalibration in ambient temperatures from -15 °C (5 °F) to +70° C (158 °F), and for storage from -20 °C (-4 °F) to +80 °C (176 °F). Control will operate with humidity up to 95%, non-condensing.
The control board is conformal coated to provide resistance to dust and moisture. The single membrane surface, which is impervious to effects of dust, moisture, oil and exhaust fumes. This panel uses a sealed membrane to provide long reliable service life in harsh environments. The control is specifically designed and tested for resistance to RFI/EMI and to resist effects of vibration to provide a long reliable life when mounted on a generator set. The control includes transient voltage surge suppression to provide compliance to referenced standards.

FIELD CONTROL INTERFACE

Input signals to the control include:

- configured to AMF specific outputs (Utility/ Genset CB Open/ Close driver) when Auto mains failure is enabled.

Communications connections include:

Control provides one RS-485 port which can be used either for PCTool interface or Modbus master interface based on protocol selection from LCD or Inpower™.

- Modbus RS485 port: Allows the control to communicate with external devices such as PLCs using Modbus protocol.
- PC tool interface: This RS-485 communication port allows the control to communicate with a personal computer running InPower™ software.
- Note — An RS-485 or USB to RS-232 converter is required for communication between control and PC.

Software

InPower (beyond 11.5.2.0 version) is a PC-based software service tool that is designed to directly communicate to Power Start generator sets and transfer switches, to facilitate service and monitoring of these products.

Certifications

PowerStart meets or exceeds the requirements of the following codes and standards:

- Remote start
- Emergency stop
- Configurable customer inputs:

Control includes (1 Control includes 3 input signals which can be configured for diagnostic inputs. Out of which 1st input can also be configured as Battle short input. 2nd and 3rd inputs gets configured to Utility CB status and Genset CB status when Auto mains failure is enabled.)

Output signals from the control include:

Control includes 6 configurable outputs which can be configured to Diagnostic Output, Glow Plug, Ready to load, L series governor.
Configurable output 3, Configurable output 4, Configurable output 5 and Configurable output 6 get

- CE marking: The control is suitable for use on generator sets to be CE-marked. EN 50081-1,2 residential/light industrial emissions or industrial emissions.
- EN 50082-1,2 residential/light industrial or industrial susceptibility.
- ISO 7637-2, level 2; DC supply surge voltage test.
- PowerStart control and generator sets are designed and manufactured in ISO 9001 certified facilities.

Warranty

All components and subsystems are covered by an express limited one year warranty. Other optional and extended factory warranties and local distributor maintenance agreements are available.

Ratings definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

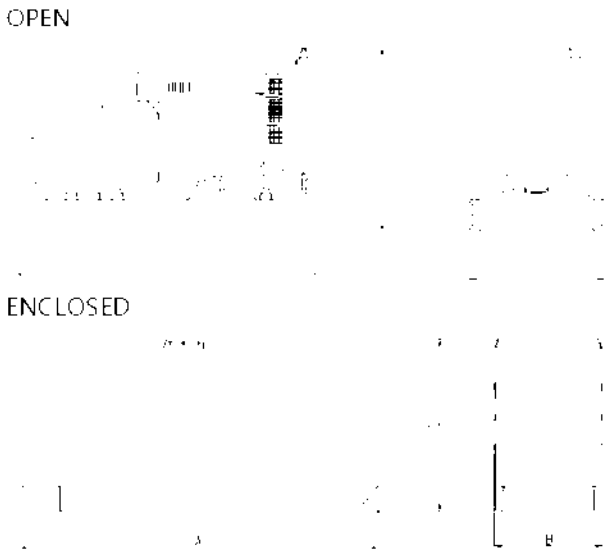
Applicable for supplying power to a constant electrical load for limited hours. Limited Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN 6271 and BS 5514.



This outline drawing is to provide representative configuration details for Model series only.

See respective model data sheet for specific model outline drawing number.

Do not use for installation design

	Open					Enclosed				
Model	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg	Length "A" mm	Width "B" mm	Height "C" mm	Dry wt.* kg	Wet wt.* kg
~~C17 D5~~	~~1667~~	~~930~~	~~1282~~	~~622.5~~	~~644.5~~	2082	987	1524	942.5	964.5
C22 D5	1667	930	1282	650.5	672.5	2082	987	1524	970.5	992.5
C28 D5	1667	930	1282	694.3	716.3	2082	987	1524	1014.3	1036.3
C12 D6	1667	930	1282	601.5	623.5	2082	987	1524	921.5	943.5
C16 D6	1667	930	1282	633.5	655.5	2082	987	1524	953.5	975.5
C20 D6	1667	930	1282	633.5	655.5	2082	987	1524	953.5	975.5

* Note: Weights represent a set with standard features. See outline drawings for weights of other configurations.

Codes and standards

ISO 9001	This generator set is designed in facilities certified to ISO 9001 and manufactured in facilities certified to ISO 9001 or ISO 9002.	CE	The 50 Hz generator sets are available with CE certification.

JAPAN TIME: Nov / 26 / 2019 07:17 AM (JST)

Hi Your Name

tradecarview tradecarview Sign up Log in +81 3 4570 4354 Language English Currency USD

Search from Stock Useful Links Need Help

Vehicle: Note this is the same quote as used to compare the rental car option to the purchase option

tradecarview™

Japan's largest online used car marketplace.

Need Help?

Japan Used Car > Toyota > Land Cruiser Prado > 2018 > Toyota Land Cruiser Prado 2018







Specific Information Option Seller's Information Catalog

Specific information

VIN (vehicle certification Number) /Serial No	TRJ150-0084***	Full VIN/Serial No will be shown on Proforma Invoice and Invoice
Model Code	TRJ150W	
Registration Year / Month	2018/03	

2018 Toyota Land Cruiser Prado

TX

TOYOTA LAND CRUISER PRADO TX 4WD

24,205 km | Automatic | No Accident Gasoline/Petrol 2,700cc

STOCK 1 inquiries for this car

Car Price (FOB) **US$32,216**

Estimated Total Price **US$34,098**

*The price is not fixed. Let's try to negotiate!

Selected C&F + Pre-ship inspection

Nearest port DAR ES SALAAM

Change destination

1 Click "Send" for free inquiry

Contact syuei trading ( )

I want to negotiate the best price

I want to know the shipping schedule

I want to know about the condition of the car

★ Add to Favorite

Send

If you do not have a login ID, please register for free first

I want to receive special promotions by emails

By clicking 'Send' button, you agree to the following terms

> Tradecarview Terms of Use

> Privacy Policy

Manufacture Year / Month	Confirm with the Seller
Mileage	24,200 km
Transmission	Automatic
Engine Capacity (Displacement)	2,700cc
Fuel	Gasoline/Petrol
BodyStyle1	SUV
BodyStyle2	-
Steering	Right
Exterior Color	Black
Interior Color	Black
Drive Type	4wheel drive
Door	5
Number of Seats	5
Dimension	476cm×189cm×185cm=16.64m³
Condition	Used
ID	5/2150 191124120615
Remarks (Any Problems)	-
Comment	Very clean interior Looks & runs great Low mileage
Expiry Date	Dec / 24 / 2019 (JST)



Options

Safety

Driver Airbag	**Anti-Lock Brakes**	**Passenger Airbag**	Alarm
Side Airbag			

Comfort

Power Steering	**A/C:front**	**Remote Keyless Entry**	Navigation System
A/C:rear	**Cruise Control**	**Digital Meter**	**Tilt Steering**

Sound System

CD Player	AM/FM Radio	AM/FM Stereo	DVD
CD Changer	Aftermarket Speaker	Hard Disc	Satellite Radio

Windows

Power Windows	**Rear Window Defroster**	**Tinted Glass**	**Rear Window Wiper**

Other Features

Power Door Locks	**Alloy Wheels**	**Power Mirrors**	Sunroof
Third Row Seats	Power Slide Door		

Other selling points

No Accident history	**Maintenance Records Available**		**One Owner**
New Tires	**Non-Smoker**	Fully Loaded	Performance Tires
Turbo	Upgraded Sound System	Custom Wheels	**Repainted Car**

Seat

Leather Seats	Power Seats	Child Seat	Bucket Seat

HummingbirdIRB payments are made every 6 months 1/2

Hummingbird IRB
c/o NEIRB, 197 1st Avenue, Suite 250
Needham, MA 02494 US
(855) 447-2123
ddennett@hummingbirdirb.com
http://hummingbirdirb.com

BILL TO
Melinda Rostal
EcoHealth Alliance (2)
460 West 34th Street - 17th floor
New York, NY 10001

INVOICE # 1088
DATE 12/16/2015
DUE DATE 12/31/2015
TERMS Net 15

Continuing Review (phase II-IV) Continuing Review for Sponsor: Defense Threat Reduction Agency, Investigator: William Karesh, D.V.M.	1	1,000.00	1,000.00

PAID

Thank you for your business.

PAYMENT 1,000.00
BALANCE DUE **$0.00**

HummingbirdIRB payments are made every 6 months 2/2

Hummingbird IRB
c/o NEIRB, 197 1st Avenue, Suite 250
Needham, MA 02494 US
(855) 447-2123
ddennett@hummingbirdirb.com
http://hummingbirdirb.com

BILL TO
Emily Hagan
EcoHealth Alliance
460 West 34th Street - 17th floor
New York, NY 10001

INVOICE # 1065
DATE 06/17/2016
DUE DATE 07/02/2016
TERMS Net 15

Initial Review (Phase II-IV) New Investigator (Karesh) & Site - Hummingbird IRB #2014-25/Defense Threat Reduction Agency - 2nd installment	1	1,000.00	1,000.00

PAID

Thank you for your business.

PAYMENT 1,000.00
BALANCE DUE **$0.00**

Ethical Clearance in Tanzania

For (b)(4) application the following is required:

1/ Pay Slip (b)(4) if it is an Ordinary study / 700 $ if it is a Clinical Trial.)
2/ Cover letter
3/ Application Form - CRERC FORM 2
4/ Full Protocol
5/ Questionnaires / Informed Consent forms (in English and Swahili)
6/ Investigators CVs - CRERC FORM 13

For NIMR application the following is required: (see next page)

1/ Pay Slip (600 USD if it is an Ordinary study / 2,100 USD if it is a Clinical Trial)
2/ Cover letter
3/ NIMR Application Form
4/ KCMC EC - Approval Certificate. (Approval from international collaborating institution if applicable)
4/ Full Protocol
5/ Investigators CVs - CRERC FORM 13
6/ Letter from RMO
7/ Material Transfer Agreement (if samples will be transferred)
8/ Data Transfer Agreement (if data will be transferred)
9/ Informed Consent forms (in English and Swahili)
10/ Questionnaires (in English and Swahili)

Please make sure to use the following format while preparing the submission to KCMC and NIMR:

1. Abstract
2. Introduction
3. Literature review
4. Problem statement
5. Rationale of the study
6. Broad Objective and specific objectives should clearly be stipulated
7. Methodology which should include 1. Study design, study area, study population, inclusion and exclusion criteria, sample size and sample size techniques, data collection methods and tools, study variables
8. Ethical considerations and limitation of the study
9. Dissemination of the results
10. The budget **(and Budget justification)** should have 10% - 25% overhead costs

National Health Ethics Review Committee (NatHREC)
Payment Rates as from October 2013

	TANZANIAN TSHS	**INTERNATIONAL US$**	**TANZANIAN TSHS**	**INTERNATIONAL US$**
(b)(4)	100,000.00	(b)(4)	100,000.00	100
(b)(4) (Ordinary)	300,000.00	(b)(4)	150,000.00	250
Clearance for (Clinical Trial)	2,000,000.00	2,000	1,000,000.00	750
(b)(4) (Ordinary)	100,000.00	(b)(4)	100,000.00	100
Renewal of (Clinical Trial)	200,000.00	200	200,000.00	200
(b)(4) (Ordinary)	600,000.00	(b)(4)	-	-
Expedited Review (Clinical Trial)	3,000,000.00	4,000	-	-
(b)(4) (Ordinary)	200,000.00	(b)(4)	100,000.00	150
Amendment (Clinical Trial)	500,000.00	500	250,000.00	250

- Always indicate the name of Principal Investigators and please attach the Deport Slip to your proposal on submission to the Secretariat National Ethics Review Committee

LOGICAL PRESENTATION OF REQUIREMENTS FOR APPLICATION OF

(b)(4)

The objective of the analysis that led to this presentation was to find a much more easier to understand presentation of the requirements to the prospective applicants.

GENERAL REQUIREMENTS: These apply to all applications

	Item	Foreigners Affiliated to Local Research and Higher Learning Institutions	Others (Tanzanian, Non Tanzanians, affiliated in a foreign country, affiliated locally, etc)
1	Detailed curriculum vitae	Required for all involved researchers	Required for all involved researchers
2	Full research proposal	Required	Required
3	Sponsor cover letter	Required	Required
4	Support letter from local collaborating institution / contact person	Required	Required
5	Recommendation letter for endorsement of the proposed research within the institution	Required	Not applicable
6	Front-page of passport	Required	Required
7	Proof of payment non-refundable application fees	(b)(4)	(b)(4)
8	Application form	Required	Required

REQUIREMENTS FOR SPECIFIC SCENARIOS

a) Research related to medical, public health, drugs, clinical trials, and wildlife issues require special clearance from relevant authorities i.e National Institute of Medical Research (NIMR) for the study that involves medical, public health and / or human subject (health); Tanzania Food and Drug Authority for Clinical Trials; and Tanzania Wildlife Research Institute (TAWIRI) for the study that involves wildlife and natural resources conservation.

b) In case of joining a new researcher to an on-going research which has already been granted a research permit, a Principal Investigator shall submit a request of research permit for a new member to COSTECH at least 2 months prior to his/her joining the research team with detailed curriculum vitae, clear justification and roles for an additional staff / researcher to the on-going project.

c) It is anticipated that the PI will remain responsible for the entire lifetime of the project, unless circumstances necessitate a change of PI. In such rare situation the head of hosting research institution shall write to notify COSTECH within 6 months since termination of outgoing PI. This will be done in writing explaining the reason for the changes and suitability of a newly identified PI. The letter requesting for amendment, accompanied by an up to date progress report shall be subjected to approval process before continuing with the research. It is the responsibility of the hosting institution to submit the request for change of PI within specified time.

POST CLEARANCE

a) After the research has been cleared, the PI will be notified by email. All FOREIGNERS who then wishes to undertake research activities in the country under the cleared research project will be required to (b)(4)

(b)(4)

and three passport size photos.

b) All researchers granted research permit that involve collecting human, plant or animal materials / data that will be exported outside Tanzania must submit a signed Material Transfer Agreement (MTA) / Data Transfer Agreement (DTA) between Tanzania host institution and the foreign counterpart. The MTA/DTA will indicate terms for collecting, storing/managing, transporting, disposal or returning of the materials/DATA to Tanzania after the closure of the research project.

c) An Applicant who has been permitted to conduct research in Tanzania is obliged to submit soft and **two (2) hard copies** (printed) and soft copy of his/her research report /thesis with COSTECH on completion of research.

d) COSTECH will have an access to data and research premises of the permitted research projects.

e) A Principal Investigator (PI) permitted to conduct research in Tanzania is obliged to submit a quarterly/annually report.

f) Persons who have not submitted satisfactory final reports / thesis on previous research work in Tanzania may not be cleared for new projects. Attention will be drawn to the sponsoring institutions and referees on shared responsibility of making sure that researchers sponsored by them observe the foregoing regulations. A breach of the regulations could result in refusal of permits for other researchers sponsored by same institutions or referees.

g) Any patent or intellectual property and royalty emanating from any research approved by the National Research Registration Committee (NRRC) should be owned by the respective research institutions involved.

T218296

The United Republic of Tanzania

MINISTRY OF NATURAL RESOURCES AND TOURISM

Tanzania Wildlife Research Institute - TAWIRI

Government Bill

Control Number:	994330001101
Service Provider Code:	SP433
Payer Name:	[illegible]
Address:	[illegible]
Payer Phone:	[illegible]

General Description

Research Fee for Data Bankester to undertake its research Project: Ecosystem Health in Tanzania

Description	Quantity	Unit Price	Amount
[illegible]	1	[illegible]	[illegible]
[illegible]	1	[illegible]	[illegible]

Total: 3,800,000 USD

Amount in Words: Three Thousand Eight Hundred

Issued On:	[illegible]
Expires On:	[illegible]
Payment Type:	[illegible]
Payment Ref:	[illegible]
Status:	[illegible]

Instructions

[illegible]

How to Pay

[illegible]

- [illegible]
- [illegible]
- [illegible]
- [illegible]

- [illegible]
- [illegible]
- [illegible]
- [illegible]

Supplies for Y3 Workshops

Cart

Account: 884930003 EcoHealth Alliance

Item	Price	Qty	Subtotal
Eppendorf Tubes™ 5.0mL with Screw Cap Catalog number 13-864-407 **by Eppendorf™** **0030122321** **Temperature Range (Metric): -86°C to 100°C, Color: Clear, Clean Claims: Pyrogen-, Dn...**	**$93.00 / Each**	3	**$279.00**
	On Order (3) - Estimated delivery 12/23/2019		
Pierce™ 96-Well Microplates Catalog number PI15042 **by Thermo Scientific™** **15042** **Description: Pierce 96-Well Polystyrene Plates, White Opaque**	**$138.40 / Pack of 25**	2	**$276.80**
	Ships from manufacturer - Usually Ships in 1 Business Days		
ART™ Barrier Specialty Pipette Tips Catalog number 21-402-185 **by Thermo Scientific™** **2770** **Tip Style: Ergonomic, Volume (Metric): 200µL, Compatibility: Thermo Scientific™ Finnp...**	**$191.70 / Pack of 960** **$846.00 / Case of 5 PK**	1	**$191.70**
	In Stock (1) - Estimated delivery 11/29/2019		

Order Summary

Subtotal	$1,413.60
▲ Shipping and Handling *	$105.59
Shipping fuel surcharge	$4.45
Shipping charge	$101.14
Estimated Tax	$0.00

*Extra charges may apply for products that require special services.

*Additional handling charges determined by direct ship manufacturers may apply.

Generate a Web Quc

View All Quotes | What's this?| missing translation for 'faq'

Item	Price	Qty	Subtotal
ART™ Barrier Specialty Pipette Tips Catalog number 21-236-85 **by Thermo Scientific™ 2279** **Tip Style: Ergonomic, Volume (Metric): 1000µL, Compatibility: Thermo Scientific™ Finn...**	**$227.00 / Pack of 800** **$839.00 / Case of 4 PK**	1	**$227.00**
	In Stock (1) - Estimated delivery 11/29/2019		
ART™ Non-Filtered Standard Hinged Rack Pipette Tips Catalog number 13-811-159 **by Thermo Scientific™ 310105HR** **Volume (Metric): 1000µL, Description: ART Non-filtered Low Retention, Sterility...**	**$129.10 / Pack of 768** **$471.00 / Case of 4 PK**	1	**$129.10**
	On Order (1) - Estimated delivery 12/05/2019		
Fisherbrand™ Sure One™ Low Retention Non-Filtered Pipette Tips, 200 µL, Standard Length Catalog number 02-707-019 **Packaging: Hinged Rack, Sterility: Sterile**	**$79.00 / Pack of 960** **$356.00 / Case of 5 PK**	2	**$158.00**
	On Order (2) - Estimated delivery 01/03/2020		

Item	Price	Qty	Subtotal
Fisherbrand™ Sure One™ Low Retention Non-Filtered Pipette Tips, 10 µL, Micro Length Catalog number 02-707-011 **Packaging: Hinged Rack, Sterility: Sterile**	**$76.00 / Pack of 960** **$342.00 / Case of 5 PK**	2	**$152.00**

On Order (2) - Estimated delivery 01/03/2020

Add all items to a list

Open Access Publication Fees

Why Researchers Choose PLOS ONE
Scope
Criteria for Publication
Peer Review at PLOS ONE
Ready to Submit?
Contact
Give Feedback

See all Calls for Papers and learn more about publishing in a Collection.

Criteria for Publication

1. The study presents the results of original research.
2. Results reported have not been published elsewhere.
3. Experiments, statistics, and other analyses are performed to a high technical standard and are described in sufficient detail.
4. Conclusions are presented in an appropriate fashion and are supported by the data.
5. The article is presented in an intelligible fashion and is written in standard English.
6. The research meets all applicable standards for the ethics of experimentation and research integrity.
7. The article adheres to appropriate reporting guidelines and community standards for data availability.

PLOS ONE encourages researchers to share early versions of their manuscripts via preprint server, either before or after submission; posting to a preprint server will not preclude consideration of your manuscript.

Peer Review at PLOS ONE

PLOS ONE is a fully peer reviewed journal with a rigorous multi-stage editorial screening and assessment process.

First, we undertake an initial in-house quality check to identify potential issues such as competing interest, compliance with ethical standards for studies involving human and animal subjects, financial disclosures, data availability, and other scientific and policy requirements. Submissions may be returned to authors for changes or clarifications at this stage.

After passing quality control, each manuscript is placed with a member of the Editorial Board who conducts peer review and makes the decision to accept, invite revision, or reject the submitted manuscript. Read the detailed Editorial and Peer Review Process overview.

Ready to Submit?

Submission Guidelines | Submission System

About

Publication fees

(b)(4)

Indexing and archiving

See publishing details for all PLOS journal titles, including ISSN and indexing and archiving information.

PLOS

PLOS is a nonprofit Open Access publisher, innovator and advocacy organization with a mission to advance progress in science and medicine by leading a transformation in research communication.

Contact

Visit the Contact page for details about whom to contact with different queries.

Give Feedback

Software Fees

Quotation

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

Quote #	115815
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Quote Date	8/19/2019
Expires	8/26/2019

Sales Rep: Tom Haven
tom.haven@ccbtechnology.com
p. (800) 342-4222

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Megan Walsh
460 W 34th St Fl 17
New York, NY 10001-2317
UNITED STATES
(212) 380-4460
walsh@ecohealthalliance.org

Adobe subscription renewal			Electronic Delivery

25	Adobe Acrobat Pro DC for Teams 12 month subscription renewal	$177.00	$4,425.00	2019-09-18	2020-09-17	
15	Adobe Creative Cloud for Teams 12 month subscription renewal	$370.00	$5,550.00	2019-09-18	2020-09-17	

Sub Total:	$9,975.00
Shipping and Handling:	$0.00
Tax Rate: (0.08875)	$0.00
Total	**$9,975.00**

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

Price is subject to change based on potential fluctuation of trade tariff regulation.

Dropbox Inc.
333 Brannan Street
San Francisco, CA 94107
United States
billing-support@dropbox.com

Invoice for EcoHealth Alliance

TO	DATE	INVOICE ID
Megan Walsh walsh@ecohealthalliance.org 10001 United States	February 25, 2019 6:50 AM GMT	SLSWTLNSKN5J

PRODUCT	PRICE	DISCOUNT	AMOUNT
Dropbox Business Advanced Plan (includes 3 licenses) + 60 Additional Licenses + Unlimited API Call Rate Limit + Unlimited Extended Version History (2/25/2019 to 2/25/2020)			
Dropbox Business Advanced Plan (includes 3 licenses)	$600.00	30%	$420.00
60 Additional Licenses	$12,000.00	30%	$8,400.00
Unlimited API Call Rate Limit	$0.00	30%	$0.00
Unlimited Extended Version History	$0.00	30%	$0.00
Total			$8,820.00

All amounts shown are in USD.

Clarivate
Analytics

Clarivate Analytics
Philadelphia, PA 19130
1500 Spring Garden Street, Suite 400
Philadelphia, PA 19130

To: Megan Walsh, Department Head, EcoHealth Alliance

Re: Your EndNote X9 Upgrade License Quote

Sent by e-mail: 10/16/2018

Thank you for your interest in our products. Please accept this letter (via e-mail) as our quote for Endnote X9.

License Type	Total Users	Total Price (excludes state tax, if applicable)
Endnote X9 Upgrade License (US$99.95 each)	40	US$3,998.00

Promotional Pricing Valid 11/16/2018

Purchasing Instructions:
If applicable, send (b)(4) your institution's Tax-Exempt Certificate for your state's tax to be excluded from your order

Contact (b)(6) to receive EndNote.

Premium access to EndNote Web – **Free**
Training and support - $0.00 – **Free**
Shipping – Digital Download - $0.00 – **Free**

You may place your order on a purchase order (terms are Net 30), by check/money order drawn on a U.S. bank or Visa/MasterCard/American Express.

Regards,

Bill Durant
Account Manager
(215) 823-1797
William.Durant@clarivate.com

2823 Carlisle Ave.
Racine, WI 53404
p. (800) 342-4222
f. (800) 440-5036

Invoice IN88282-1

Order #	88282
Terms	NET 30
Contact	Megan Walsh walsh@ecohealthalliance.org (212) 380-4462
Invoice Date	4/11/2018
Due Date	5/11/2018

Sales Rep: Tom Haven
tom.haven@ccbtechnology.com
p. (800) 342-4222

EcoHealth Alliance
Megan Walsh
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
(212) 380-4462
walsh@ecohealthalliance.org

EcoHealth Alliance
Accounts Payable
460 W 34th St FL 17
New York, NY 10001
UNITED STATES
walsh@ecohealthalliance.org
(212) 380-4462

CCB Technology
Accounts Receivable
2823 Carlisle Ave.
Racine, WI 53404
(800) 342-4222

(10) Office 2016 Standard Edition licenses	Per Phone	

1	Microsoft Corporation	021-10552	10	Microsoft Office 2016 Standard Edition license	$94.00	$940.00

Sub Total:	$940.00
Shipping and Handling:	$0.00
Tax Rate: (0.00000)	$0.00
Total	**$940.00**
Credits/Payments:	$0.00
Total Due:	**$940.00**

Shipping Location

1	EcoHealth Alliance Megan Walsh 460 W 34th St Fl 17 New York, NY 10001-2317 UNITED STATES (212) 380-4460 walsh@ecohealthalliance.org	10	$940.00

Shipping Detail

4/10/2018	Microsoft Corporation	021-10552	

Tracking Numbers

4/10/2018	Other	*VIRTUAL (Unrecognized Number)*

Please note:

Return policies vary per manufacturer. (Apple and McAfee both have a no returns policy)

Custom configured items/built-to-order items are non-returnable.

Start dates and end dates for renewals may change based on the manufacturer's guidelines, policies, renewal order date, or date of activation.

Fringe Benefits Allocation Policy

Compensated absences, including vacations, sick, holidays and personal days are considered salaries and wages and, as such, are recorded as salaries and wages when used.

No separate claims are made for those costs under fringe benefits costs category. Compensated absences earned, but not used, are not carried over to the next fiscal year. There is a grace period of using the earned compensated absences by September 30.

All employees are covered for Social Security, NYC commuter taxes, payroll transit taxes, Worker's compensation insurance and unemployment.

Employees working 35 hours or more per week are eligible:

- Health Insurance, including medical, dental and vision;
- Life Insurance;
- 403(B) pension plan (After nine (9) months of employment);
- Short and long term disability.

Employees working more than 20 hours but less than 35 hours per week are eligible for the following fringe benefits:

- Life Insurance;
- Short-Term/long-Term Disability;
- 403(B) pension plan (After nine (9) months of employment).

Fringe Benefits are tracked by employees and charged directly or indirectly in the same manner as employees' salaries and wages.

Although, the costs principles policy for fringe benefits has not changed, effective fiscal year 2020 starting July 1, 2019, EcoHealth Alliance no longer negotiates a fringe benefits rate with the Department of Defense.

For funding proposals, fiscal year 2019 actual data will be used to budget fringe benefit costs. For billing, invoicing and reporting purposes to federal and non-federal donors the actual benefits will be allocated and requested.

ECOHEALTH ALLIANCE, INC.
YEAR ENDED JUNE 30, 2019

Schedule of Fringe Benefits

Categories		Amount	
Salaries and Wages	**$**	**4,426,650**	**A**
Fringe Benefits			
Health Insurance		782,523	
Health Insurance payments in lieu of benefit		11,898	
Vision Care		2,509	
Washington DC Family Leave Ins		218	
Washington Unemployment Insurance		133	
Life Insurance ST/LT Disability/Dental		121,563	
NYS Unemployment Ins (NYSUI)		9,483	
NYS Disability Insurance		2,276	
Pension Expense		305,704	
Tuition Reimbursement expense		12,834	
NYS Commuter Tax		14,145	
Payroll Transit Tax - Federal		12,734	
Payroll Transit Tax New York		5,457	
FSA Fees		32,723	
Social Security Employor Expense		295,392	
Washington DC Unemployment Tax		243	
Workers Compensation		19,173	
Total	**$**	**1,629,007**	**B**
Frindge Benefits Rate	**%**	**36.80**	**B/A**

DEPARTMENT OF THE NAVY
OFFICE OF NAVAL RESEARCH
875 NORTH RANDOLPH STREET
SUITE 1425
ARLINGTON, VA 22203-1995

Agreement Date: July 17, 2019

NEGOTIATION AGREEMENT

INSTITUTION: **ECOHEALTH ALLIANCE, INC.**
460 WEST 34TH ST. 17TH FLR
NEW YORK, NY 10001-2320

The Indirect Cost rate contained herein is for use on grants, contracts and/or other agreements issued or awarded to the EcoHealth Alliance, Inc. by all Federal Agencies of the United States of America, in accordance with the provisions and cost principles mandated by 2 CFR Part 200. The rate shall be used for forward pricing and billing purposes for the EcoHealth Alliance, Inc. Fiscal Year 2020. This rate agreement supersedes all previous rate agreements/determinations for Fiscal Year 2020.

Section I: RATES - TYPE: PROVISIONAL (PROV)

Indirect Rates:

TYPE	FROM	TO	RATE	BASE	APPLICABLE TO	LOCATION
Prov.	07/01/19	06/30/20	32.0%	(a)	All	All

DISTRIBUTION BASES

(a) Total direct costs excluding capital expenditures (buildings, individual items of equipment; alterations and renovations), the portion of each subaward in excess of $25,000, participant support costs, and flow-through funds.

SECTION II - GENERAL TERMS AND CONDITIONS

A. **LIMITATIONS:** Use of the rate set forth under Section I is subject to availability of funds and to any other statutory or administrative limitations. The rate is applicable to a given grant or contract or other agreement only to the extent that funds are available. Acceptance of the rate agreed to herein is predicated upon the following conditions: (1) that no costs other than those incurred by the organization were included in this indirect cost pool as finally accepted and that such costs are legal obligations of the organization and allowable under governing cost principles; (2) that the same costs that have been treated as indirect costs are not claimed as direct costs; (3) that similar types of costs have been accorded consistent accounting treatment; and (4) that the information provided by the organization which was used as a basis for acceptance of the rate agreed to herein, and expressly relied upon by the Government in negotiating and accepting the said rate is not subsequently found to be materially incomplete or inaccurate.

B. **ACCOUNTING CHANGES**: The rate contained in Section I of this agreement is based on the accounting system in effect at the time the agreement was negotiated. Changes to the method(s) of accounting for costs, which affect the amount of reimbursement resulting from the use of the rate require the prior written approval of the authorized representative of the cognizant agency for indirect costs. Such changes include but are not limited to changes in the charging of a particular type of cost from indirect to direct. Failure to obtain such approval may result in subsequent cost disallowances.

C. **PROVISIONAL RATES:** The provisional rate contained in this agreement is subject to unilateral amendment by the Government or bilateral amendment by the contracting parties at any time.

D. **USE BY OTHER FEDERAL AGENCIES**: The rate set forth in Section I is negotiated in accordance with and under the authority set forth in 2 CFR Part 200. Accordingly, such rate shall be applied to the extent provided in such regulations to grants, contracts, and other agreements to which 2 CFR Part 200 applies, subject to any limitations in part A of this section. Copies of this document may be provided by either party to other federal agencies to provide such agencies with documentary notice of this agreement and its terms and conditions.

E. **SPECIAL REMARKS**: The Government's agreement with the rate set forth in Section I is not an acceptance of the EcoHealth Alliance, Inc.'s accounting practices or methodologies. Any reliance by the Government on cost data or methodologies submitted by EcoHealth Alliance, Inc. is on a non-precedence-setting basis and does not imply Government acceptance.

Accepted:

FOR ECOHEALTH ALLIANCE, INC.:	FOR THE U.S. GOVERNMENT:
ARMINE ARUSTAMYAN	LINDA MORGAN WOOD
Chief Financial Officer	Contracting Officer
07-17-19	7/17/19
Date	Date

For information concerning this agreement contact:

Sharon Gales
Office of Naval Research
875 North Randolph Street
Arlington, VA 22203-1995

Phone: (703) 696-8559
E-mail: sharon.gales@navy.mil

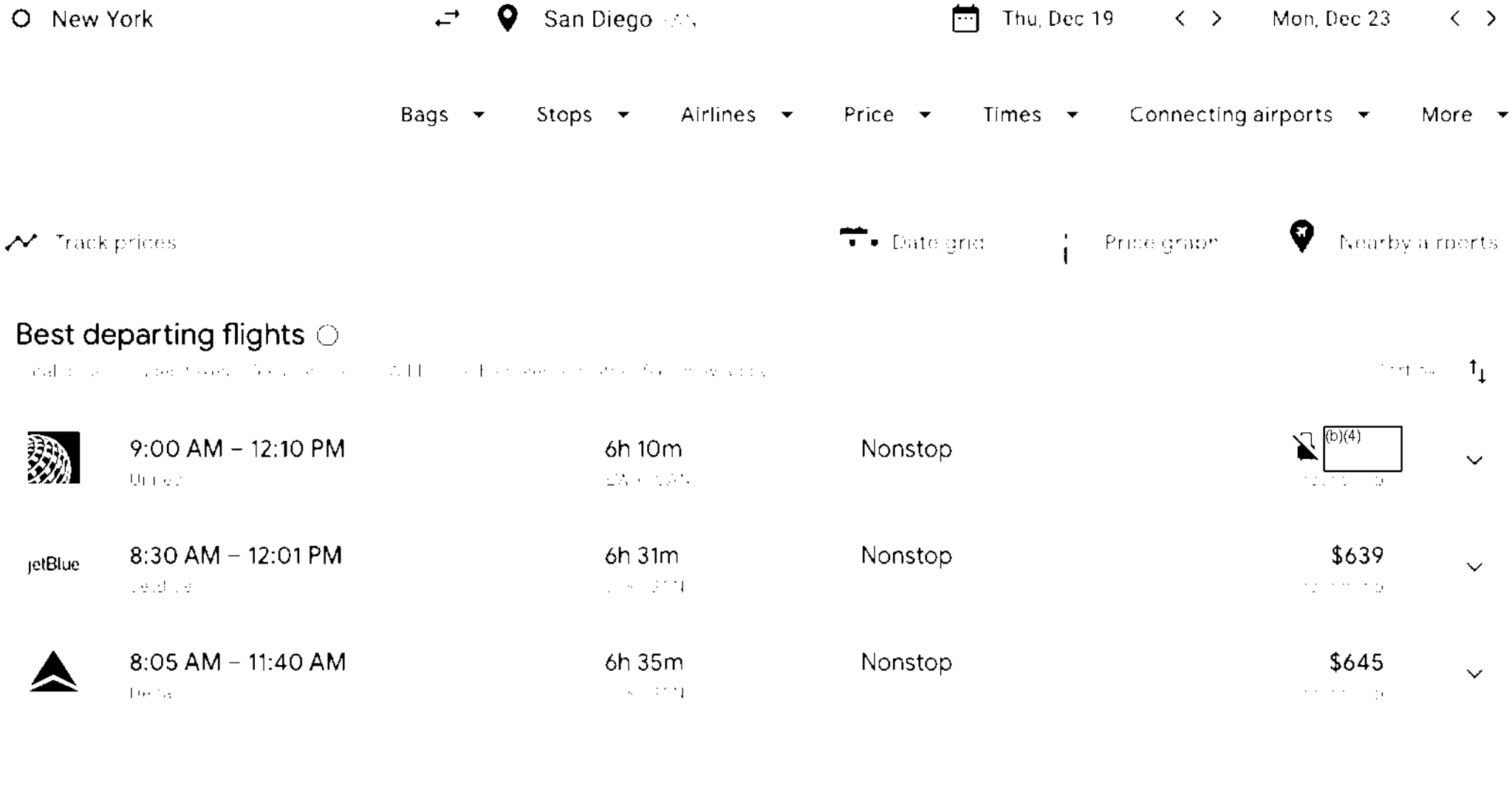
APHA 2019 REGISTRATION FEES

Meals are not included in registration fees

Full Conference Registration Member perks! Members save up to $100 more on registration!	Early-Bird Aug. 8	Advance Sept. 12	Final After Sept. 12	Membership Dues
Regular Member	(b)(4)	$606	$665	(b)(4)
Company/Consultant Individual~	$546	$606	$665	$145
Agency Individual+	$546	$606	$665	$70
Discounted Regular (salary < $45,000)	$337	$372	$407	$110
Retired	$337	$372	$407	$100
Student*	$247	$282	$292	$85
Early-Career Professional**	$345	$390	$435	$135
Non-Member	$871	$931	$990	
Non-Member Student	$382	$417	$427	
Guest (Non-Public Health)***	$345	$380	$415	

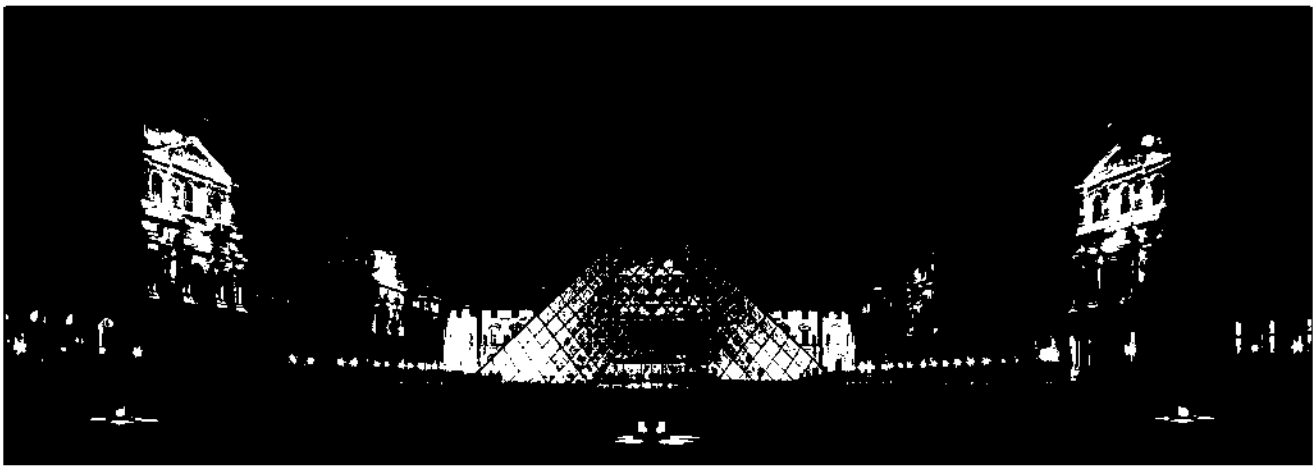
Example of cost of registration for domestic conference APHA it is either $546 + $225 or $871 - we used the former for our budget.

Example of cost of flight costs for domestic conference APHA.



ICEID 2020: 14. International Conference on Epidemiology and Infectious Diseases

July 20-21, 2020 in Paris, France



Conference Code: **20FR07ICEID**

Submit Your Paper | Author Registration | Listener Registration

About | Call For Papers | Important Dates | Committees | Registration Fees | Conference Photos | Flyer | Program

Participation Type	Early Registration Fees	Registration Fees
Non-Student Oral/Poster Presenter Registration	(b)(4)	~~€ 500~~
Student Oral/Poster Presenter Registration	€ 350	~~€ 400~~
Listener Registration	€ 250	~~€ 300~~
Additional Paper Publication	€ 100	

All conference materials and services will be delivered digitally to the participant with the online conference management system. Conference registration includes the following digital materials and services:

- e-certificates [for Authors: Certificate of Attendance and Presentation; for Listeners: Certificate of Attendance; for Chairs: Certificate of Attendance and Appreciation; for Presenters: Certificate of Best Presentation (if conferred based appraisal)]
- e-program
- e-book
- e-name badge
- e-receipt
- e-presentation

Presentation Types:

- **Physical presentation** is an oral conferencing presentation that is made using digital technology including embedded digital elements (texts, tables, graphs, or videos) for PowerPoint sharing.
- **Digital presentation** is a digital conferencing presentation that is made using digital technology including embedded digital elements (texts, tables, graphs, or videos) for PowerPoint sharing.

Early Bird Registration

Early Bird registration is valid until **2020-06-19 23:59:59**

Online Credit Card Processing

Online payment option available for author and listener delegates.
Conference participants can make online credit card payments for conference registration fees.

New York

Paris

Sat, Jan 4

Thu, Jan 9

Bags

Nonstop ×

Airlines

Travel Jan 6 10 for $540

irports

More

Best departing flights

	6:25 PM – 7:25 AM+1	7h 0m	Nonstop	(b)(4)
	5:29 PM – 6:35 AM+1	7h 6m	Nonstop	
	10:30 PM – 11:20 AM+1	6h 50m	Nonstop	$1,460
	5:50 PM – 7:20 AM+1	7h 30m	Nonstop	$1,480
AF 73	11:55 PM – 1:05 PM+1	7h 10m	Nonstop	$1,480

Invoice for legal services associated with an O-1 Visa

VISASERVE
Nachman, Phulwani, Zimovcak
Law Group, P.C.
Immigration and Nationality Law

Nachman Phulwani & Zimovcak
(NPZ) Law Group, P.C
487 Goffle Road
RIDGEWOOD, NJ 07450
(201) 670-0006x109
christoph_jenke@visaserve.com
http://www.visaserve.com

BILL TO
EcoHealth Alliance
460 West 34th Street
17th Floor
New York, NY 10001-2320

INVOICE #
DATE 12/29/2016
DUE DATE 01/28/2017
TERMS Net 30

ATTORNEY	PARALEGAL		
O-1 Visa by EcoHealth Alliance for [redacted] - Paid		4,500.00	4,500.00
FEDEX International Shipping Charge 12/15/2016		142.26	142.26

For your convenience you can pay online at:
https://secure.lawpay.com/pages/npzlawgroup/operating

PAYMENT 4,500.00
BALANCE DUE **$142.26**

Solo

Hotel in NYC while looking for appartment



Rates		Price per night
○ YOTEL member		
Pay later	Rate summary	$129.44
● Book now and save 30%		
Pay now	Rate summary	$133.44

Guests: 1 — Add

○ Flexible		
Pay later	Rate summary	$190.62

Premium Queen

Rates	Price per night

YOUR RESERVATION

Edit your booking

Price Check

Location:	YOTEL New York
Nights:	8
From:	Aug 01 2020
To:	Aug 09 2020
Room 1	Solo
Remove	1 x Guests
	Book now and save 30% $1067.50

Total cabin cost	$1067.50
Javits tax	$157.45
NYC sales and occupancy tax	$157.45
City and state tax	$157.45
Facility fee	$280.00
Total taxes and fees	$752.35
Total (including taxes and fees)	$1574.23

We can only hold you selected cabin(s) for twenty minutes in the online booking process, after that we will have to let them go.

Confirm Booking

Log In Sign Up Locations Tanzania - English My Profile

Search

Quick Start Tracking Shipping Services Customer Service

UPS Home > Shipping > Calculate Time & Cost

Parcel Delivery Quote

Log in and select a UPS account to receive the most accurate rate and delivery time information. Log In

Package | Freight

Print Find Locations

Please provide information about your shipment including destination, origin, shipment date, and weight. Required fields are indicated with * .

1 Where and When?

Ship To:
NEW YORK, 10001 United States
Residential

Ship From:
DAR ES SALAAM ILALA, 12101
Tanzania
Commercial

Shipment Date:
Friday 1 November 2019

Customs Value:
100 USD

Duty Type:
09 - Low value

2 Enter Detail to Show Cost

Packaging:
My Packaging
40 x 20 x 40 cm

Package Weight:
15 kg

Number of Packages:
1

Declared Value:
500 USD

Additional Resources / Tools
- Zones and Rates

Showing Results For:
DAR ES SALAAM ILALA, 12101, Tanzania to New york, 10001, United States

Service	Time	Cost (All Packages)
UPS Express Plus **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** 8:30 A.M. Tuesday 5 November 2019	513.71 USD Billable Weight: 15.0 kg View Details Ship Now
UPS Express **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** 10:30 A.M. Tuesday 5 November 2019	409.65 USD Billable Weight: 15.0 kg View Details Ship Now
UPS Express Saver **Latest Pickup Time:** 4:00 P.M. Friday 1 November 2019 **Schedule by :** 3:00 P.M.	**Delivered By:** By End of Day Tuesday 5 November 2019	389.65 USD Billable Weight: 15.0 kg View Details Ship Now

Rate estimates are based on export rates from the origin (Ship From) country or territory.

Result estimates calculated by UPS: Friday 1 November 2019 1:15 P.M. Eastern Time (USA)

* Rate includes a fuel surcharge . For a breakdown of charges, select View Details beside each service.

Shipping costs for the move to NYC

- **Standard-sized 1st bag is free and 2nd bag fee applies when returning back to Cuba**

Charges

Region	Bag 1	Bag 2	Bag 3	Bag 4+
Domestic	$30	$40	$150	$200
Mexico	$30	$40	$150	$200
Haiti	$0	$40**/70**	$150	$200
Caribbean	$30*	$40/$70**	$150	$200
Panama	$0	$40	$150	$200
Central America (except Panama)	$30*	$40/$55**	$150	$200
Brazil	$0	$0	$150	$150
Colombia	$0/$30*	$55	$150	$200
Ecuador	$0	$40	$150	$200
Guyana	$30	$40	$150	$200
Venezuela	$0	$55	$150	$200
South America (except Brazil, Colombia, Ecuador, Guyana, and Venezuela)	$0	$0	$150	$200
Transatlantic	$0/$60^	$100	$200	$200
Transpacific	$0	$0	$200	$200

All published bag fees are base rates according to travel dates and destination; applicable taxes are not shown. Seasonal pricing applies for tickets issued on / before April 17, 2019 for travel on December 8 - 24, 2019 or for tickets issued on / after April 18, 2019 for travel on December 7, 2019 - January 12, 2020. Seasonal pricing also applies for tickets issued on / before August 19, 2019 for travel on June 15, 2020 - August 12, 2020 or for tickets issued on / after August 20, 2019 for travel on June 1, 2020 - August 19, 2020.

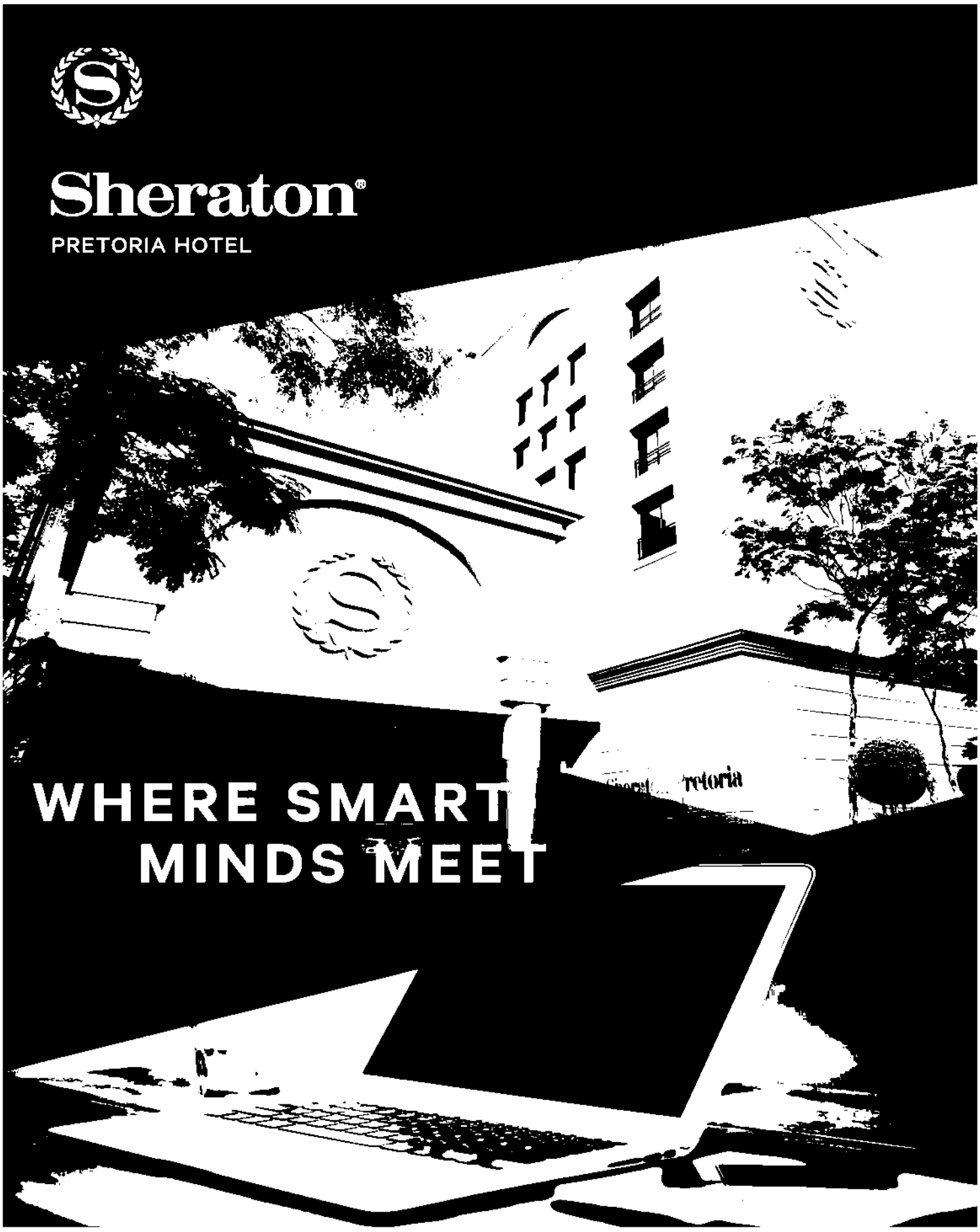
*For travel to / from El Salvador, the 1st bag fee of $30 applies seasonally. For travel to / from Cali, Colombia the 1st bag fee applies seasonally for tickets issued on or before April 2, 2019. There is no 1st bag fee to / from Cali, Colombia for tickets issued on or after April 3, 2019.

**For travel to / from Honduras, a $55 2nd bag fee applies seasonally. For travel to / from Port au Prince, Haiti a $55 2nd bag fee applies seasonally for tickets issued on / before November 12, 2018 (no seasonal increase for Cap Haitien) and a year-round 2nd bag fee of $70 applies for tickets issued on / after November 13, 2018 and for travel beginning January 14, 2019 for Port au Prince and Cap Haitien.

^$60 1st bag fee applies to Transatlantic Basic Economy tickets

Optional service fees »

Example of quote from stakeholders' meeting in Pretoria South Africa



T: +27 12 429 9999
E: groups@sheratonpretoria.com

Sheraton
PRETORIA HOTEL

Quotation

Attention:	Melinda Rostal DVM, MPH
Company:	EcoHealth Alliance
Telephone:	1.212.380.4489
Email:	rostal@ecohealthalliance.org
Quotation date:	07 October 2019

Quotation in respect of: EcoHealth Alliance

Dear Melinda,

Thank you for the opportunity and for considering the Sheraton Pretoria as a destination for your event.

I'm excited to share with you our proposal.

Attached a detailed quotation to ensure we deliver on all your goals and ideas. I'm looking forward to be working with you and should you require any additional information, please contact me directly.

Please note that no venue or rooms have been blocked off on your behalf and this quote is only valid for 48 hours.

Have an excellent day and I'm looking forward to your response.

Best regards,

Paseka Matjila
Sales and Marketing Coordinator
+27 12 429 9999



T: +27 12 429 9999
E: groups@sheratonpretoria.com

Sheraton
PRETORIA HOTEL

Quotation

DATE	DAYS	PAX	DESCRIPTION	AMOUNT	DEBIT
			ACCOMODATION REQUIREMENTS		
16-21 NOV 2019	5	1	Classic King Room / Single occupancy	R1 050.00	R5 250.00
18-22 NOV 2019	4	3	Classic King Room / Single occupancy	R1 050.00	R12 600.00
19-20 NOV 2019	1	2	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R2 700.00
19-21 NOV 2019	2	1	Classic King Room / Double occupancy (Including Breakfast)	R1 750.00	R3 500.00
19-22 NOV 2019	3	2	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R8 100.00
20-21 NOV 2019	1	4	Classic King Room / Single occupancy (Including Breakfast)	R1 350.00	R5 400.00
20-21 NOV 2019	1	1	Classic King Room / Single occupancy	R1 050.00	R1 050.00
				TOTAL	**R38 600.00**
			EVENT REQUIREMENTS		
20-Nov-19	1	80	Full Day Conference Package(Including Lunch) **Jacaranda 1**	R430.00	R34 400.00
19-Nov-19	1	6	Buffet Dinner (Magnolia Restaurant)	R330.00	R1 980.00
	1	6	1x Softdrink	R45.00	R270.00
19-Nov-19	1	1	Venue Hire for 12 PAX **MOPANI**	R3 500.00	R3 500.00
	1	1	Screen	R500.00	R500.00
20-Nov-19	1	2	Buffet Dinner (Magnolia Restaurant)	R330.00	R660.00
	1	2	1x Softdrink	R45.00	R90.00
21-Nov-19	2	1	Buffet Dinner (Magnolia Restaurant)	R330.00	R660.00
	2	1	1x Softdrink	R45.00	R90.00
22-Nov-19	2	2	Buffet Dinner (Magnolia Restaurant)	R330.00	R1 320.00
	2	2	1x Softdrink	R45.00	R180.00
			Classroom		
				TOTAL	**R43 650.00**

NOTE: The Day Conference Package Includes the following;

Arrival Tea/Coffee/Juice/Pastries
Mid-morning Tea/Coffee/Juice/Savoury Snacks
Buffet Lunch in Magnolia - Chef's Choice (12:30 - 14:00)
1 x Refreshment included with Lunch
Afternoon Tea/Coffee/Juice/Biscuits
Water, Mints, Pens, Paper
Parking
Venue Hire included
Wi-Fi, Screen, Data Projector, Flipchart and Markers
PA System & Microphone included

Rates are inclusive of VAT

TOTAL **R82 250.00**

TERMS & CONDITIONS

The Sheraton Pretoria Hotel reserves the right to change its rates without prior notification; to review rates and conditions offered in this quotation in instances where full disclosure on the conference/group booking is not given, example being - name of conference, type of conference, number of overall delegates attending the conference, specific dates, etc.

Venues are subject to availability. The allocation of a suitable venue for the event is to the discretion of the hotel.

Should you require me to reserve a venue on your behalf, kindly forward me written confirmation as soon as possible whereupon a contract and payment details will be sent to you. Please note that we work on a live system and availability changes on a daily basis.

Please note that no venue or rooms have been blocked off on your behalf and this quote is only valid for 48 hours.

CANCELLATION POLICY

Between 60 to 31 days prior to arrival, a charge of 50% of the contracted value will be levied.
Between 30 to 15 days prior to arrival, a charge of 75% of the contracted value will be levied.
Between 14 to 0 days prior to arrival, a charge of 100% of the contracted value will be levied.
(Full Cancellation Policy will be sent with the contract)

If you have any questions please call: Conferencing - +27 12 429 9999

Internet and Communication Services

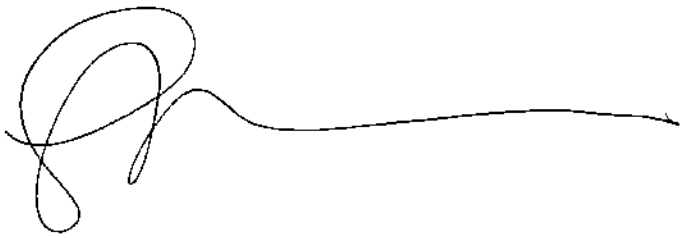
EcoHealth Alliance

December 4th, 2019

To Whom it May Concern,

We estimate that the monthly proportion of the Altice Business bill that will be charged to the CCHF grant for communication and internet access is $333.33.

Sincerely,



Megan Walsh

Human Resources and Office Manager

walsh@ecohealthalliance.org

212-380-4477

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE

Monthly Summary	Page 1 of 2
Account Number	52804
Invoice Date	11/01/19
Invoice Number	100207378
Previous Balance	$3,934.66
Current Charges	$3,931.54
Total Amount Due	**$3,931.54**

Total Amount Due December 1, 2019

Usage From: 10/01/19 - 10/31/19

To contact Altice Business, please call (866) 611-3434 or (516) 803-6000, or feel free to e-mail us at Care@AlticeUSA.com

Enhanced Caller ID!

Altice Businesses newest enhancement is now included in Altice Business Voice services at no additional cost. Not only do we help take the guesswork out of who?s calling you, but now we can help detect robocalls too.

Visit the Customer Portal

View your invoice, service inventory, pay online, see Call Detail reports and more. Simply go to portal.alticebusiness.com. New access is available through the Request Access button. In person payments can no longer be accepted.

Important Messages:

New! Call Recording is now available for Business Hosted Voice services. Contact your Account Executive for details.

New York Sales Tax Breakdown For Our Common Bundles
Internet/Voice Bundle
66% of the total charge is attributable to Internet access service and 34% is attributable to voice service. For purposes of calculating the NY sales tax, 24.5% of the voice fee is attributable to interstate/international service.

Toll Free Bundle or Audio Conference Bundle
For purposes of calculating the NY sales tax, 76% of the fee is attributable to interstate/international service.

Enterprise Voice Bundle
For purposes of calculating the NY sales tax, 24.5% of the fee is attributable to interstate/international service.

altice business

AlticeBusiness.com

ECOHEALTH ALLIANCE	Page 2 of 2
Account Number	52804
Usage From	10/01/19 - 10/31/19

PAYMENTS, CREDITS AND ADJUSTMENTS:

Description	Total
10/22/2019 Payment - Thank You	-3,934.66

SERVICES:

Description	From Date - To Date	Qty	Non-Recurring	Recurring	Total
Managed Router	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
100Mb/50K Internet/Voice Bundle	11/01/2019 - 11/30/2019	1	$0.00	$3,549.00	$3,549.00
Primary Rate Interface - ISDN	11/01/2019 - 11/30/2019	1	$0.00	$0.00	$0.00
DID Reserve 20 Numbers - 3 yr	11/01/2019 - 11/30/2019	7	$0.00	$60.00	$60.00
TOTAL SERVICE CHARGES			**$0.00**	**$3,609.00**	**$3,609.00**

TAXES AND SURCHARGES:

Description	Total
911 Surcharge(s)	24.00
Federal Excise Tax	1.92
Local Utility Gross Receipt Tax	82.76
MTA Surcharges	27.71
State and Local Gross Receipts Taxes	112.22
Universal Service Fund Surcharge	73.93

system76

Server needs

Ibex Pro GPU

1

REMOVE FROM CART



modify configuration *REMOVE FROM CART*

Base Price	**$5,899.00**
Ubuntu Server **18.04** LTS (64-bit)	
1× 20 Cores Gold 6230 (2.1 up to 3.9 GHz - 40 Threads - Max memory speed 2933 MHz)	**$2,229.00**
1× 512 GB Quad Channel DDR4 @ 2933 MHz (8x 64GB)	**$2,699.00**
1× 20 Cores Gold 6230 (2.1 up to 3.9 GHz - 40 Threads - Max memory speed 2933 MHz)	**$2,519.00**
1× 512 GB Quad Channel DDR4 @ 2933 MHz (8x 64GB)	**$2,829.00**
1× 4,352 Cores 11GB GeForce RTX 2080 Ti with 4352 CUDA Cores	
1× 2 TB NVMe Install on PCI SSD	**$1,329.00**
1× 16 TB HDD *7200 RPM* (8x 2TB)	**$2,759.00**
10 Gb Dual Port Ethernet Network Adapter (Included)	
Limited 1 Year Labor and 3 Year Parts Warranty	
This product is custom built and non-cancellable, non-refundable.	

Product total: **$20,263.00**

84

UNITED STATES DEPARTMENT OF LABOR
A to Z Index | FAQs | About BLS | Contact Us | Subscribe to E-mail Updates | GO
BUREAU OF LABOR STATISTICS
Follow Us | What's New | Release Calendar | Blog
Search BLS.gov
Home | Subjects | Data Tools | Publications | Economic Releases | Students | Beta

New York–New Jersey Information Office
SHARE ON
Search New York New J | Go
NY-NJ Home | NY-NJ Geography | NY-NJ Subjects | NY-NJ Archives | Contact NY-NJ

Geographic Information > New York-New Jersey > Table

Consumer Price Index Overview Table – New York-New Jersey

Consumer Price Index for All Urban Consumers, all items, in the U.S., Northeast, Middle Atlantic, and a metropolitan area, not seasonally adjusted
(1982-84=100 unless otherwise noted)

Area (Links provide news releases)	Back data	Annual average 2018	Sep 2019	Oct 2019	Percent change: Annual average 2017 to 2018	Percent change: 12 months ended Sep 2019	Percent change: 12 months ended Oct 2019
U.S. City Average		251.107	256.759	(b)(4)	2.4	1.7	1.8
Northeast region(1)		265.139	270.563	270.348	2.2	1.4	1.5
Northeast City Size Class (population)							
A (greater than 2,500,000)		268.112	274.058	273.930	2.0	1.5	1.5
B/C (2,500,000 or less)		156.258	159.106	158.912	2.5	1.4	1.4
Middle Atlantic(2)		101.578	103.535	103.518		1.3	1.4
Metropolitan area							
New York-Newark-Jersey City		273.641	279.338	(b)(4)	1.9	1.4	1.5

Footnotes
(1) The Northeast region includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont.
(2) The Middle Atlantic division includes New Jersey, New York, and Pennsylvania.

Source: Consumer Price Index
The Consumer Price Index (CPI) measures changes in prices of all goods and services purchased for consumption by urban households.

authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Dear (b)(4)

I just wanted to confirm that you had received the documentation that I sent to you on December 5.

Kind regards,
Mindy

Melinda Rostal DVM, MPH
Principal Scientist, Vector-Borne Diseases

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4489 (direct)
1.212.380.4465 (fax)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> < Caution-http://www.ecohealthalliance.org/ >

Visit our blog: Caution-www.ecohealthalliance.org/blog <http://Caution-www.ecohealthalliance.org/blog> < Caution-http://www.ecohealthalliance.org/blog >

EcoHealth Alliance leads cutting-edge research into the critical connections between human and wildlife health and delicate ecosystems. With this science we develop solutions that promote conservation and prevent pandemics.

On Dec 5, 2019, at 10:50 PM, Dr. Melinda Rostal <rostal@ecohealthalliance.org <mailto:rostal@ecohealthalliance.org> < Caution-mailto:rostal@ecohealthalliance.org > > wrote:

Dear (b)(4)

Please find attached the documentation requested for our FRBAA14-6-2-0356 cost proposal. We have responded to the clarification questions and indicated both the document and page number where the full documentation/justification may be viewed. For each partner we have provided two files:

(a) a PDF document of our updated justification using tracked changes according the the current costs for all items based on the documentation
(b) a PDF of the documentation that was requested on the clarification sheet

We have also included an Excel spreadsheet that includes our calculations for all costs and all partners corresponding to our updated justifications and documentation. Necessarily and following the documentation now

provided, various costs have changed since our initial submission in April 2018 and our budget has been updated accordingly. Therefore, our overall budget request has also increased to $4,995,106.37 with annual amounts as follows.

Y1: $999,888.16
Y2: $997,047.51
Y3: $999,782.70
OY1: $998,704.80
OY2: $999,683.19.

Please email anytime or contact me directly at +1.651.308.5498 with any questions about our documentation, cost proposal, or other details.

Best,

Mindy

<FRBAA14-6-2-0356_Clarifications.xlsx>
<FRBAA14-6-2-0356 Detailed Budget.xlsx>
<01 - FRBAA14-6-2-0356 - EHA Budget Justification.pdf>
<01 - FRBAA14-6-2-0356 - EHA Documentation.pdf>
<02 - FRBAA14-6-2-0356 - KCRI _Budget Justification.pdf>
<02 - FRBAA14-6-2-0356 - KCRI Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO Documentation.pdf>
<03 - FRBAA14-6-2-0356 - OHCD PMO_Budget Justification.pdf>
<04 - FRBAA14-6-2-0356 - PHE Documentation.pdf>
<04 - FRBAA14-6-2-0356 - PHE_Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Budget Justification.pdf>
<05 - FRBAA14-6-2-0356 - TAWIRI Documentation.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Budget Justification.pdf>
<06 - FRBAA14-6-2-0356 - TVLA Documentation.pdf>
<07 - FRBAA14-6-2-0356 - UoG Budget Justification.pdf>
<07 - FRBAA14-6-2-0356 - UoG Documentation.pdf>
<08 - FRBAA14-6-2-0356 - WSU Budget Justification.pdf>
<08 - FRBAA14-6-2-0356 - WSU Documentation.pdf>

Melinda Rostal DVM, MPH
Senior Research Scientist

PREDICT 2 Surveillance Coordinator for EcoHealth Alliance

Rift Valley Fever Virus Project Manager

EcoHealth Alliance
460 West 34th Street, Suite 1701
New York, NY 10001

1.212.380.4489 (direct)
Caution-www.ecohealthalliance.org <http://Caution-www.ecohealthalliance.org> <
Caution-http://www.ecohealthalliance.org/ >

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

On Oct 29, 2019, at 10:45 AM, (b)(4) <mailto(b)(4) > wrote:

Good Morning,

We have reviewed your cost proposal and are requesting responses to the attached clarification questions. Please provide responses as soon as possible so that we can move forward with grant award. Please let me know if you have any questions.

V/r
(b)(4) Contractor
Contract Specialist ▪ TENICA
Defense Threat Reduction Agency (DTRA)
Office Phone: (b)(4)
(b)(4) <
Caution-mailto(b)(4)

<FRBAA14-6-2-0356_Clarifications.xlsx>

(Enter months/yr for each year)					(Y1 Salary)	**ORGANIZATION NAME**	Y1	Y2	Y3	OY1	OY2	Total	
Y1	Y2	Y3	OY1	OY2	Base	A. Senior/Key Personnel							
1	1	1	1	2	$ 284,108.00	William Karesh (co-PI)	$ 23,675.67	$ 24,859.45	$ 26,102.42	$ 27,407.54	$ 57,555.84	$ 159,600.92	
						William Karesh Fringe	$ 8,712.65	$ 9,148.28	$ 9,605.69	$ 10,085.98	$ 21,180.55	$ 58,733.14	
5	5	5	5	5	$ 101,556.00	Melinda Rostal (PI)	$ 42,315.00	$ 44,430.75	$ 46,652.29	$ 48,984.90	$ 51,434.15	$ 233,817.09	
						Melinda Rostal Fringe	$ 15,571.92	$ 16,350.52	$ 17,168.04	$ 18,026.44	$ 18,927.77	$ 86,044.69	Senior Personnel total no fringe
0.5	2.75	0.5	0.5	3	$ 119,070.00	Carlos Zambrana (Research Scientist)	$ 4,961.25	$ 28,651.22	$ 5,469.78	$ 5,743.27	$ 36,182.58	$ 81,008.10	$ 474,426.11
						Carlos Zambrana Fringe	$ 1,825.74	$ 10,543.65	$ 2,012.88	$ 2,113.52	$ 13,315.19	$ 29,810.98	Fringe total Fringe Y1
				Fringe Rate-->	37%	Total Senior/Key Personnel	$ 97,062.22	$ 133,983.86	$ 107,011.10	$ 112,361.65	$ 198,596.08	$ 649,014.91	$ 174,588.81 $ 26,110.31
						B. Other Personnel							
12	12	12	12	2.5	$ 65,000.00	Field Coordinator	$ 65,000.00	$ 68,250.00	$ 71,662.50	$ 75,245.63	$ 16,459.98	$ 296,618.11	
						Field Coordinator Fringe	$ 23,920.00	$ 25,116.00	$ 26,371.80	$ 27,690.39	$ 6,057.27	$ 109,155.46	
5	5	5	5	5	$ 58,500.00	Research Assistant	$ 24,375.00	$ 25,593.75	$ 26,873.44	$ 28,217.11	$ 29,627.96	$ 134,687.26	
						Research Assistant Fringe	$ 8,970.00	$ 9,418.50	$ 9,889.43	$ 10,383.90	$ 10,903.09	$ 49,564.91	
3	2	2	2	2	$ 55,706.00	Operations Assistant (Amanda)	$ 13,926.50	$ 9,748.55	$ 10,235.98	$ 10,747.78	$ 11,285.17	$ 55,943.97	Other Personnel Salary total no fringe
						Operations Assistant Fringe	$ 5,124.95	$ 3,587.47	$ 3,766.84	$ 3,955.18	$ 4,152.94	$ 20,587.38	$ 552,249.34
0	0	0	0	12	$ 65,000.00	TZ Post Doc	$ -	$ -	$ -	$ -	$ 65,000.00	$ 65,000.00	OP 5-Year Frin Fringe Y1
						TZ Post Doc Fringe	$ -	$ -	$ -	$ -	$ 23,920.00	$ 23,920.00	$ 203,227.76 $ 38,014.95
				Fringe Rate-->	37%	Total Other Personnel	$ 141,316.45	$ 141,714.27	$ 148,799.98	$ 156,239.98	$ 167,406.42	$ 755,477.09	OP and SP 5-ye OP and SP Y1
						C. Equipment							$ 377,816.56 $ 64,125.26
						Vehicle	$ 68,196.00						
						Generator	$ 7,900.00						
						Centrifuge	$ 6,892.00						
						Freezer -80	$ 15,842.00						
						Total Equipment	$ 98,830.00	$ -	$ -	$ -	$ -	$ 98,830.00	
						D. Travel							
						1. Domestic Travel	$ 1,750.00	$ 7,132.00	$ 7,132.00	$ 7,132.00	$ 7,132.00	$ 30,278.00	
						2. Foreign Travel	$ 67,006.00	$ 78,544.50	$ 36,542.00	$ 58,224.00	$ 54,278.00	$ 294,594.50	
						Total Travel	$ 68,756.00	$ 85,676.50	$ 43,674.00	$ 65,356.00	$ 61,410.00	$ 324,872.50	
						E. Participant/Trainee Support Costs							
						1. Tuition/Fees/Health Insurance						$ -	
						2. Stipends						$ -	
						3. Travel	$ -	$ -	$ -	$ -	$ 54,710.00	$ 54,710.00	
						4. Subsistence						$ -	
						5. Other						$ -	
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ 54,710.00	$ 54,710.00	
						F. Other Direct Costs							
						1. Materials and Supplies	$ 86,080.70	$ 54,713.88	$ 6,221.08	$ 22,208.54	$ 8,252.53	$ 177,476.72	
						2. Publication Costs		$ 1,595.00	$ 3,190.00	$ 3,190.00	$ 3,190.00	$ 11,165.00	
						3. Consultant Services	$ 29,700.00	$ 43,222.00	$ 44,204.90	$ 32,621.45	$ 33,263.02	$ 183,011.37	
						4. ADP/Computer Services	$ 6,448.98	$ 6,242.83	$ 6,430.11	$ 6,623.02	$ 27,813.27	$ 53,558.21	
						5. Subawards/Consortium/Contractual Costs						$ -	
						WSU	$ 158,630.30	$ 202,363.92	$ 67,092.72	$ 113,794.41	$ 76,519.82	$ 618,401.16	
						TVLA	$ 7,845.75	$ 6,310.34	$ 191,084.90	$ 5,982.00	$ 6,090.18	$ 217,313.17	
						TAWIRI	$ 7,040.00	$ 7,132.40	$ 3,267.28	$ 3,364.70	$ 3,464.75	$ 24,269.12	
						PHE	$ -	$ -	$ -	$ -	$ 57,232.68	$ 57,232.68	
						One Health Desk	$ 1,216.44	$ 1,252.93	$ 1,290.52	$ 7,637.53	$ 7,866.66	$ 19,264.07	
						UoG	$ 56,257.76	$ 83,070.00	$ 138,396.49	$ 135,539.90	$ 68,576.30	$ 481,840.46	
						KCRI	$ 66,472.47	$ 67,513.60	$ 110,671.93	$ 193,820.05	$ 14,798.41	$ 453,276.45	
						6. Equipment or Facility Rental/User Fees						$ -	
						7. Alterations and Renovations						$ -	
						8. Other - Stakeholder Meeting	$ 5,819.55	$ 6,110.53	$ 6,416.05	$ 6,736.86	$ 14,147.40	$ 39,230.39	
						9. Other - Recruitment					$ 7,500.00	$ 7,500.00	
						Total Other Direct Costs	$ 425,511.94	$ 479,527.43	$ 578,265.97	$ 531,518.46	$ 328,715.01	$ 2,343,538.80	
						G. Direct Costs and Modified Direct Costs							
						Total Direct Costs	$ 831,476.62	$ 840,902.06	$ 877,751.05	$ 865,476.09	$ 810,837.50	$ 4,226,443.31	
						EHA Direct Costs for indirect	$ 435,183.90	$ 473,258.87	$ 365,947.23	$ 405,337.50	$ 578,811.38	$ 2,258,538.88	
						H. Indirect Costs							
			IDC Rate-->	32%		1. Indirect Cost Type	$ 139,258.85	$ 151,442.84	$ 117,103.11	$ 129,708.00	$ 185,219.64	$ 722,732.44	
			IDC Rate-->	32%		2. Indirect Cost Type	$ 29,152.70	$ 4,702.61	$ 4,928.54	$ 3,520.71	$ 3,626.05	$ 45,930.62	
						I. Total Direct and Indirect Costs							
						Direct + Indirect	$ 999,888.16	$ 997,047.51	$ 999,782.70	$ 998,704.80	$ 999,683.19		
						J. Fee							
						Fee							
						K. Total Costs and Fee							
						Total Costs	**$ 999,888.16**	**$ 997,047.51**	**$ 999,782.70**	**$ 998,704.80**	**$ 999,683.19**	**$ 4,995,106.37**	

Consultant Services	Y1	Y2	Y3	OY1	OY2	**TOTAL**	
IRB Hummingbird	$ 2,000.00	$ 2,060.00	$ 2,121.80	$ 2,185.45	$ 2,251.02	$ 10,618.27	
PhD Student	$ 25,000.00	$ 25,750.00	$ 26,522.50	$ -	$ -	$ 77,272.50	
Master Student 1	$ -	$ 15,000.00	$ 15,450.00	$ -	$ -	$ 30,450.00	
Master Student 2	$ -	$ -		$ 15,000.00	$ 15,450.00	$ 30,450.00	Student totals
Master Student 3	$ -	$ -	$ -	$ 15,000.00	$ 15,450.00	$ 30,450.00	$ 168,622.50
IRB costs TZ	$ 2,700.00	$ 412.00	$ 110.60	$ 436.00	$ 112.00	$ 3,770.60	
TOTALS	$ 29,700.00	$ 43,222.00	$ 44,204.90	$ 32,621.45	$ 33,263.02	$ 183,011.37	

Recruitment	OY2	**TOTAL**
Application Filing Fee	$ 460.00	$ 460.00
Legal Fees	$ 2,630.00	$ 2,630.00
Flights	$ 2,000.00	$ 2,000.00
Housing	$ 1,500.00	$ 1,500.00
Shipping	$ 410.00	$ 410.00
Extra baggage	$ 500.00	$ 500.00
TOTALS	$ 7,500.00	$ 7,500.00

Software	Number Users	per person per	Y1	Y2	Y3	OY1	OY2	**TOTAL**	
Dropbox	3	$ 140.00	$ 420.00	$ 432.60	$ 445.58	$ 458.95	$ 630.28	$ 2,387.41	
Adobe Creative Cloud	3	$ 370.00	$ 1,110.00	$ 1,143.30	$ 1,177.60	$ 1,212.93	$ 1,665.75	$ 6,309.58	
Adobe Acrobat Pro	3	$ 177.00	$ 531.00	$ 546.93	$ 563.34	$ 580.24	$ 796.86	$ 3,018.37	
Endnote	2	$ 99.99	$ 199.98				$ 112.54	$ 312.52	5-year software total
Microsoft Office	2	$ 94.00	$ 188.00				$ 105.80	$ 293.80	$ 12,321.67
Server needs		$ 20,000.00	$ -	$ -	$ -	$ -	$ 20,000.00	$ 20,000.00	
Communication services	1	$ 4,000.00	$ 4,000.00	$ 4,120.00	$ 4,243.60	$ 4,370.91	$ 4,502.04	$ 21,236.54	
TOTALS			$ 6,448.98	$ 6,242.83	$ 6,430.11	$ 6,623.02	$ 27,813.27	$ 53,558.21	
Software total only			$ 2,448.98	$ 2,122.83	$ 2,186.51	$ 2,252.11	$ 3,311.24		

International Travel	Base Costs	Y1	Y2	Y3	Y4	Y5	**TOTAL**	
Traveler **1** - Melinda Rostal annual (Arusha) Base								
Ground Transport Expenses	100	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00		
Lodging Meals & Incidental Expenses Per Diem	234	$ 3,276.00	$ 3,276.00	$ 3,276.00	$ 3,276.00	$ 3,276.00		
Flight Estimate	2000	$ 4,000	$ 4,000	$ 4,000	$ 4,000	$ 4,000		
No. Days		7	7	7	7	7		
No. Trips per Year		2	2	2	2	2		
Total		$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 7,476.00	$ 37,380.00	
Traveler 2 - Melinda Rostal annual (Dar es Salam) Base								
Ground Transport Expenses	100	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00		
Lodging Meals & Incidental Expenses Per Diem	313	$ 3,130	$ 3,130	$ 3,130	$ 3,130	$ 3,130		
Flight Estimate	300	$ 600	$ 600	$ 600	$ 600	$ 600		
No. Days		5	5	5	5	5		
No. Trips per Year		2	2	2	2	2		
Total		$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 3,930.00	$ 19,650.00	
Traveler 3 - William Karesh annual (Dar es Salam) Base								
Ground Transport Expenses	100	$ 100.00	$ 100.00	$ 100.00	$ 100.00	$ 100.00		
Lodging Meals & Incidental Expenses Per Diem	313	$ 2,191	$ 2,191	$ 2,191	$ 2,191	$ 2,191		
Flight Estimate	2000	$ 2,000	$ 2,000	$ 2,000	$ 2,000	$ 2,000		
No. Days		7	7	7	7	7		
No. Trips per Year		1	1	1	1	1		
Total		$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 21,455.00	
Traveler 4 -Field Coordinator annual (Arusha) Base								
Ground Transport Expenses	100	$ 200.00	$ 200.00	$ 100.00	$ 200.00			
Lodging Meals & Incidental Expenses Per Diem	234	$ 3,276.00	$ 3,276.00	$ 1,638.00	$ 3,276.00			
Flight Estimate	2000	$ 4,000	$ 4,000	$ 2,000	$ 4,000			
No. Days		7	7	7	7			
No. Trips per Year		2	2	1	2			
Total		$ 7,476.00	$ 7,476.00	$ 3,738.00	$ 7,476.00		$ 26,166.00	
Traveler 4 -Field Coordinator annual (Dar es Salam) Base								
Ground Transport Expenses	100	$ 200.00	$ 200.00	$ 100.00	$ 200.00			
Lodging Meals & Incidental Expenses Per Diem	313	$ 3,130	$ 3,130	$ 1,565	$ 3,130			
Flight Estimate	300	$ 600	$ 600	$ 300	$ 600			
No. Days		5	5	5	5			
No. Trips per Year		2	2	1	2			
Total		$ 3,930.00	$ 3,930.00	$ 1,965.00	$ 3,930.00		$ 13,755.00	$ 5,703.00
Traveler 5 - Melinda Rostal field (Arusha) above base								
Ground Transport Expenses	100	$ 100.00	$ 100.00	$ -	$ -	$ -		
Lodging Meals Incidental Expenses Per Diem	234	$ 4,680.00	$ 1,638.00	$ -	$ -	$ 468.00		
Flight Estimate	2000	$ 2,000	$ 2,000	$ -	$ -	$ -		
No. Days		14	7					
No. Trips per Year		1	1					
Days above Baseline for trips already planned Only		6				2		
Total		$ 6,780.00	$ 3,738.00			$ 468.00	$ 10,986.00	
Traveler 6 - Melinda Rostal field (Dar es Salam) above base								
Misc Expenses	100	$ 100.00	$ 100.00					
Lodging Meals Incidental Expenses Per Diem	313	$ 1,878	$ 1,878	$ -	$ 939	$ 1,252		
Flight Estimate	300	$ 300	$ 300					
No. Days		6	6					
No. Trips per Year		1	1					
Days above Baseline for trips already planned Only					3	4		
Total		$ 2,278.00	$ 2,278.00		$ 939.00	$ 1,252.00	$ 6,747.00	
Traveler 7 - William Karesh field (Dar es Salam) above base								
Ground Transport Expenses	100	$ -	$ -	$ -	$ 100.00	$ 100.00		
Lodging Meals Incidental Expenses Per Diem	313	$ -	$ -	$ -	$ 2,191	$ 2,191		
Flight Estimate	2000	$ -	$ -	$ -	$ 2,000	$ 2,000		
No. Days					7	7		
No. Trips per Year					1	1		
Days above Baseline for trips already planned Only								
Total		$ -	$ -		$ 4,291.00	$ 4,291.00	$ 8,582.00	
Traveler 8 -Field Coordinator field (Arusha) above base								
Ground Transport Expenses	100	$ 200.00	$ 200.00	$ -	$ 100.00	$ -		
Lodging Meals & Incidental Expenses Per Diem	234	$ 16,380	$ 21,996	$ -	$ 6,552	$ -		
Flight Estimate	2000	$ 4,000	$ 4,000	$ -	$ 2,000	$ -		
No. Days		21	27	0	21			
No. Trips per Year		2	2	0	1			
Days above Baseline for trips already planned Only		28	40	0	7			
Total		$ 20,580.00	$ 26,196.00	$ -	$ 8,652.00		$ 55,428.00	
Traveler 9 -Field Coordinator field (Dar es Salam) above base								
Ground Transport Expenses	100	$ 100.00	$ 100.00	$ -	$ 100.00	$ -		
Lodging Meals & Incidental Expenses Per Diem	313	$ 1,565	$ 1,252	$ -	$ 1,565	$ -		
Flight Estimate	300	$ 300	$ 300	$ -	$ 300	$ -		
No. Days		5	4		5			
No. Trips per Year		1	1		1			
Total		$ 1,965.00	$ 1,652.00		$ 1,965.00	$ -	$ 5,582.00	
Traveler **10** - Research Assistant (Dar es Salam)								
Ground Transport Expenses	100		$ -			$ 100.00		
Lodging Meals & Incidental Expenses Per Diem	313		$ -			$ 2,191		
Flight Estimate	2000		$ -			$ 2,000		
No. Days						7		
No. Trips per Year						1		
Total			$ -			$ 4,291.00	$ 4,291.00	
Traveler 9 - Carlos Zambrana-Torrelio Dar es salam								
Ground Transport Expenses	100	$ -	$ -	$ -	$ -	$ 100.00		
Lodging Meals & Incidental Expenses Per Diem	313	$ -	$ -	$ -	$ -	$ 2,191.00		
Flight Estimate	2000	$ -	$ -	$ -	$ -	$ 2,000.00		
No. Days			0			7		
No. Trips per Year			0			1		
Total			$ -			$ 4,291.00	$ 4,291.00	
Traveler 9 - Carlos Zambrana-Torrelio Arusha								
Ground Transport Expenses	100	$ -	$ 100.00	$ -	$ -	$ -		
Lodging Meals & Incidental Expenses Per Diem	234	$ -	$ 1,638.00	$ -	$ -	$ -		
Flight Estimate	2000	$ -	$ 2,000.00	$ -	$ -	$ -		
No. Days			7			0		
No. Trips per Year			1			0		
Total			$ 3,738.00			$ -	$ 3,738.00	
Traveler **10** - International Conference e.g. International Conference on Epidemiology and Infectious Diseases								
Ground Transport Expenses	100		$ 100.00	$ 200.00	$ 200.00	$ 200.00		
Registration	499		$ 499.00	$ 998.00	$ 998.00	$ 998.00		
Lodging Meals & Incidental Expenses Per Diem (e.g. Paris)	560		$ 3,360	$ 6,720	$ 6,720	$ 6,720		
Flight Estimate	1280		$ 1,280	$ 2,560	$ 2,560	$ 2,560		
No. Days			6	6	6	6		
No. Trips per Year			1	2	2	2		
Total			$ 5,239.00	$ 10,478.00	$ 10,478.00	$ 10,478.00	$ 36,673.00	$ 5,239.00
Traveler **11** - Post Doc								
Ground Transport Expenses	100					$ 200.00		
Lodging Meals & Incidental Expenses Per Diem	313					$ 4,382		
Flight Estimate	2000					$ 4,000.00		
No. Days						7		
No. Trips per Year						2		
Total						$ 8,582.00	$ 8,582.00	
Research Permit		$ 8,300.00	$ 8,600.50	$ 4,664.00	$ 4,796.00	$ 4,928.00	$ 31,288.50	
YEARLY TOTALS		**$ 67,006.00**	**$ 78,544.50**	**$ 36,542.00**	**$ 58,224.00**	**$ 54,278.00**	**$ 294,594.50**	
Amount of Research Permit (above) over base		$ 4,000.00	$ 4,300.50	$ 364.00	$ 496.00	$ 628.00		

Individual totals	Y1	Y2	Y3	OY1	OY2	**Annual Base**
Rostal	$ 20,464.00	$ 17,422.00	$ 11,406.00	$ 12,345.00	$ 13,126.00	**$ 11,406.00**
Karesh	$ 4,291.00	$ 4,291.00	$ 4,291.00	$ 8,582.00	$ 8,582.00	**$ 4,291.00**
Field Coordinator	$ 33,951.00	$ 39,254.00	$ 5,703.00	$ 22,023.00	$ -	**$ 11,406.00**
Research assistant	$ -	$ -	$ -	$ -	$ 4,291.00	
Zambrana	$ -	$ -	$ -	$ -	$ 4,291.00	
TZ post doc	$ -	$ -	$ -	$ -	$ 8,582.00	
Permits	$ 8,300.00	$ 8,600.50	$ 4,664.00	$ 4,796.00	$ 4,928.00	**$ 4,300.00**
International Conference	$ -	$ 5,239.00	$ 10,478.00	$ 10,478.00	$ 10,478.00	
Total	$ 67,006.00	$ 74,806.50	$ 36,542.00	$ 58,224.00	$ 54,278.00	**$ 31,403.00**

Domestic Travel	Y1	Y2	Y3	Y4	Y5		
Traveler **1** - DTRA Technical Meeting							
Ground Transportation	$ 100.00	$ 100.00	$ 100.00	$ 100.00	$ 100.00		
Lodging Meals & Incidental Expenses Per Diem	$ 1,250.00	$ 1,250.00	$ 1,250.00	$ 1,250.00	$ 1,250.00		
Flight/Train Estimate	$ 400	$ 400	$ 400	$ 400	$ 400		
No. Days	5	5	5	5	5		
No. Trips per Year	1	1	1	1	1		
Total	$ 1,750.00	$ 1,750.00	$ 1,750.00	$ 1,750.00	$ 1,750.00	$ 8,750.00	
Traveler 2 - Domestic Conferences - e.g APHA							
Ground Transportation		$ 200.00	$ 200.00	$ 200.00	$ 200.00		
Lodging Meals & Incidental Expenses Per Diem	$ 245.00	$ 2,450.00	$ 2,450.00	$ 2,450.00	$ 2,450.00		
Flight/Train Estimate	$ 595	$ 1,190	$ 1,190	$ 1,190	$ 1,190		
No. Days		5	5	5	5		
No. Trips per Year		2	2	2	2		
Total		$ 3,840.00	$ 3,840.00	$ 3,840.00	$ 3,840.00	$ 15,360.00	$ 2,691.00
Conference Registration Fees		$ 1,542.00	$ 1,542.00	$ 1,542.00	$ 1,542.00		$ 5,382.00
YEARLY TOTALS	**$ 1,750.00**	**$ 7,132.00**	**$ 7,132.00**	**$ 7,132.00**	**$ 7,132.00**		

	Y1	Y2	Y3	Y4	Y5	
Participant Support Costs						**TOTAL**
Traveler **1** -CCHF East Africa Symposium						
Ground Transportation						
Lodging Meals & Incidental Expenses Per Diem					$ 20,400.00	
Flight/Train Estimate					$ 9,600	
No. Days					2	
No. Participants					20	
Total					$ 30,000.00	$ 30,000.00
Traveler 2 - CCHF East Africa Symposium Int'l						
Ground Transportation						
Lodging Meals & Incidental Expenses Per Diem					$ 10,710.00	
Flight/Train Estimate					$ 14,000	
No. Days					3	
No. Participants					7	
Total					$ 24,710.00	$ 24,710.00
YEARLY TOTALS	**$ -**	**$ -**	**$ -**	**$ -**	**$ 54,710.00**	

Item	Number in unit	Price per unit	Number needed Y1	Number need	Y1	Y2	Y3	Y4	Y5				
Shipping Costs	1	$ 5,011.00	3	1	$ 15,033.00	$ 15,483.99		$ 5,475.65					
Label Printer Supplies (5000 roll)	1	$ 133.45	3	2	$ 400.35	$ 412.36		$ 291.65					
Label printer ribbon (for 14,000 labels)	1	$ 28.89	1	2	$ 28.89	$ 29.76		$ 63.14					
Theory Computers	1	$ 2,126.00	2	1	$ 4,252.00	$ 2,126.00		$ 2,126.00	$ 2,126.00	$ 3,795.34	$ 442.12	$ -	$ 354.79
Software Arc GIS	1	$ 1,000.00		1	$ -				$ 2,750.00				
Supplies for Graduate Students/Postdoc	1	$ 1,500.00	1	2	$ 1,500.00	$ 1,545.00	$ 3,182.70	$ 3,278.18	$ 3,376.53				
Label printer (Brady 300 dpi)	1	$ 3,366.10	1		$ 3,366.10								
Refrigerator	1	$ 2,740.00	1		$ 2,740.00								
Refrigerator Thermometer	1	$ 101.00	1		$ 101.00								
Multiscan ex plate reader Lamp	1	$ 174.10	1		$ 174.10								
Sterial microscope	1	$ 3,347.30	1		$ 3,347.30								
Water Distiller	1	$ 2,458.50	1		$ 2,458.50								
pH Meter	1	$ 257.92	1		$ 257.92								
ELISA Washer	1	$ 2,513.48	1		$ 2,513.48								
Fridge for vehicles	1	$ 3,795.00	2		$ 7,590.00								
Backup battery for fridge	1	$ 1,495.00	2		$ 2,990.00								
Nunc 1.8 internal cryovials	1800	$ 967.73	3	3	$ 2,903.19	$ 2,990.29		$ 3,172.39					
Serum tubes 10 mL	1000	$ 331.66	3	3	$ 994.98	$ 1,024.83		$ 1,087.24					
Serum tubes 3 mL	1000	$ 261.62	2	1	$ 523.24	$ 269.47							
Seum 1.3m - or smaller?	100	$ 36.50	5		$ 182.50	$ 187.98							
Vaccutatiner holder	1000	$ 91.90	3	2	$ 275.70	$ 283.97		$ 903.79					
21g 1in vacutainer safety needles	480	$ 339.50	2	3	$ 679.00	$ 699.37		$ 1,112.94					
3cc luer lock syringe	1000	$ 196.73	2		$ 393.46	$ 202.63							
22g 1in needle (for vaccutainer)	1000	$ 270.89	1		$ 270.89	$ 279.02							
22g 1in needle (for syringe)	1000	$ 218.36	2		$ 436.72	$ 224.91							
1cc syringe and needle	1000	$ 213.21	1		$ 213.21	$ 219.61							
thumb forceps to collect ticks	1	$ 9.00	2		$ 18.00	$ 18.54							
tubes to put ticks in	500	$ 415.00	3		$ 1,245.00	$ 1,282.35							
PPE protective coverall for rodent work (M)	24	$ 470.00	11		$ 5,170.00	$ 5,325.10							
PPE protective coverall for rodent work (L)	24	$ 470.00	11	12	$ 5,170.00	$ 5,809.20							
N95 respirator for rodent work	80	$ 314.00	7		$ 2,198.00	$ 2,263.94							
Respirator fit test kit	1	$ 436.00	1		$ 436.00								
Safety glasses	10	$ 32.30	10		$ 323.00								
Nitrile gloves extended cuff XL	500	$ 332.50	2	1	$ 665.00	$ 684.95		$ 363.33					
Nitrile gloves extended cuff M	500	$ 332.50	3	1	$ 997.50	$ 1,027.43		$ 363.33					
Nitrile gloves extended cuff S	500	$ 332.50	1	2	$ 332.50	$ 342.48		$ 726.66					
2 gallon sharps bucket	20	$ 238.33	1	1	$ 238.33	$ 245.48		$ 260.43					
Biohazard bags	50	$ 38.13	1	1	$ 38.13	$ 39.27		$ 41.67					
Tablets (plus case)	1	$ 228.98	8	2	$ 1,831.84	$ 1,886.80		$ 500.43					
50 Tomahawk traps	1	$ 63.45	50	10	$ 3,172.50	$ 653.54		$ 693.34					
30 squirrel traps	1	$ 44.82	30	10	$ 1,344.60	$ 461.65							
20 rodent traps	1	$ 27.23	23	10	$ 626.29	$ 280.47							
Incentive for cattle owners	1	$ 7.00	600		$ 4,200.00	$ 4,326.00							
Incentive cookies/juice for participants	1	$ 2.00	400	800	$ 800.00	$ 824.00		$ 1,748.36					
Ear tags/tattoo kit		$ 398.00			$ 398.00								
Anesthesia for small mammals		$ 6,336.95			$ 3,168.48	$ 3,263.53							
Ethanol gallon	1	$ 82.00	1		$ 82.00								
SubTotal					$ 86,080.70	$ 54,713.88	$ 4,701.89	$ 22,208.54	$ 8,252.53				

Lab supplies for workshop					Y1	Y2	Y3	OY1	OY2	TOTAL
Eppendorf tubes		$ 93.00	3				$ 279.00			$ 279.00
ELISA plates		$ 138.40	2				$ 276.80			$ 276.80
Filter pipette tip 200uL		$ 191.70	1				$ 191.70			$ 191.70
Filter pipette tip 1000uL		$ 227.00	1				$ 227.00			$ 227.00
Pipette tips 1000uL		$ 129.10	1				$ 129.10			$ 129.10
Pipette tips 200uL		$ 79.00	2				$ 158.00			
Pipette tips 1000uL		$ 76.00	2				$ 152.00			$ 152.00
Shipping and handling							$ 105.59			
SubTotal					$ -	$ -	$ 1,519	$ -	$ -	$ 1,519

OVERALL

Breakdown for Justification	Y1	Y2	Y3	OY1	OY2
Field supplies	$ 39,328.06	$ 35,116.77	$ -	$ 10,973.92	$ -
Shipping	$ 15,033.00	$ 15,483.99	$ -	$ 5,475.65	$ -
Computers	$ 8,047.34	$ 2,568.12	$ -	$ 2,480.79	$ 4,876.00
Lab infrastructure/large items	$ 22,172.30	$ -	$ -	$ -	$ -
Supplies for Grad students	$ 1,500.00	$ 1,545.00	$ 3,182.70	$ 3,278.18	$ 3,376.53
Total	**$ 86,080.70**	**$ 54,713.88**	**$ 4,701.89**	**$ 22,208.54**	**$ 8,252.53**

Field supply breakdown	Y1	Y2	Y3	OY1	OY2
sampling supplies	$ 8,217.89	$ 7,682.96	$ -	$ 6,276.37	$ -
PPE	$ 15,568.46	$ 15,737.84	$ -	$ 1,755.42	$ -
Incentive	$ 5,000.00	$ 5,150.00	$ -	$ 1,748.36	$ -
Tablets	$ 1,831.84	$ 1,886.80	$ -	$ 500.43	$ -
Trapping and ,	$ 8,709.87	$ 4,659.18	$ -	$ 693.34	$ -
Total	$ 39,328.06	$ 35,116.77	$ -	$ 10,973.92	$ -

Visa and Permit	Y1	Y2	Y3	Y4	Y5	
COSTech application fee		50	50	50	50	50
COSTech clearance fee		300	300	300	300	300
Research fees (non-Tanzanian)		1800	1800	1800	1800	1800
TAWIRI Protected Area Permit		2000	2000			
Shipping samples				300	300	300
KCMC ethics approval		500				
NIMR - submit protocol		500				
NIMR - application fee		100				
NIMR - Expedited Review		1000				
NIMR - Renewal			100	100	100	100
NIMR - amendment		600	300		300	
Hummingbird IRB		2000	2000	2000	2000	2000

Cost per Person	Y1	Y2	Y3	Y4	Y5	
Rostal EHA		4150	4150	2150	2150	2150
Field Coordinator EHA		4150	4150	2150	2150	2150
(b)(6) JoG		0	2150	2150	2150	2150
Technician UoG		2150	2150	2150	2150	
(b)(6) SU		4150	4150	2150	2150	2150
Veterinarian WSU		50	50	0	0	0
Field Assistant WSU		50	50	0	50	0
PhD Student WSU		50	50	0	0	0
Masters' students EHA		0	50	100	100	50
Post-doctoral fellow		0	0	0	0	50

WSU							Y1	Y2	Y3	OY1	OY2	Total
Y1	Y2	Y3	OY1	OY2	Base	A. Senior/Key Personnel						
2.4	2.4	2	2	2	$ 130,961.28	[1201]	$ 26,192.26	$ 26,978.02	$ 23,156.14	$ 23,850.82	$ 24,566.35	$ 124,743.58
				Fringe Rate-->	18%	Fringe	$ 4,714.61	$ 4,856.04	$ 4,168.10	$ 4,293.15	$ 4,421.94	$ 22,453.85
						Total Senior/Key Personnel	$ 30,906.86	$ 31,834.07	$ 27,324.24	$ 28,143.97	$ 28,988.29	$ 147,197.43
						B. Other Personnel						
12	12	0	0	0	$ 28,548.00	Veterinarian	$ 28,548.00	$ 29,404.44	$ -	$ -	$ -	$ 57,952.44
						Veterinarian Fringe	$ 4,268.80	$ 4,354.44	$ -	$ -	$ -	$ 8,623.24
6	6	0	6	0	$ 12,000.00	Field Assistant	$ 6,000.00	$ 6,180.00	$ -	$ 6,556.36	$ -	$ 18,736.36
						Field Assistant Fringe	$ 600.00	$ 618.00	$ -	$ 655.64	$ -	$ 1,873.64
1	1	1	1	1	$ 30,200.16	[1201] Admin Manager	$ 2,516.68	$ 2,592.18	$ 2,669.95	$ 2,750.04	$ 2,832.55	$ 13,361.40
						Admin Manager Fringe	$ 369.67	$ 377.22	$ 384.99	$ 393.00	$ 401.25	$ 1,926.14
1.2	1.2	1.2	1.2	1.2	$ 21,467.16	[1201] Project Coordinator/Administrator	$ 2,146.72	$ 2,211.12	$ 2,277.45	$ 2,345.77	$ 2,416.15	$ 11,397.21
						Project Coordinator/Administrator Fringe	$ 355.67	$ 362.11	$ 368.75	$ 375.58	$ 382.61	$ 1,844.72
						Total Other Personnel	$ 44,805.54	$ 46,099.51	$ 5,701.14	$ 13,076.40	$ 6,032.56	$ 115,715.15
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel	$ -	$ -	$ -	$ -	$ -	$ -
						2. Foreign Travel	$ 25,652.01	$ 46,572.89	$ 12,562.81	$ 26,138.02	$ 15,953.17	$ 126,878.90
						Total Travel	$ 25,652.01	$ 46,572.89	$ 12,562.81	$ 26,138.02	$ 15,953.17	$ 126,878.90
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ 3,835.00	$ 8,203.95	$ -	$ 5,736.00	$ -	$ 17,774.95
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ 3,835.00	$ 8,203.95	$ -	$ 5,736.00	$ -	$ 17,774.95
						F. Other Direct Costs						
						1. Materials and Supplies	$ 15,489.00	$ 23,588.75	$ 7,660.00	$ 18,402.25	$ 9,756.00	$ 74,896.00
						2. Publication Costs						$ -
						3. Consultant Services	$ 6,000.00	$ 6,000.00				$ 12,000.00
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees						$ -
						7. Alterations and Renovations						$ -
						8. Other						$ -
						9. Other						$ -
						10. Other						$ -
						Total Other Direct Costs	$ 21,489.00	$ 29,588.75	$ 7,660.00	$ 18,402.25	$ 9,756.00	$ 86,896.00
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 126,688.41	$ 162,299.17	$ 53,248.19	$ 91,496.64	$ 60,730.02	$ 494,462.42
						Modified Direct Costs	$ 122,853.41	$ 154,095.22	$ 53,248.19	$ 85,760.64	$ 60,730.02	$ 476,687.47
						H. Indirect Costs						
				IDC Rate-->	26%	1. WSU IDC Rate	$ 31,941.89	$ 40,064.76	$ 13,844.53	$ 22,297.77	$ 15,789.80	$ 123,938.74
				IDC Rate-->		2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 158,630.30	$ 202,363.92	$ 67,092.72	$ 113,794.41	$ 76,519.82	$ 618,401.16
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	**$ 158,630.30**	**$ 202,363.92**	**$ 67,092.72**	**$ 113,794.41**	**$ 76,519.82**	**$ 618,401.16**

International Travel							TOTAL
Traveler 1 - [1201] **to TZ Arusha**	**Base**	Y1	Y2	Y3	OY1	OY2	
Lodging Meals & Incidental Expenses Per Diem	234	$ 1,170.00	$ 1,170.00	$ 1,170.00	$ 1,170.00	$ 468.00	
Flight Estimate	964	$ 964	$ 964	$ 964	$ 964	$ 964	
No. Days		5	5	5	5	2	
No. Trips per Year		1	1	1	1	1	
Ground Transportation	200	$ 200.00	$ 200.00	$ 200.00	$ 200.00	$ 200.00	
Total		$ 2,334.00	$ 2,404.02	$ 2,476.14	$ 2,550.42	$ 1,836.83	$ 11,601.42
Traveler 2 - [1201] **to EU Conferences**							
Lodging Meals & Incidental Expenses Per Diem	250	$ -	$ -	$ 1,250.00	$ 1,250.00	$ 2,500.00	
Flight Estimate	315.25	$ -	$ -	$ 315	$ 315	$ 631	
No. Days		0	0	5	5	5	
No. Trips per Year		0	0	1	1	2	
Ground Transportation	71	$ -	$ -	$ 71.00	$ 71.00	$ 142.00	
Total		$ -	$ -	$ 1,636.25	$ 1,636.25	$ 3,272.50	$ 6,545.00
Traveler 3 - [1201] **within TZ field *(not Serengeti)***		Y1	Y2	Y3	OY1	OY2	
Lodging Meals & Incidental Expenses Per Diem	157	$ 942.00	$ 942.00	$ -	$ -	$ -	
Petrol		$ 1.25	$ 1.31	$ 1.38	$ 1.45	$ 1.52	
KM / Yr		120	120				
No. Days		3	3	0	0	0	
No. Trips per Year		2	2	0	0	0	
Total		$ 1,242.00	$ 1,256.40	$ -	$ -	$ -	$ 2,498.40
Traveler 4 - [1201] **within TZ field *(Serengeti)***		Y1	Y2	Y3	OY1	OY2	
Lodging Meals & Incidental Expenses Per Diem	157	$ 314.00	$ 314.00	$ -	$ -	$ -	
Flight Estimate	241	$ 241	$ 241	$ -	$ -	$ -	
No. Days		2	2	0	0	0	
No. Trips per Year		1	1	0	0	0	
Total		$ 555.00	$ 571.65	$ -	$ -	$ -	$ 1,126.65
Traveler 5 - [1201] **within TZ meetings Dar es salam**		Y1	Y2	Y3	OY1	OY2	
Lodging Meals & Incidental Expenses Per Diem	313	$ 626.00	$ 626.00	$ 626.00	$ 626.00	$ 1,565.00	
Flight Estimate	177	$ 177	$ 177	$ 177	$ 177	$ 177	
No. Days		2	2	2	2	5	
No. Trips per Year		1	1	1	1	1	
Total		$ 803.00	$ 827.09	$ 851.90	$ 877.46	$ 1,960.64	$ 5,320.09

Community Outreach		Y1	Y2	Y3	OY1	OY2	TOTAL
Petrol		$ 1.25	$ 1.31	$ 1.38	$ 1.45	$ 1.52	
KM / Yr		320	320	320	320	320	
# Days		5	5	5	5	9	
Trips		1	1	1	1	1	
Subsistence/ day		$ 157.00	$ 157.00	$ 157.00	$ 157.00	$ 157.00	
Total Subsistence		$ 785.00	$ 785.00	$ 785.00	$ 785.00	$ 1,413.00	
CO Costs		$ 1,185.00	$ 1,204.20	$ 1,226.60	$ 1,249.00	$ 1,899.40	$ 6,764.20

Traveler 4 - [1201] **to Dar es salam**							
Lodging Meals & Incidental Expenses Per Diem	313	$ 626.00	$ 626.00	$ 626.00	$ 626.00	$ 626.00	
Flight Estimate	177	$ 177	$ 177	$ 177	$ 177	$ 177	
No. Days		2	2	2	2	2	
No. Trips per Year		1	1	1	1	1	
Total		$ 803.00	$ 827.09	$ 851.90	$ 877.46	$ 903.78	$ 4,263.24

Total Co-PI and Mollel Travel within TZ
$ 19,972.57

Field team Travel - Serengeti		Y1	Y2	Y3	OY1	OY2	TOTAL
Stipend/Day		$ 60.00	$ 61.80				
# Days		39	81				
# People		2	2				
		$ 4,680.00	$ 10,011.60				$ 14,691.60

Field Travel - Outside Serengeti		Y1	Y2	Y3	OY1	OY2	TOTAL
Stipend/Day		$ 35.00	$ 36.05	$ 37.13	$ 38.24		
# Days		65	135		150		
# People		2	2		1		
		$ 4,550.00	$ 9,733.50	$ -	$ 5,736.00	$ -	$ 20,019.50

Fuel Costs for field work		Y1	Y2	Y3	OY1	OY2	TOTAL
Petrol		$ 1.25	$ 1.31	$ 1.38	$ 1.45	$ 1.52	
KM / Yr		3,467	7,200.00	1,667	4,222	1,667	
# Vehicles		2	2	2	2	2	
Fuel Cost		$ 8,666.68	$ 18,864.00	$ 4,600.01	$ 12,244.76	$ 5,066.68	$ 49,442.12

Fuel for procurement - local Arusha town		Y1	Y2	Y3	OY1	OY2	TOTAL
Petrol		$ 1.25	$ 1.31	$ 1.38	$ 1.45	$ 1.52	
KM / Yr		667	667	667	667	667	
Fuel Cost		$ 833.34	$ 873.34	$ 920.00	$ 966.67	$ 1,013.34	$ 4,606.69

		TOTALS	$ 25,652.01	$ 46,572.89	$ 12,562.81	$ 26,138.02	$ 15,953.17	$ 126,878.90

Participant Support Costs	Y1	Y2	Y3	OY1	OY2	TOTAL
Cost/ Day in Seregeti	$ 60.00	$ 61.80				
# Days in Serengeti	26	54				
Seregeti Total	$ 1,560.00	$ 3,337.20	$ -	$ -	$ -	$ 4,897.20
Cost/Day Outside Serengeti	$ 35.00	$ 36.05	$ 37.13	$ 38.24		
# Days Outside Serengeti	65	135		150		
Outside Serengeti Total	$ 2,275.00	$ 4,866.75	$ -	$ 5,736.00	$ -	$ 12,877.75
TOTALS	**$ 3,835.00**	**$ 8,203.95**	**$ -**	**$ 5,736.00**	**$ -**	**$ 17,774.95**

Y1 and Y2 total $ 7,141.75

Materials and Supplies	Y1	Y2	Y3	OY1	OY2	TOTAL
COSTECH Permits	$ 450.00	$ 150.00				$ 600.00
TAWIRI Permit	$ 1,900.00	$ 1,900.00	$ 1,800.00	$ 1,800.00	$ 1,800.00	$ 9,200.00
Vehicle Maintenance	$ 7,088.00	$ 16,272.00	$ 2,496.00	$ 10,432.00	$ 4,592.00	$ 40,880.00
Vehicle Insurance x2 vehicles	$ 2,726.00	$ 2,726.00	$ 1,364.00	$ 2,726.00	$ 1,364.00	$ 10,906.00
Translation Services	$ 800.00			$ 872.00		$ 1,672.00
Waste Management Services	$ 525.00	$ 540.75		$ 572.25		$ 1,638.00
Office Supplies	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 2,000.00	$ 10,000.00
TOTALS	$ 15,489.00	$ 23,588.75	$ 7,660.00	$ 18,402.25	$ 9,756.00	$ 74,896.00

Vehicle Maintenance	base	Y1	Y2	Y3	OY1	OY2	TOTAL
Cost of tires	$ 1,048.00	$ 1,048.00	$ 3,144.00	$ -	$ 2,096.00	$ 1,048.00	$ 7,336.00
Cost of Maintenance per 5000 km	$ 624.00	$ 2,496.00	$ 4,992.00	$ 1,248.00	$ 3,120.00	$ 1,248.00	$ 13,104.00
Number of KM per year		20800	43200	10000	25334	10000	
Number of vehicles		2	2	2	2	2	
Number of maintenance services needed		4	8	2	5	2	
Number of tire sets needed		1	3	0	2	1	
TOTALS		$ 7,088.00	$ 16,272.00	$ 2,496.00	$ 10,432.00	$ 4,592.00	$ 40,880.00

FromBudget
Difference

[1(4)]

Y1	Y2	Y3	OY1	OY2	Base	TVLA	Y1	Y2	Y3	OY1	OY2	Total
1	1	6	1	1	$ 36,000.00	A. Senior/Key Personnel						
						(b)(6) Epidemiologist	$ 3,000.00	$ 3,090.00	$ 19,096.20	$ 3,278.18	$ 3,376.53	$ 31,840.91
						Total Senior/Key Personnel	$ 3,000.00	$ 3,090.00	$ 19,096.20	$ 3,278.18	$ 3,376.53	$ 31,840.91
						B. Other Personnel						
0.35	0.35	4.75	0	0	$ 5,400.00	ELISA Technicians Arusha x3	$ 472.50	$ 486.68	$ 6,803.02	$ -	$ -	$ 7,762.20
0	0	12	0	0	$ 5,400.00	ELISA Technician	$ -	$ -	$ 5,400.00	$ -	$ -	$ 5,400.00
0	0	12	0	0	$ 5,400.00	PCR Technician	$ -	$ -	$ 5,400.00	$ -	$ -	$ 5,400.00
0	0	12	0	0	$ 5,400.00	Tick ID Technician	$ -	$ -	$ 5,400.00	$ -	$ -	$ 5,400.00
						Total Other Personnel	$ 472.50	$ 486.68	$ 23,003.02	$ -	$ -	$ 23,962.20
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel	$ 160.00	$ 160.00	$ 3,900.00	$ 160.00	$ 160.00	$ 4,540.00
						2. Foreign Travel	$ -	$ -	$ -	$ -	$ -	$ -
						Total Travel	$ 160.00	$ 160.00	$ 3,900.00	$ 160.00	$ 160.00	$ 4,540.00
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ 1,650.00	$ -	$ -	$ 1,650.00
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ 1,650.00	$ -	$ -	$ 1,650.00
						F. Other Direct Costs						
						1. Materials and Supplies	$ 2,000.00	$ 2,000.00	$ 2,320.00	$ 2,000.00	$ 2,000.00	$ 10,320.00
						2. Publication Costs						$ -
						3. Consultant Services (Rodent ID 6k; transl 2k; field team 6k)						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees						$ -
						7. Alterations and Renovations	$ 1,500.00					$ 1,500.00
						8. Other - Testing	$ -	$ -	$ 123,894.32	$ -	$ -	$ 123,894.32
						9. Other						$ -
						10. Other						$ -
						Total Other Direct Costs	$ 3,500.00	$ 2,000.00	$ 126,214.32	$ 2,000.00	$ 2,000.00	$ 135,714.32
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 7,132.50	$ 5,736.68	$ 173,863.54	$ 5,438.18	$ 5,536.53	$ 197,707.42
						Modified Direct Costs	$ 7,132.50	$ 5,736.68	$ 172,213.54	$ 5,438.18	$ 5,536.53	$ 196,057.42
						H. Indirect Costs						
				IDC Rate-->	10%	1. TVLA IDC Rate	$ 713.25	$ 573.67	$ 17,221.35	$ 543.82	$ 553.65	$ 19,605.74
				IDC Rate-->		2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 7,845.75	$ 6,310.34	$ 191,084.90	$ 5,982.00	$ 6,090.18	$ 217,313.17
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	**$ 7,845.75**	**$ 6,310.34**	**$ 191,084.90**	**$ 5,982.00**	**$ 6,090.18**	**$ 217,313.17**

Technician Travel					
	Y1	Y2	Y3	Y4	Y5
# trips	0	0	8	0	0
# days	0	0	5	0	0
Transport	$ 50.00	$ 50.00	$ 50.00	$ 50.00	$ 50.00
Per Diem	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
Total	$ -	$ -	$ 2,600.00	$ -	$ -

(b)(6) Travel					
	Y1	Y2	Y3	Y4	Y5
# trips	1	1	4	1	1
# days	2	2	5	2	2
Transport	$ 50.00	$ 50.00	$ 50.00	$ 50.00	$ 50.00
Per Diem	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
Total	$ 160.00	$ 160.00	$ 1,300.00	$ 160.00	$ 160.00

Co-P (b)(6) total
$ 1,940.00
Overall Total
$ 4,540.00

Travel Total	**$ 160.00**	**$ 160.00**	**$ 3,900.00**	**$ 160.00**	**$ 160.00**

Testing		Y1		Y2		Y3		OY1		OY2		
Test	Cost/Test	# Tests	Total	# Tests	Total	# Tests	Total	# Tests	Total	# Tests	Total	Total Serology
Serology - Cattle	$ 9.58	0	$ -	0	$ -	1200	$ 11,496.00	0	$ -	0	$ -	$ 30,656.00
Serology - Sm Mammal:	$ 9.58	0	$ -	0	$ -	1800	$ 17,244.00	0	$ -	0	$ -	
Serology - Wildlife	$ 9.58	0	$ -	0	$ -	200	$ 1,916.00	0	$ -	0	$ -	
PCR - Wildlife	$ 26.67	0	$ -	0	$ -	200	$ 5,334.00	0	$ -	0	$ -	Total PCR
PCR - Ticks	$ 26.67	0	$ -	0	$ -	3296	$ 87,904.32	0	$ -	0	$ -	$ 93,238.32
Total			**$ -**		**$ -**		**$ 123,894.32**		**$ -**		**$ -**	

Lab Workshops	
	Y3
Subsistence	$ 55.00
# days	5
# Participants	3
# Trainings	2
Total	$ 1,650.00

Y1	Y2	Y3	OY1	OY2	Base	TAWIRI	Y1	Y2	Y3	OY1	OY2	Total
1	1	1	1	1	$ 30,000.00	A. Senior/Key Personnel						
						(b)(4) Disease Ecologist	$ 2,500.00	$ 2,575.00	$ 2,652.25	$ 2,731.82	$ 2,813.77	$ 13,272.84
						Total Senior/Key Personnel	$ 2,500.00	$ 2,575.00	$ 2,652.25	$ 2,731.82	$ 2,813.77	$ 13,272.84
						B. Other Personnel						
12	12	0	0	0	$ 3,600.00	Wildlife Technician ($60/day x 60 days)	$ 3,600.00	$ 3,600.00	$ -	$ -	$ -	$ 7,200.00
						Total Other Personnel	$ 3,600.00	$ 3,600.00	$ -	$ -	$ -	$ 7,200.00
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel	$ 300.00	$ 309.00	$ 318.00	$ 327.00	$ 336.00	$ 1,590.00
						2. Foreign Travel	$ -	$ -	$ -	$ -	$ -	$ -
						Total Travel	$ 300.00	$ 309.00	$ 318.00	$ 327.00	$ 336.00	$ 1,590.00
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ -	$ -	$ -	$ -
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies						$ -
						2. Publication Costs						$ -
						3. Consultant Services (Rodent ID 6k; transl 2k; field team 6k)						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees						$ -
						7. Alterations and Renovations						$ -
						8. Other						$ -
						9. Other						$ -
						10. Other						$ -
						Total Other Direct Costs	$ -	$ -	$ -	$ -	$ -	$ -
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 6,400.00	$ 6,484.00	$ 2,970.25	$ 3,058.82	$ 3,149.77	$ 22,062.84
						Modified Direct Costs	$ 6,400.00	$ 6,484.00	$ 2,970.25	$ 3,058.82	$ 3,149.77	$ 22,062.84
						H. Indirect Costs						
				IDC Rate-->	10%	1. TAWIRI IDC Rate	$ 640.00	$ 648.40	$ 297.03	$ 305.88	$ 314.98	$ 2,206.28
				IDC Rate-->		2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 7,040.00	$ 7,132.40	$ 3,267.28	$ 3,364.70	$ 3,464.75	$ 24,269.12
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	**$ 7,040.00**	**$ 7,132.40**	**$ 3,267.28**	**$ 3,364.70**	**$ 3,464.75**	**$ 24,269.12**

Travel					
	Y1	Y2	Y3	Y4	Y5
# trips	2	2	2	2	2
# days	2	2	2	2	2
Transport	$ 40.00	$ 40.00	$ 40.00	$ 40.00	$ 40.00
Per Diem	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
Total	$ 300.00	$ 309.00	$ 318.00	$ 327.00	$ 336.00

Y1	Y2	Y3	OY1	OY2	Base
0.17	0.17	0.17	2	2	$ 17,508.00
0.4	0.4	0.4	4.4	4.4	$ 7,734.60

IDC Rate-->	10%
IDC Rate-->	

One Health Desk		Y1	Y2	Y3	OY1	OY2	Total
A. Senior/Key Personnel							
(b)(4)	Molecular Epidemiologist	$ 248.03	$ 255.47	$ 263.14	$ 3,188.58	$ 3,284.23	$ 7,239.45
	Public Health Specialist	$ 257.82	$ 265.55	$ 273.52	$ 3,099.00	$ 3,191.97	$ 7,087.86
Total Senior/Key Personnel		$ 505.85	$ 521.03	$ 536.66	$ 6,287.57	$ 6,476.20	$ 14,327.30
B. Other Personnel							
Total Other Personnel		$ -	$ -	$ -	$ -	$ -	$ -
C. Equipment							
Total Equipment		$ -	$ -	$ -	$ -	$ -	$ -
D. Travel							
1. Domestic Travel		$ 600.00	$ 618.00	$ 636.54	$ 655.64	$ 675.31	$ 3,185.48
2. Foreign Travel		$ -	$ -	$ -	$ -	$ -	$ 153,974.74
Total Travel		$ 600.00	$ 618.00	$ 636.54	$ 655.64	$ 675.31	$ 3,185.48
E. Participant/Trainee Support Costs							
1. Tuition/Fees/Health Insurance							$ -
2. Stipends							$ -
3. Travel							$ -
4. Subsistence							$ -
5. Other							$ -
Total Participant/Trainee Support Costs		$ -	$ -	$ -	$ -	$ -	$ -
F. Other Direct Costs							
1. Materials and Supplies							$ -
2. Publication Costs							$ -
3. Consultant Services (Rodent ID 6k; transl 2k; field team 6k)							$ -
4. ADP/Computer Services							$ -
5. Subawards/Consortium/Contractual Costs							$ -
6. Equipment or Facility Rental/User Fees							$ -
7. Alterations and Renovations							$ -
8. Other (Permits: $2,500 p.a. & 3 x $50 in Y1-3)							$ -
9. Other (medical waste mgt)							$ -
10. Other (equipment insurance)							$ -
Total Other Direct Costs		$ -	$ -	$ -	$ -	$ -	$ -
G. Direct Costs and Modified Direct Costs							
Direct Costs		$ 1,105.85	$ 1,139.03	$ 1,173.20	$ 6,943.21	$ 7,151.51	$ 17,512.79
Modified Direct Costs		$ 1,105.85	$ 1,139.03	$ 1,173.20	$ 6,943.21	$ 7,151.51	$ 17,512.79
H. Indirect Costs							
1. OHCD IDC Rate		$ 110.59	$ 113.90	$ 117.32	$ 694.32	$ 715.15	$ 1,751.28
2. Indirect Cost Type							$ -
I. Total Direct and Indirect Costs							
Direct + Indirect		$ 1,216.44	$ 1,252.93	$ 1,290.52	$ 7,637.53	$ 7,866.66	$ 19,264.07
J. Fee							
Fee		$ -	$ -	$ -	$ -	$ -	$ -
K. Total Costs and Fee							
Total Costs		**$ 1,216.44**	**$ 1,252.93**	**$ 1,290.52**	**$ 7,637.53**	**$ 7,866.66**	**$ 19,264.07**

Travel	Y1	Y2	Y3	Y4	Y5
# trips	4	4	4	4	4
# days	2	2	2	2	2
Transport	$ 40.00	$ 40.00	$ 40.00	$ 40.00	$ 40.00
Per Diem	$ 55.00	$ 55.00	$ 55.00	$ 55.00	$ 55.00
Total	$ 600.00	$ 618.00	$ 636.00	$ 654.00	$ 672.00

Y1	Y2	Y3	OY1	OY2	Base	PHE	Y1	Y2	Y3	OY1	OY2	Total
0	0	0	0	0.1	$ 121,457.00	A. Senior/Key Personnel						
						(b)(4) Virologist	$ -	$ -	$ -	$ -	$ 1,139.17	$ 1,139.17
						Total Senior/Key Personnel	$ -	$ -	$ -	$ -	$ 1,139.17	$ 1,139.17
						B. Other Personnel						$ -
0	0	0	0	1.075	$ 97,141.00	(b)(4) Virologist	$ -	$ -	$ -	$ -	$ 9,794.42	$ 9,794.42
0	0	0	0	0.05	$ 85,261.00	ect Manager	$ -	$ -	$ -	$ -	$ 355.25	$ 355.25
0	0	0	0	1.2	$ 72,322.00	echnician	$ -	$ -	$ -	$ -	$ 7,232.20	$ 7,232.20
0	0	0	0	1.2	$ 68,881.00	echnician	$ -	$ -	$ -	$ -	$ 6,888.10	$ 6,888.10
						Total Other Personnel	$ -	$ -	$ -	$ -	$ 24,269.97	$ 24,269.97
						C. Equipment						
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel						$ -
						2. Foreign Travel					$ 1,950.00	$ 1,950.00
						Total Travel	$ -	$ -	$ -	$ -	$ 1,950.00	$ 1,950.00
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ -	$ -	$ -	$ -
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ -	$ -	$ -	$ -
						F. Other Direct Costs						
						1. Materials and Supplies						$ -
						2. Publication Costs						$ -
						3. Consultant Services (Rodent ID 6k; transl 2k; field team 6k)						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees					$ 7,576.00	$ 7,576.00
						7. Alterations and Renovations						$ -
						8. Other (Testing)					$ 4,630.00	$ 4,630.00
						9. Other (shipping samples)					$ 1,351.00	$ 1,351.00
						10. Other (inflation for 4 years)					$ 617.00	$ 617.00
						Total Other Direct Costs	$ -	$ -	$ -	$ -	$ 14,174.00	$ 14,174.00
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ -	$ -	$ -	$ -	$ 41,533.15	$ 41,533.15
						Modified Direct Costs						$ -
						H. Indirect Costs						
IDC Rate-->					37.8%	1. PHE IDC Rate	$ -	$ -	$ -	$ -	$ 15,699.53	$ 15,699.53
IDC Rate-->						2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ -	$ -	$ -	$ -	$ 57,232.68	$ 57,232.68
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	**$ -**	**$ -**	**$ -**	**$ -**	**$ 57,232.68**	**$ 57,232.68**

Travel				
Flight	$ 1,066.00	1.29013317	$	1,375.28
Hotel/M&I Da	$ 313.00	3	$	939.00
Total			**$**	**2,314.28**

Materials and Supplies				
CCHF Test	$ 46.30	100	$	4,630.00
Lab rental	£ 3,788.00	2	$	7,576.00
			$	**12,206.00**

1.2 USD											
Yr1	Yr2	Yr3	OY1	OY2	Base USD	A Senior/Key Personnel		Yr1	Yr2	Yr3	OY1	OY2	Total
1.2	1.2	1.2	1.2	1.2	$130,046.00	CO-PI	$100,642.00	$ 13,946.26	$ 13,944.32	$ 14,439.34	$ 14,638.10	$ 14,638.10	$ 71,658.01
						Fringe		$ 4,027.40	$ 4,172.64	$ 4,322.74	$ 4,476.20	$ 4,476.20	$ 21,975.18
						Travel		$ 5,022.10	$ 5,270.74	$ 5,396.72	$ 5,587.27	$ 5,786.62	$ 27,071.45
						Trainee		$ 1,559.98	$ 1,615.33	$ 1,672.67	$ 1,732.05	$ 1,793.54	$ 8,373.58
						Fringe		$ 1,724.96	$ 1,812.94	$ 1,904.40	$ 2,002.27	$ 2,104.70	$ 9,550.27
						Tuition		$ 2,466.98	$ 2,589.34	$ 10,871.09	$ 11,410.30	$ 2,994.06	$ 30,331.78
						Fringe		$ 17,714.34	$ 18,603.16	$ 53,990.98	$ 56,680.20	$ 21,546.40	$ 168,535.11
					TOTAL PERSONNEL			**$ 41,342.42**	**$ 43,070.05**	**$ 79,326.43**	**$ 82,915.06**	**$ 46,712.99**	**$ 293,366.56**
					C. Equipment								
					Total Equipment			$ -	$ -	$ -	$ -	$ -	$ -
					D. Travel								
					1. Domestic Travel								$ -
					2. Foreign Travel			$ 9,801.00	$ 12,946.13	$ 20,165.26	$ 16,979.73	$ 13,629.50	$ 73,523.62
					Travel			$ 9,801.00	$ 12,946.13	$ 20,165.26	$ 16,979.73	$ 13,629.50	$ 73,523.62
					E. Participant/Trainee Support Costs								
					1. Tuition/Fees/Health Insurance			$ -	$ -	$ -	$ -	$ -	$ -
					2. Stipends			$ -	$ -	$ -	$ -	$ -	$ -
					3. Travel			$ -	$ -	$ 3,300.00	$ -	$ -	$ 3,300.00
					4. Subsistence			$ -	$ -	$ -	$ -	$ -	$ -
					5. Other			$ -	$ -	$ -	$ -	$ -	$ -
					Total Participant/Trainee Support Costs			$ -	$ -	$ 3,300.00	$ -	$ -	$ 3,300.00
					F. Other Direct Costs								
					1. Materials and Supplies including fuel $/t			$ -	$ 19,500.00	$ 19,500.00	$ 19,500.00		$ 58,500.00
					2. Publication Costs								$ -
					3. Consultant Services (Rodent ID $k; trans) 2k; Med team $k)								$ -
					4. ADP/Computer Services								$ -
					5. Subaward/Consortium/Contractual Costs								$ -
					6. Equipment or Facility Rental/User Fees								$ -
					7. Alterations and Renovations				$ 3,823.30	$ 3,823.30			$ 7,646.60
					8. Other - Shipping Costs								$ -
					9. Other - Testing								$ -
					10. Other								$ -
					Total Other Direct Costs			$ -	$ 19,500.00	$ 23,323.30	$ 23,323.30	$ -	$ 66,146.60
					G. Direct Costs and Modified Direct Costs								
					Direct Costs			$ 51,143.42	$ 75,516.18	$ 126,114.98	$ 123,218.09	$ 62,342.09	$ 438,336.76
					Modified Direct Costs			$ 51,143.42	$ 75,516.18	$ 122,814.98	$ 123,218.09	$ 62,342.09	$ 435,036.76
					H. Indirect Costs								
					IDC Rate-->	0.1	1. UGG IDC Rate	$ 5,114.34	$ 7,551.82	$ 12,281.50	$ 12,321.81	$ 6,234.21	$ 43,503.68
					IDC Rate-->		2. Indirect Cost Type						$ -
					Direct + Indirect			$ 56,257.76	$ 83,070.00	$ 138,396.49	$ 135,539.90	$ 68,576.30	$ 481,840.46
					I. Total Direct and Indirect Costs								
					J. Fee								
					Fee			$ -	$ -	$ -	$ -	$ -	$ -
					K. Total Costs and Fee								
					Total Costs			**$ 56,257.76**	**$ 83,070.00**	**$ 138,396.49**	**$ 135,539.90**	**$ 68,576.30**	**$ 481,840.46**

Intermediate Travel											
		Y1		Y2		Y3		Y4		Y5	
Trainee 1 [#185]	Sr Technician (Anushi)	Base									
Lodging $/wks & Incidental Expenses Per Diem		$ 70	$	2,100	$	2,100	$	2,100	$	2,100	$ 1,050
Flight Estimate		$ 4,587	$	4,311	$	4,311	$	4,311	$	4,311	$ 4,311
No. Days			$	10	$	10	$	10	$	10	$ 5
No. Trips per Year			$	3	$	3	$	3	$	3	$ 3
Total			$	6,411	$	6,603	$	6,796	$	6,988	$ 6,004 $ 12,802.30
			$	2,137.00							

Travel											
		Y1		Y2		Y3		Y4		Y5	
Trainee 2 [#205]	(Dar es Salam)										
Lodging $/wks & Incidental Expenses Per Diem		150	$	600.00	$	900.00	$	900.00	$	600.00	$ 1,050.00
No. Trips per Year		2		3		3		2		2	2
No. Days		2		2		2		2		2	5.5
Flight Estimate		320	$	640	$	960	$	640	$	640	$ 640
Total			$	1,240.00	$	1,915.80	$	1,971.60	$	1,551.60	$ 2,256.80 $ 5,043.80
			$	620.00							

Trainee 3 - Additional Field Time Austin - discount rate for renting vs hotel

Lodging $/wks & Incidental Expenses Per Diem		38	$	-	$	-	$	6,840.00	$	3,888.00	$ -
Flight Estimate							$	-	$	-	
No. Days		0		0		180		101.0			0
No. Trips per Year		0		0		1		1			0
Total			$	-	$	-	$	6,840.00	$	3,951.14	$ - $10,791.14

Trainee 4 - (k Mallet (Symposium)											
Lodging $/wks & Incidental Expenses Per Diem		150							$	1,012.96	
Flight Estimate									$	1,355	
No. Days									6		
No. Trips per Year									1		
Total									2652		2652

YEARLY TOTALS		$ 9,802.00	$ 12,946.13	$ 20,165.26	$ 16,979.73	$ 13,629.50	$ 73,523.62
Research Visits		$ 2,150.00	$ 4,429.00	$ 4,558.00	$ 4,682.00	$ 2,408.00	

Lab Workshops		
	Y3	
Subsistence	$	55.00
# Participants		6
# days		5
# Trainings		2
Total		$ 3,300.00

Testing			Y1		Y2		Y3		OY1		OY2	
Test	Cost/Test	# Kits	Total	# Kits	Total	# Kits	Total	# Kits	Total	# Kits	Total	
ELISA Kits + Included in the 510(k)00 per year for lab supplies	$ 1,205.00	0	$ -	7	$ 8,435.00	5	-	5	-	5	$ 6,025.00	$ -

KCRI							Y1	Y2	Y3	OY1	OY2	Total
Y1	Y2	Y3	OY1	OY2	Base	A. Senior/Key Personnel						
1.2	1.2	1.2	1.2	1.2	$ 60,000.00	(b)(6) Epidemiologist	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 30,000.00
						Total Senior/Key Personnel	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 6,000.00	$ 30,000.00
						B. Other Personnel						
1	1	6	12	0	$ 24,000.00	Senior Lab Technician 1	$ 2,000.00	$ 2,000.00	$ 12,000.00	$ 24,000.00	$ -	$ 40,000.00
0	0	12	12	0	$ 12,000.00	Lab Technician 2	$ -	$ -	$ 12,000.00	$ 12,000.00	$ -	$ 24,000.00
0	0	12	12	0	$ 12,000.00	Lab Technician 3	$ -	$ -	$ 12,000.00	$ 12,000.00	$ -	$ 24,000.00
12	12	6	12	0	$ 12,000.00	Nurse 1	$ 12,000.00	$ 12,000.00	$ 6,000.00	$ 12,000.00	$ -	$ 42,000.00
0	0	0	12	0	$ 12,000.00	Nurse 2	$ -	$ -	$ -	$ 12,000.00	$ -	$ 12,000.00
1.2	1.2	1.2	1.2	1.2	$ 24,000.00	Administrator	$ 2,400.00	$ 2,400.00	$ 2,400.00	$ 2,400.00	$ 2,400.00	$ 12,000.00
0.84	0.84	0.84	0.84	0.84	$ 30,000.00	Finance	$ 2,100.00	$ 2,100.00	$ 2,100.00	$ 2,100.00	$ 2,100.00	$ 10,500.00
1.2	1.2	1.2	1.2	0	$ 30,000.00	Veterinary nd Molecular Immunologist	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ -	$ 12,000.00
1.2	1.2	1.2	1.2	0	$ 30,000.00	Physician	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ 3,000.00	$ -	$ 12,000.00
12	12	6	12	0	$ 24,000.00	Anthropologist/Epidemiologist	$ 24,000.00	$ 24,720.00	$ 12,730.80	$ 26,225.45	$ -	$ 87,676.25
						Total Other Personnel	$ 48,500.00	$ 49,220.00	$ 65,230.80	$ 108,725.45	$ 4,500.00	$ 276,176.25
						C. Equipment						
						Freezer	$ -					
						Total Equipment	$ -	$ -	$ -	$ -	$ -	$ -
						D. Travel						
						1. Domestic Travel	$ 3,500.00	$ 3,605.00	$ -	$ 11,550.12	$ -	$ 18,655.12
						2. Foreign Travel						$ -
						Total Travel	$ 3,500.00	$ 3,605.00	$ -	$ 11,550.12	$ -	$ 18,655.12
						E. Participant/Trainee Support Costs						
						1. Tuition/Fees/Health Insurance	$ -	$ -	$ -	$ -	$ -	$ -
						2. Stipends	$ -	$ -	$ -	$ -	$ -	$ -
						3. Travel	$ -	$ -	$ 1,801.25	$ -	$ -	$ 1,801.25
						4. Subsistence	$ -	$ -	$ -	$ -	$ -	$ -
						5. Other	$ -	$ -	$ -	$ -	$ -	$ -
						Total Participant/Trainee Support Costs	$ -	$ -	$ 1,801.25	$ -	$ -	$ 1,801.25
						F. Other Direct Costs						
						1. Materials and Supplies						$ -
						2. Publication Costs						$ -
						3. Consultant Services (Rodent ID 6k; transl 2k; field team 6k)						$ -
						4. ADP/Computer Services						$ -
						5. Subawards/Consortium/Contractual Costs						$ -
						6. Equipment or Facility Rental/User Fees			$ 14,400.00	$ 15,120.00		$ 29,520.00
						7. Alterations and Renovations						$ -
						8. Other - Sample Storage	$ 2,429.52	$ 2,551.00	$ 2,678.55	$ 2,812.47	$ 2,953.10	$ 13,424.63
						9. Other - Testing	$ -	$ -	$ 10,664.00	$ 31,992.00	$ -	$ 42,656.00
						10. Other						$ -
						Total Other Direct Costs	$ 2,429.52	$ 2,551.00	$ 27,742.55	$ 49,924.47	$ 2,953.10	$ 85,600.63
						G. Direct Costs and Modified Direct Costs						
						Direct Costs	$ 60,429.52	$ 61,376.00	$ 100,774.60	$ 176,200.05	$ 13,453.10	$ 412,233.25
						Modified Direct Costs	$ 60,429.52	$ 61,376.00	$ 98,973.35	$ 176,200.05	$ 13,453.10	$ 410,432.00
						H. Indirect Costs						
IDC Rate-->				10%		1. KCRI IDC Rate	$ 6,042.95	$ 6,137.60	$ 9,897.33	$ 17,620.00	$ 1,345.31	$ 41,043.20
IDC Rate-->						2. Indirect Cost Type						$ -
						I. Total Direct and Indirect Costs						
						Direct + Indirect	$ 66,472.47	$ 67,513.60	$ 110,671.93	$ 193,820.05	$ 14,798.41	$ 453,276.45
						J. Fee						
						Fee	$ -	$ -	$ -	$ -	$ -	$ -
						K. Total Costs and Fee						
						Total Costs	**$ 66,472.47**	**$ 67,513.60**	**$ 110,671.93**	**$ 193,820.05**	**$ 14,798.41**	**$ 453,276.45**

Testing		Y1		Y2		Y3		OY1		OY2	
Test	Cost/Test	# Tests	Total	# Tests	Total	# Tests	Total	# Tests	Total	# Tests	Total
IgG ELISA	$ 13.33	0	$ -	0	$ -	800	$ 10,664.00	2400	$ 31,992.00	0	$ -
		0	$ -	0	$ -		$ -	0	$ -	0	$ -
Total			**$ -**		**$ -**		**$ 10,664.00**		**$ 31,992.00**		**$ -**

Domestic Travel	Y1	Y2	Y3	OY1	OY2
Stipend/day	$ 35.00	$ 36.05	$ 37.13	$ 38.25	$ 39.39
Number of people	1	1		2	
# days	100	100		0 151	
Total	**$ 3,500.00**	**$ 3,605.00**	**$ -**	**$ 11,550.12**	**$ -**

Participant Support Costs	Y1	Y2	Y3	OY1	OY2
# Participants			12		
Meals			$ 15.00		
# Days			5		
Pickup to come to training			$ 195.00		
Local Transport during training			81.25		
Venue			$ 500.00		
Supplies			125		
Total			**$ 1,801.25**		

	DTRA Questions	EcoHealth Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff as well as that of the positions created by this grant.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 1
2	Please justify the 5% increase, per year, for key personnel	All salaries for key personnel are increased annually by 5% due to the exceptionally high cost of living increases in New York City where we are headquartered. EcoHealth Alliance bases this calculation on the Consumer Price Index plus an annual merit increase.	
3	For the 4-wheel drive, specifically: - More detailed description as to why this is needed - What is the plan to disposition of the four wheel drive - The comparison between renting and buying	We require a 4x wheel drive land cruiser made for driving off roads (the roads in Tanzania are very poorly maintained) for 6 passengers (driver/techincian, field coordinator, vet, nurse, PhD student, TAWIRI wildlife team member, plus equipment). A 5-person land cruiser is available for rent from Dar es Salaam (very few vehicles are available from Arusha). The cost is $3,112.27 per month (see documentation attached). We will need a vehicle daily for field work, visiting the communities prior to the start and at the end of the work for Years 1, 2 and OY1. Thus, the cost for these three years for 6 people = $3112.27 x 2 vehicles x 36 months = $224,083.44. Additionally, we will need a vehicle to move between laboratories, meet with collaborators and prepare for workshops during Years 3 and OY2, which would increase the cost of the rental vehicle even higher. Finally, one is not permitted to drive the rental vehicle into the national parks, which would mean our team would not be able to access one of the three environmental disturbance levels. Thus, it is far more economical for the project for us to purchase two vehicles rather than rent them. The only way to access our study areas is to drive. For each sampling trip in years 1-2 we will need to bring supplies for rodent, livestock and human sampling as well as a dry shipper for tick sampling. Additionally, the rodent sampling will take three days per site, whereas the human and livestock sampling will only take one day. Thus, the team can increase their efficiency by having the rodent sampling team in a separate vehicle from the human sampling team. Additionally, when the PIs join the team in the field they will need additional seating, which will be provided by two vehicles. At the end of the project, the vehicle will be transferred for use on other zoonotic disease research projects that our collaborators at EcoHealth Alliance or GAHT are working on.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 2-7, 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2
4	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices.	A detailed breakdown is provided in the FRBAA14-6-2-0356 Detailed Budget and documentation of all items is provided in the EHA Documentation file.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 8-80; FRBAA14-6-2-0356 Detailed Budget, Tabs: Prime Budget, EHA Travel budget, EHA Materials and supplies and Visas and Permits.
5	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	We have provided our federally negotiated indirect rate in the documentation and applied this to all modified direct costs.	01 - FRBAA14-6-2-0356 - EHA DocumentationPg p67
6	Documentation to justify the permit needed to enter Tanzania	The cost of non-Tanzanians obtaining research permits to conduct research in Tanzania includes: A COSTech research permit ($300 and $50 = $350). Then there is the additional TAWIRI permit, which is $3,800 per person ($1,800 for the research fee and in Y1 and Y2 and additional $2,000 for the critical protected area fee). The documenation is provided.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 53-56; 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
7	What does the misc. travel cost entail	The misc. travel costs are requested to cover ground transportation round trip to/from the airport or train station in NYC and to/from the hotel at the meeting location. These are estimated at a $25 taxi ride each way per person.	01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
8	Please explain how you came up with the cost associated with the international and domestic conferences	Domestic travel estimates are based on attending the APHA Conference which for 2018 was held in San Diego, CA. Therefore the estimates are based on the per diem of $173 for lodging and $71 for meals and incidentals per day for a total of $245 and conference registration fees of $700. International travel is based on attending the International Conference on Veterinary Epidemiology and Animal Health in Paris, France. Therefore the estimates are based on the per diem of $391 for lodging and $169 for meals and incidentals for a total of $560 and conference registration fees of 450 EURO, or $500.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 69-74; 01 - FRBAA14-6-2-0356 - EHA Budget Justification Pg 2-5
9	Please provide documentation to justify the conference space, amenities and printing documents for stakeholders meeting	We provided a quote from the Sheraton for facilities for our stakeholder meeting in November 2019 in Pretoria South Africa for a similar DTRA project.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 78-80
10	Please provide documentation to justify the rental of a conference facility for the CCHF Symposium in OY2	We provided a quote from the Sheraton for facilities for our stakeholder meeting in November 2019 in Pretoria South Africa for a similar DTRA project.	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 78-80
11	Please provide documentation for cost of recruitment of the Tanzanian post doctoral fellow in OY2	The costs assoicated with recruiting the Tanzanian post-doctoral fellow in OY2 include: the costs of the legal and visa filing fees associated with obtaining a work visa for the fellow ($460 for the application filing fee, $2,630 for the legal fees, $2,000 for the flight). As well as moving expenses etc. that will need to be reimbursed to the fellow ($1,500 for housing until an apartment is found, $910 for moving belongings).	01 - FRBAA14-6-2-0356 - EHA Documentation Pg 74-77

	DTRA Questions	KCRI Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at KCRI.	02 - FRBAA14-6-2-0356 - KCRI Documentation Pg 2
2	Please break down ODCs and provided documentation to justify any cost	We have provided the requested documentation in the documentation and updated justification files.	02 - FRBAA14-6-2-0356 - KCRI Documentation Pg 3-6; 02 - FRBAA14-6-2-0356 - KCRI Budget Justification Pg 2
3	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Travel costs include a stipend of $35 per day (non-governmental rate) for 100 days in each of Y1 and Y2 for the original serosurvey and 151 days in OY1 for the incidence study for the nurse(s) while they are working in the field.	FRBAA14-6-2-0356 - KCRI Documentation Pg 6-7; 02 - FRBAA14-6-2-0356 - KCRI Budget Justification Pg 2
4	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	Please see above explanation of travel costs	FRBAA14-6-2-0356 - KCRI Documentation Pg 6-7; 02 - FRBAA14-6-2-0356 - KCRI Budget Justification Pg 2
5			

	DTRA Questions	OneHealth Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at OHCD.	03 - FRBAA14-6-2-0356 - OHCD Documentation Pg 1 -2
2	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Dr. Assenga and Dr. Bernard may attend project meetings held in Tanzania and take other meetings to improve One Health stakeholder relationships. This will cover four trips per year, for 2 days each with local transportation estimated at $40 per trip and per diem expenses of $55 per day (government standard rate).	03 - FRBAA14-6-2-0356 - OHCD Justification Pg 1; 06 - FRBAA14-6-2-0356 - TVLA Documentation Pg. 1
3	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	Please see above explanation of travel costs. For documentation of the government stipend ($55) please see the TVLA documenation.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg. 1
4			
5			

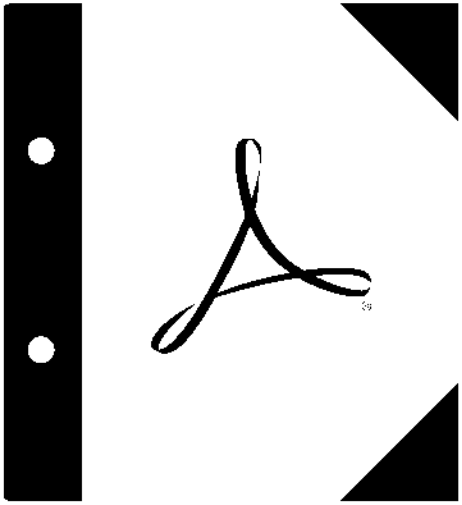
	DTRA Questions	Public Health Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at PHE.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 2
2	Please break down ODCs and provided documentation to justify any cost	Please see the documentation file for the break down of ODCs (items 2 and 3) and accompanying documentation of international travel (item 3). This documentation includes an explanation of international travel required, the cost per CCHF virus neutralisation test (under materials and supplies) a quote for shipment of samples from Tanzania to the UK (under postage of samples), and an estimate for inflation in costs, as the activity is scheduled for four years from now (OY2).	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 3-5
3	Please provide a breakdown of the proposed materials and equipment, to include quantities and unit prices. Please provide documentation (quotes, screen shots, links, etc.) to support the proposed prices.	Please see the documentation file outlining the agreed upon total unit cost per test under materials and supplies in item 2.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 3
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	Please see the documentation file, item 4 (current rate agreement) and item 5 (explanation of how the rate is used) for the federally negotiated rate.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 6-9
5	Please provided documentation to justify facility cost	Please see the documentation file, item 6, which describes both the overall cost for utilizing the BSL-4 laboratory for 2 weeks, as well as provides Table 1, which includes the cost breakdown for the facility.	04 - FRBAA14-6-2-0356 - PHE Documentation Pg 10-11
6			

	DTRA Questions	TAWIRI Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at TAWIRI.	05 - FRBAA14-6-2-0356 - TAWIRI Documentation Pg. 1
2			
3			
4			
5			

	DTRA Questions	TVLA Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at TVLA.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2
2	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	We have provided a breakdown of all travel proposed in the updated budget justification.	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2; 06 - FRBAA14-6-2-0356 - TVLA Budget Justification Pg 1
3	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	We have provided documentation in support of the ODCs in the Documentation file .	06 - FRBAA14-6-2-0356 - TVLA Documentation Pg 2-4
4			

	DTRA Questions	UoG Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at UoG.	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 2
2	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Screenshots for flight prices between Glasgow and Dar es Salaam, Glasgow and Kilimanjaro, and Kilimanjaro and Dar es Salaam are provided in the documentation attached. The breakdown of all costs associated with travel is provided in the updated justification.	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 3-8; 07 - FRBAA14-6-2-0356 - UoG Budget Justification Pg 1-2
3	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	The breakdown of all costs associated with travel is provided in the updated justification.	07 - FRBAA14-6-2-0356 - UoG Budget Justification Pg 1-2
4	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	Documentation is attached to confirm the costs of direct costs including shipping and lab expenses including testing kits. Full explanation of costs is outlined in the updated justification.	07 - FRBAA14-6-2-0356 - UoG Documentation Pg 9-16, 07 - FRBAA14-6-2-0356 - UoG Budget Justification Pg 2-3
5	Please break down participant costs	We request $3,300 in Y3 for travel subsistence costs for participants at a rate of $55/day (standard government rate) over 5 days for 10 participants, who will attend 2 trainings. The costs for the UoG trainer are covered by travel costs (above).	07 - FRBAA14-6-2-0356 - UoG Budget Justification Pg 2

	DTRA Questions	WSU Responses	Document and Page number
1	Please provide documentation to support the proposed salaries (key personnel and other personnel)	Please see the attached documentation of the salaries of current staff at WSU. We have also documented a draft employment contract for the employees to be hired at the standard rate for GAHT/WSU. We have included a bill for annual insurance for 7 employees to document the annual cost of benefits. We have also included a current salary statement from GAHT (including salaries for (b)(6)) to document the cost of the social security tax (NSSF), which is 10% of the gross salary).	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 2-14
3	Please provide documentation to support ODCs (screenshots links, quotes, etc.)	We have provided the documentation of all ODCs - this includes permits, insurance and medical waste management (individually described below) as well as a list of prices for office supplies. Please note that not all supplies are listed as stores in Tanzania do not have websites that indicate the prices and so we were not able to provide screen shots; however, we did provide a list of common office supplies and an example of a receipt for a recent purchase. An estimate for the translations was also provided.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 15-38; 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 4-5
4	Please provide any current agreements with or submissions to either DCMA or DCAA. Please also explain how the rates in these documents are utilized in the proposal calculations	WSU has a federally negotiated rate for overhead. The documentation attached includes a rate for work that takes place off-campus (as our project does).	WSU Dcumentation Pg 39-44
5	Need documentation to justify the permit needed to enter Tanzania	Documentation is provided for the following costs - all non-Tanzanians must pay a $300 application fee for a COSTech permit (the fee is only $50 for Tanzanians); once the COSTech application is approved, each non-Tanzanian researcher must pay a $1800 fee to conduct research in Tanzania. In Years 1 and 2 there is an additional fee for working in a critical protected area (Serengeti) of $2000.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 15-18; 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 15-18
6	Need documentation to justify medical waste management (Screenshots, links, quotes)	Documentation is provided for the cost of medical waste incineration. This will be necessary to handle the biohazardous waste that is produced during the field sampling.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 25
7	Please provide documentation to support equipment insurance (screenshots links, quotes, etc.)	The only equipment that is required to be insured are the project vehicles. As in the US there is a lower cost if the vehicle will be used for fewer kilometers in a year ($682 vs the $1,364 cost documented) as it is in the years without field work (Y3 and OY2).	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 21-22
8	For all travel proposed whether domestic and international, please provide (screenshots or links) the departure and arrival locations, number of trips, purpose of each trip, length of each trip, number of travelers, etc.	Screen shots for the cost of a flight was documented for all proposed travel between: London and Arusha (JRO), Arusha and Dar es Salam, Ausha and Seronera (Serengeti) and London and a European city. The number, pupose and length of each trip and the number of travelers is specified in the budget justification.	08 - FRBAA14-6-2-0356 - WSU Documentation Pg 45-49; FRBAA14-6-2-0356 Detailed Budget, Tab WSU; 08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 1-3
9	For all travel proposed (domestic and international), please provide a breakdown of the travel costs (airfare, ground transportation, lodging, per diem, etc.).	The breakdown of all costs associated with travel is provided in the justification.	08 - FRBAA14-6-2-0356 - WSU Budget Justification Pg 1-3; 08 - FRBAA14-6-2-0356 - WSU Documentation Pg 45-50; FRBAA14-6-2-0356 Detailed Budget, Tab WSU
10			



For the best experience, open this PDF portfolio in Acrobat X or Adobe Reader X, or later.

Get Adobe Reader Now!

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 11

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA12010018	30 Jun 2020	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY [ ] FOB ORIGIN [X] OTHER (See below)
ECOHEALTH ALLIANCE INC. MR. ALEKSEI CHMURA 460 W 34TH ST 17TH FL NEW YORK NY 10001-2317	9. DISCOUNT FOR PROMPT PAYMENT
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: — ITEM
CODE 3MMU3 — FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/NORTH ENTITLEMENT OPERATIONS P.O. BOX 182317 COLUMBUS OH 43218-2317	HQ0337

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	**See Schedule**

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$4,995,106.37**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 3			**PART III – LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACH.**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	4	X	J	LIST OF ATTACHMENTS	11
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	5		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	6				
X	G	CONTRACT ADMINISTRATION DATA	7 - 10		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [ ] SEALED-BID AWARD (Contractor is not required to sign this document.)
Your bid on Solicitation Number _____
including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the terms listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	30-Jun-2020

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001		1	Lot	$4,995,106.37	$4,995,106.37

Year 1: FRBAA14-6-2-0356
FFP
Crimean-Congo Hemorrhagic Fever: Reducing an Emerging Health Threat in Tanzania. In accordance wiht the following attachements: SOW at attchement 1 dated 3/18/2018 and DTRA Terms and Conditions for Grant Awards dated 8/1/2018 at attachment 2
FOB: Destination
U009

NET AMT $4,995,106.37

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Funding to support CLIN 001
FFP

NET AMT $0.00

ACRN AA $4,848,483.14
CIN: HDTRA10345980001

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00
	Funding to support CLIN 001 FFP				
				NET AMT	$0.00
	ACRN AC CIN: HDTRA10345980002				$146,623.23

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-11-16-BRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C 2358 as amended

Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	N/A	Destination	Government
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
0001	POP 01-JUL-2020 TO 30-JUN-2025	N/A	DEFENSE THREAT REDUCTION AGENCY/CT-I (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20202022 D 3400 0901515BR_KD_BP_TB_20 2022_0134_3400_SCNCT DTRA 410
AMOUNT: $4,848,483.14

AC: 044315 097 0134 000 N 20182020 D 34HQ 0901515BR_KD_BP_OT_18 1820_0134_34HQ_SCNCT DTRA 410
AMOUNT: $146,623.23

ACRN	CLIN/SLIN	CIN	AMOUNT
AA	000101	HDTRA10345980001	$4,848,483.14
AC	000102	HDTRA10345980002	$146,623.23

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (
email addr

e. Grantee Business Office:
Name: Alexia Churma
Title: Authorized Organizational Rep
Phone: (212) 380-4460
E-mail: chmura@ecohealthalliance.org

f. Grantee Principal Investigator (PI):
Name: Melinda Rostal
Title: Senior Research Scientist
Phone: (212) 380-4460
E-mail: rostal@ecohealthalliance.org

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/
8725 John J. Kingman Road, MS 6201

Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

FUNDING PROFILE:
The amount of $4,995,106.37 is obligated for work to be performed during the period beginning with grant, July 1 2020, award and continuing through June 30 2025.

The Government's liability is limited to the amount obligated

Invoice Schedule

1	7/1/2020	$81,886.97
2	8/1/2020	$81,886.99
3	9/1/2020	$81,886.99
4	10/1/2020	$81,886.99
5	11/1/2020	$81,886.99
6	12/1/2020	$81,886.99
7	1/1/2021	$81,886.99
8	2/1/2021	$81,886.99
9	3/1/2021	$81,886.99
10	4/1/2021	$81,886.99
11	5/1/2021	$81,886.99
12	6/1/2021	$81,886.99
13	7/1/2021	$81,886.99
14	8/1/2021	$81,886.99
15	9/1/2021	$81,886.99
16	10/1/2021	$81,886.99
17	11/1/2021	$81,886.99
18	12/1/2021	$81,886.99
19	1/1/2022	$81,886.99
20	2/1/2022	$81,886.99
21	3/1/2022	$81,886.99
22	4/1/2022	$81,886.99
23	5/1/2022	$81,886.99
24	6/1/2022	$81,886.99
25	7/1/2022	$81,886.99
26	8/1/2022	$81,886.99
27	9/1/2022	$81,886.99
28	10/1/2022	$81,886.99
29	11/1/2022	$81,886.99
30	12/1/2022	$81,886.99
31	1/1/2023	$81,886.99
32	2/1/2023	$81,886.99
33	3/1/2023	$81,886.99
34	4/1/2023	$81,886.99
35	5/1/2023	$81,886.99
36	6/1/2023	$81,886.99
37	7/1/2023	$81,886.99
38	8/1/2023	$81,886.99
39	9/1/2023	$81,886.99
40	10/1/2023	$81,886.99
41	11/1/2023	$81,886.99
42	12/1/2023	$81,886.99
43	1/1/2024	$81,886.99
44	2/1/2024	$81,886.99
45	3/1/2024	$81,886.99

46	4/1/2024	$81,886.99
47	5/1/2024	$81,886.99
48	6/1/2024	$81,886.99
49	7/1/2024	$81,886.99
50	8/1/2024	$81,886.99
51	9/1/2024	$81,886.99
52	10/1/2024	$81,886.99
53	11/1/2024	$81,886.99
54	12/1/2024	$81,886.99
55	1/1/2025	$81,886.99
56	2/1/2025	$81,886.99
57	3/1/2025	$81,886.99
58	4/1/2025	$81,886.99
59	5/1/2025	$81,886.99
60	6/1/2025	$81,886.99
61	7/1/2025	$81,886.99

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	SOW	6	18-MAR-2018
Attachment 2	Terms and Conditions	14	01-AUG-2018

From: Joe Riccardi
To: (b)(6)
Cc: Aleksei Chmura
Subject: Re: [Non-DoD Source] Re: Available for Quick Call?
Date: Thursday, June 11, 2020 12:28:42 PM

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Good Afternoon,

We would prefer Monthly invoicing if that is alright.

Cheers

Joe

On Thu, Jun 11, 2020 at 12:26 PM (b)(6) Caution-mailto:(b)(6) > > wrote:

Good Afternoon,

Just a quick question, is there a particular way you want the invoice set? Monthly, quarterly, etc?

-----Original Message-----
From: Joe Riccardi <riccardi@ecohealthalliance.org < Caution-mailto:riccardi@ecohealthalliance.org > >
Sent: Monday, June 8, 2020 1:14 PM
To (b)(6) Caution
Cc: Aleksei Chmura <chmura@ecohealthalliance.org < Caution-mailto:chmura@ecohealthalliance.org > >
Subject: [Non-DoD Source] Re: Available for Quick Call?

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Good Afternoon (b)(6)

I just wanted to follow up from our phone call the other week to check in on the status of the CCHF award and if you needed anything more from us?

Cheers

Joe

On Tue, May 26, 2020 at 11:48 AM Joe Riccardi <riccardi@ecohealthalliance.org < Caution-mailto:riccardi@ecohealthalliance.org > < Caution-Caution-mailto:riccardi@ecohealthalliance.org < Caution-mailto:riccardi@ecohealthalliance.org > > > wrote:

Hi (b)(6)

Melinda had reached over the weekend asking me to give you a quick call about our CCHF award?

Please let me know when is best for you? Or if easier my number is (b)(6)

Cheers

Joe

--

Joseph Riccardi
Manager of Budget and Finance

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

1.212.380.4494 (direct)

(b)(6) (mobile)

1.212.380.4465 (fax)
Caution-Caution-www.ecohealthalliance.org < Caution-http://Caution-Caution-www.ecohealthalliance.org > < Caution-Caution-http://www.ecohealthalliance.org/ < Caution-http://www.ecohealthalliance.org/ > >

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

--

Joseph Riccardi
Manager of Budget and Finance

EcoHealth Alliance
520 Eighth Avenue
Suite 1201
New York, NY 10018

1.212.380.4494 (direct)

(b)(6) mobile)

1.212.380.4465 (fax)

Caution-Caution-www.ecohealthalliance.org < Caution-http://Caution-Caution-www.ecohealthalliance.org > < Caution-Caution-http://www.ecohealthalliance.org/ < Caution-http://www.ecohealthalliance.org/ > >

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

--

Joseph Riccardi
Manager of Budget and Finance

EcoHealth Alliance
520 Eighth Avenue
Suite 1201
New York, NY 10018

1.212.380.4494 (direct)

(b)(6) (mobile)

1.212.380.4465 (fax)

Caution-www.ecohealthalliance.org < Caution-http://www.ecohealthalliance.org/ >

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 11

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00004	01-Feb-2013	CTB64	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
GLOBAL VIRAL FORECASTING, INC. FOIA (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
	X	10B. DATED (SEE ITEM 13) 01-Feb-2012
CODE 56SP4	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
X	D. OTHER (Specify type of modification and authority) FAR 52.217-9 Option to Extend the Term of the Contract

E. IMPORTANT: Contractor [X] is not, [ ] is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

CTB6299. The purpose of this modification is to:

1) Section B: Exercise Option Year 1, CLINs 0005, 0006, 0007 and 0008.
2) Section F: Revise SHIP TO ADDRESS only.
3) Section G: The funded amount of the contract was increased by $839,499.84 from $1,148,573.96 to $1,988,073.80.
4) Section G: Revise local clause 252.201-9002 CONTRACTING OFFICER'S REPRESENTATIVE (MAY 2007).

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 20-Dec-2012

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $839,499.84 from $1,148,573.96 to $1,988,073.80.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0005

The CLIN extended description has changed from OPTION YEAR 1. Diversity of Filoviruses in the Tropical Rainforests of Central Africa. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011. to OPTION YEAR 1. Diversity of Filoviruses in the Tropical Rainforests of Central Africa. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011 as revised September 18, 2012.

The option status has changed from Option to Option Exercised.

CLIN 0006

The CLIN extended description has changed from OPTION Year 1. Remote Surveillance of Lassa Fever in Sierra Leone. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011. to OPTION Year 1. Remote Surveillance of Lassa Fever in Sierra Leone. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011, as revised September 18, 2012.

The option status has changed from Option to Option Exercised.

CLIN 0007

The CLIN extended description has changed from OPTION Year 1. Identification and characterization of a putative noverl poxvirus in the Democratic Republic of Congo. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011. to OPTION Year 1. Identification and characterization of a putative noverl poxvirus in the Democratic Republic of Congo. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011 as revised September 18, 2012.

The option status has changed from Option to Option Exercised.

CLIN 0008

The CLIN extended description has changed from OPTION Year 1. Characterization of Viral Hemorrhagic Fevers of Unknown Origin. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011. to OPTION Year 1. Characterization of Viral Hemorrhagic Fevers of Unknown Origin. Contractor shall provide support as set forth in Section C, Statement of Work (SOW), dated November 10, 2011 as revised September 18, 2012.

The option status has changed from Option to Option Exercised.

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0002 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0003 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0004 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0005 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0006 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0007 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0008 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0009 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0010 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0011 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0012 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	12	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0014 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-JAN-2013	1	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	1	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0015 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	5	DEFENSE THREAT REDUCTION AGENCY/OP-CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	5	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $839,499.84 from $1,148,573.96 to $1,988,073.80.

CLIN 0005:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990005) was increased by $120,300.96 from $0.00 to $120,300.96
The contract ACRN AC has been added.
The CIN CTB62990005 has been added.

CLIN 0006:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990006) was increased by $379,656.00 from $0.00 to $379,656.00
The contract ACRN AC has been added.
The CIN CTB62990006 has been added.

CLIN 0007:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990007) was increased by $128,500.92 from $0.00 to $128,500.92
The contract ACRN AC has been added.
The CIN CTB62990007 has been added.

CLIN 0008:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990008) was increased by $211,041.96 from $0.00 to $211,041.96
The contract ACRN AC has been added.
The CIN CTB62990008 has been added.

The following have been modified:

252.201-9002 CONTRACTING OFFICER'S REPRESENTATIVE (MAY 2007)

a. The Contracting Officer's Representative (COR) for this contract is:

__X__ (b)(6)
Defense Threat Reduction Agency/J3CTB
8725 John J. Kingman Rd, MS 6201
Fort Belvoir VA 22060-6201
Telephone num (b)(6)
e-mail address
WAWF Acceptor DoDAAC: HDTRA1

____ _____
Defense Threat Reduction Agency/_____
1680 Texas St SE
Kirtland AFB NM 87117-5669
Telephone number (505) ___-____
e-mail address_____@abq.dtra.mil.
WAWF Acceptor DoDAAC: HDTRA2

b. The COR will act as the Contracting Officer's Representative for technical matters providing technical direction and discussion as necessary with respect to the specification/statement of work and monitoring the progress and quality of the Contractor's performance. The COR is NOT an Administrative Contracting Officer (ACO) and does not have the authority to take any action, either directly or indirectly that would change the pricing, quality, quantity, place of performance, delivery schedule, or any other terms and conditions of the contract, or to direct the accomplishment of effort, which goes beyond the scope of the specifications/statement of work in the contract.

c. When, in the opinion of the contractor, the COR requests effort outside the existing scope of the contract, the contractor shall promptly notify the Contracting Officer in writing. No action shall be taken by the contractor under such direction until the Contracting Officer has issued a modification to the contract or has otherwise resolved the issue.

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 of 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00005	01-Feb-2013	CTB64	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
GLOBAL VIRAL FORECASTING, INC. FOIA (b)(6) SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

CTB5331A. The purpose of this modification is to:

1) Section F: Extend the Delivery Date of CLIN 0014 Lassa Fever Outbreak - Nigeria, from 31 January, 2013 to 31 March, 2013.
2) Section F: Extend the Delivery Date of CLIN 0015 Ebola Virus Outbreak from 31 January, 2013 to 31 March, 2013.
3) The Delivery Date extensions of CLIN 0014 and CLIN 0015 are at no additional cost to the Government.
4) All other terms and conditions remains unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 30-Jan-2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0014 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	1	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-MAR-2013	1	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

The following Delivery Schedule item for CLIN 0015 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2013	5	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-MAR-2013	5	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00006	01-Apr-2013	CTB64	

6. ISSUED BY CODE	HDTRA1	7. ADMINISTERED BY (If other than item 6) CODE	
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201		See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
GLOBAL VIRAL FORECASTING, INC. FOIA (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not. ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

DAI: J9CBM7541. The purpose of this modification is to:
1) Section A: The total cost of this contract has increased by $186,391.80 from $1,988,073.80 to $2,174,465.60.
2) Section B: Add CLIN 0016 Ebola Virus Outbreak at Democratic Republic of Congo (DRC) - Six Month Extension.
3) Section F: The Delivery Date for this effort is September 30, 2013.
4) Section G: The total funded amount has increased by $186,391.80 from $1,988,073.80 to $2,174,465.60.
5) FOIA (b)(4)
6) All other terms and conditions remains unchanged and in full force and effect.
SEE SF30 BLOCK 14 CONTINUATION PAGE.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	29-Mar-2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $186,391.80 from $1,988,073.80 to $2,174,465.60.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0016 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0016		FOIA (b)(4)			$186,391.80
	Ebola Virus Outbreak at DRC Six Month Ex FFP J9CBM. Ebola Virus Outbreak at the Democratic Republic of Congo. FOB: Destination				
				NET AMT	$186,391.80
	ACRN AD CIN: J9CBM75410016				$186,391.80

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0016:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
Destination	Government	Destination	Government

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item has been added to CLIN 0016:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
30-SEP-2013	FOIA (b)(4)	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $186,391.80 from $1,988,073.80 to $2,174,465.60.

CLIN 0016:
Funding on CLIN 0016 is initiated as follows:

ACRN: AD

CIN: J9CBM75410016

Acctng Data: 044315 097 0400 000 N 20132014 D 2620 0602384BP-CB-CBM 1314-0400-2620-TM2BC DTRA 255

Increase: $186,391.80

Total: $186,391.80

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES	
J	1	3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00007	16-Apr-2013	CTB64	

6. ISSUED BY	CODE	HDTRA1	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201			**See Item 6**	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
GLOBAL VIRAL FORECASTING, INC. FOIA (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not. ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

DAI J3CTB 3106. The purpose of this modification is to:
1) Section A: The total cost of this contract was decreased by $50,000.00 from $2,174,465.60 to $2,124,465.60.

FOIA (b)(4)

4) Section F and Section G: See SF 30 Block 14 Continuation page.
5) All other terms and conditions remains unchanged and in full force and effect.
SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTING OFFICER TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 16-Apr-2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was decreased by $50,000.00 from $2,174,465.60 to $2,124,465.60.

SECTION B - SUPPLIES OR SERVICES AND PRICES

FOIA (b)(4)

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:
CONSULTING SERVICES FOR LASSA

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0014 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-MAR-2013	1	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC

31-MAR-2013	0	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was decreased by $50,000.00 from $2,174,465.60 to $2,124,465.60.

CLIN 0014:

AB: 044315 097 0134 000 N 20112013 D 34HQ 0901515BR-KD-BP1 1113-0134-34HQ-OGCON DTRA 252 (CIN CTB31060014) was decreased by $50,000.00 from $50,000.00 to $0.00

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00008	31-Jul-2013	CTB64	

6. ISSUED BY	CODE	HDTRA1	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY 8725 JOHN J. KINGMAN ROAD FORT BELVOIR, VA 22060-6201			See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)	9A. AMENDMENT OF SOLICITATION NO.
FOIA (b)(6) SAN FRANCISCO, CA 94104-4703	9B. DATED (SEE ITEM 11)
	X 10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4 FACILITY CODE	X 10B. DATED (SEE ITEM 13) 31-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
FAR 42.1205 Agreement to Recognize Contractors Change of Name

D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☐ is not, X is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
DAIJ3CTB9497.

1) Pursuant to FAR 42.1205, pertaining to execution of a Change of Name Agreement entered into as of June 28, 2013, duly signed and executed, this modification incorporates the change of the contractor's name in Block 8 as follows: FROM: Global Viral Forecasting, Inc. TO: Metabiota, Inc.

2) Section J, Exhibit C' contains the Name Change Agreement and Attachments A, B, and C.

3) Attachment C, List of Affected Contracts contains the contract administered by DTRA and contracts issued by various other agencies. Modifications to incorporate the name change for the contracts not administered by DTRA are the responsibility of the issuing agencies. This modification is provided as a reference for such modifications.

4) All other terms and conditions remains unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
FOIA (b)(6)	(b)(6) TEL: (b)(6)	CONTRACTING OFFICER EMAIL: (b)(6)
15C. DATE SIGNED July 31, 2013	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 31 July 2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been deleted:
CONSULTING SERVICES FOR LASSA

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The following have been modified:
LIST OF DOCUMENTS, EXHIBITS

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Contract Requirements List (CDRLs)		
	CDRL A001 Project Management Plan	1	27-JAN-2012
	CDRL A002 Project Status Report	1	27-JAN-2012
Exhibit B	Data Item Description (DIDs):		
	DI-MGMT-80368A	3	30-OCT-2006
	DI-MGMT-8004A	4	30-OCT-2006
Exhibit C	Change of Name Agreement Attachment A: Documents Effecting the Name Change. Attachment B: Opinion of Contractor's Legal Counsel. Attachment C: List of Affected Contracts	2	28-JUN-2013

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00009	01-Aug-2013	CTB64	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
	X	10B. DATED (SEE ITEM 13) 01-Feb-2012
CODE 56SP4	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

DAIJ3CTB8218. The purpose of this modification is to:

1) Section A: The total cost of this contract has increased by $151,309.00 from $2,124,465.60 to $2,275,774.60.

FOIA (b)(4)

4) A detailed description of this modification in SF 30 Block 14 Continuation Page.

5) All other terms and conditions remains unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTING OFFICER TEL (b)(6) EMAIL (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	01-Aug-2013

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 30 - BLOCK 14 CONTINUATION PAGE

The following have been added by full text:

SF 30 BLOCK 14 CONTINUATION

DAI J3CTB8218. The purpose of this modification is to:

1) Section A: The total cost of this contract has increased by $151,309.00 from $2,124,465.60 to $2,275,774.60.

adfasdfadsf

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $151,309.00 from $2,124,465.60 to $2,275,774.60.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0017 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0017	FOIA (b)(4)				$151,309.00

NET AMT $151,309.00

ACRN AE $151,309.00
CIN: J3CTB82180017

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0017:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
Destination	Government	Destination	Government

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item has been added to CLIN 0017:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2014	FOIA (b)(4)	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $151,309.00 from $2,124,465.60 to $2,275,774.60.

CLIN 0017:
Funding on CLIN 0017 is initiated as follows:

ACRN: AE

CIN: J3CTB82180017

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10351438-2013-ZZ-0-01

Increase: $151,309.00

Total: $151,309.00

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 11

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00010	27-Nov-2013	CTB64	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No. Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
[redacted] INC FOIA (b)(6) [redacted] SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4	FACILITY CODE	X 10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended ☐ is not extended

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
FAR 52.217-19 Option to Extend the Term of the Contract

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

J3CTB6299 and J3CTB10433. The purpose of this modification is to:

1) Section B: De-obligate funds from CLINs 0005, 0006, 0007, and 0008 for the amount of ($209,874.96) DAI J3CTB6299.
2) Section B: Replace funds in CLINs 0005 , 0006, 0007, and 0008 for the amount of $209,874.96. DAI J3CTB10433.
3) Section B: Exercise Option Year 2 CLINs 0009, 0010, 0011 and 0012 for a total of $ $860,723.88. DAI J3CTB10433.
4) Section G: The funded amount of the contract was increased by $860,723.88 from $2,275,774.60 to$3,136,498.48.
5) The Period of Performance for CLINs 0009, 0010, 0011 and 0012 is 1 February 2014 through 31 January 2015.
6) All other terms and conditions remain unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
FOIA (b)(6)	(b)(6) TEL: (b)(6) EMAIL: (b)(6) Contracting Officer
15C. DATE SIGNED November 27, 2013	16B. UNITED STATES OF AMERICA BY: (b)(6) (Signature of Contracting Officer)
(Signature of person authorized to sign)	16C. DATE SIGNED 27 November 2013

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $860,723.88 from $2,275,774.60 to $3,136,498.48.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0009
The option status has changed from Option to Option Exercised.

CLIN 0010
The option status has changed from Option to Option Exercised.

CLIN 0011
The option status has changed from Option to Option Exercised.

CLIN 0012
The option status has changed from Option to Option Exercised.

SUBCLIN 000501 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000501					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433000501				$30,075.24

SUBCLIN 000601 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000601					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433000601				$94,914.00

SUBCLIN 000701 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000701					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433000701				$32,125.23

SUBCLIN 000801 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000801					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433000801				$52,760.49

SUBCLIN 000901 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000901					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433000901				$81,356.00

SUBCLIN 000902 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000902					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AF CIN: J3CTB10433000902				$40,678.00

SUBCLIN 001001 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001001					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433001001				$262,280.64

SUBCLIN 001002 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001002					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AF CIN: J3CTB10433001002				$131,140.32

SUBCLIN 001101 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001101					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433001101				$87,540.00

SUBCLIN 001102 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001102					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AF CIN: J3CTB10433001102				$43,770.00

SUBCLIN 001201 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001201					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AG CIN: J3CTB10433001201				$142,639.28

SUBCLIN 001202 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001202					$0.00
	Funding Info Only FFP FOB: Destination				
				NET AMT	$0.00
	ACRN AF CIN: J3CTB10433001202				$71,319.64

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000501:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000601:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000701:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000801:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000901:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 000902:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001001:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001002:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001101:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001102:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001201:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001202:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $860,723.88 from $2,275,774.60 to $3,136,498.48.

CLIN 0005:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990005) was decreased by $30,075.24 from $120,300.96 to $90,225.72

SUBCLIN 000501:
Funding on SUBCLIN 000501 is initiated as follows:

ACRN: AG

CIN: J3CTB10433000501

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $30,075.24

Total: $30,075.24

CLIN 0006:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990006) was decreased by $94,914.00 from $379,656.00 to $284,742.00

SUBCLIN 000601:
Funding on SUBCLIN 000601 is initiated as follows:

ACRN: AG

CIN: J3CTB10433000601

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $94,914.00

Total: $94,914.00

CLIN 0007:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990007) was decreased by $32,125.23 from $128,500.92 to $96,375.69

SUBCLIN 000701:
Funding on SUBCLIN 000701 is initiated as follows:

ACRN: AG

CIN: J3CTB10433000701

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $32,125.23

Total: $32,125.23

CLIN 0008:

AC: 044315 097 0134 000 N 20122014 D 34HQ 0901515BR-KD-BP 1214-0134-34HQ-PRICT DTRA 252 (CIN CTB62990008) was decreased by $52,760.49 from $211,041.96 to $158,281.47

SUBCLIN 000801:
Funding on SUBCLIN 000801 is initiated as follows:

ACRN: AG

CIN: J3CTB10433000801

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $52,760.49

Total: $52,760.49

SUBCLIN 000901:
Funding on SUBCLIN 000901 is initiated as follows:

ACRN: AG

CIN: J3CTB10433000901

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $81,356.00

Total: $81,356.00

SUBCLIN 000902:
Funding on SUBCLIN 000902 is initiated as follows:

ACRN: AF

CIN: J3CTB10433000902

Acctng Data: 044315 097 0134 000 N 20132015 D 34HQ 0901515BR-KD-BP 1315-0134-34HQ-PRICT DTRA 252

Increase: $40,678.00

Total: $40,678.00

SUBCLIN 001001:
Funding on SUBCLIN 001001 is initiated as follows:

ACRN: AG

CIN: J3CTB10433001001

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $262,280.64

Total: $262,280.64

SUBCLIN 001002:
Funding on SUBCLIN 001002 is initiated as follows:

ACRN: AF

CIN: J3CTB10433001002

Acctng Data: 044315 097 0134 000 N 20132015 D 34HQ 0901515BR-KD-BP 1315-0134-34HQ-PRICT DTRA 252

Increase: $131,140.32

Total: $131,140.32

SUBCLIN 001101:
Funding on SUBCLIN 001101 is initiated as follows:

ACRN: AG

CIN: J3CTB10433001101

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $87,540.00

Total: $87,540.00

SUBCLIN 001102:
Funding on SUBCLIN 001102 is initiated as follows:

ACRN: AF

CIN: J3CTB10433001102

Acctng Data: 044315 097 0134 000 N 20132015 D 34HQ 0901515BR-KD-BP 1315-0134-34HQ-PRICT DTRA 252

Increase: $43,770.00

Total: $43,770.00

SUBCLIN 001201:
Funding on SUBCLIN 001201 is initiated as follows:

ACRN: AG

CIN: J3CTB10433001201

Acctng Data: 021001-97-0400-000-N-20132014-D-265Y-10392311-2013-ZZ-0-01

Increase: $142,639.28

Total: $142,639.28

SUBCLIN 001202:
Funding on SUBCLIN 001202 is initiated as follows:

ACRN: AF

CIN: J3CTB10433001202

Acctng Data: 044315 097 0134 000 N 20132015 D 34HQ 0901515BR-KD-BP 1315-0134-34HQ-PRICT DTRA 252

Increase: $71,319.64

Total: $71,319.64

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1 CONTRACT ID CODE	PAGE OF PAGES
J	1 19

2 AMENDMENT/MODIFICATION NO	3 EFFECTIVE DATE	4 REQUISITION/PURCHASE REQ NO	5 PROJECT NO (If applicable)
P00011	03-Jul-2014	CTB64	

6 ISSUED BY	CODE	7 ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8 NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

METABIOTA, INC
FOIA (b)(6)
1 SUTTER ST S E 600
SAN FRANCISCO CA 94104-4973

	9A AMENDMENT OF SOLICITATION NO.
	9B DATED (SEE ITEM 11)
X	10A MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
X	10B DATED (SEE ITEM 13) 01-Feb-2012

CODE 56SP4 FACILITY CODE 56SP4

11 THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended ☐ is not extended

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12 ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13 THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14 DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Modification Control Number: (b)(4)

DAIJ9CBM12493 The purpose of this modification is to:

1) Section A: The total cost of this contract has increased by $325,693.98 from $3,136,498.48 to $3,462,192.46

FOIA (b)(6)

5) Section F: The Delivery Date for this effort is December 31, 2014.

6) Section G: The total funded amount has increased by $325,693.98 from $3,136,498.48 to $3,462,192.46.

7) All other terms and conditions remain unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A NAME AND TITLE OF SIGNER (Type or print)	16A NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
FOIA (b)(6)	(b)(6) Contracting Officer TEL (b)(6) EMAIL (b)(6)	
15C DATE SIGNED: July 3, 2014	16B UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C DATE SIGNED: 03-Jul-2014

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased by $325.693.98 from $3,136,498.48 to $3,462,192.46.

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0013

FOIA (b)(4)

CLIN 0018 is added as follows:

ITEM NO	SUPPLIES SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0018	FOIA (b)(4)				$325.693.98

DAI #J9CBM12493. Ebola Virus Outbreak Survivor Sampling in Sierra Leone.
FOB: Destination

NET AMT $325,693.98

SUBCLIN 001801 is added as follows:

ITEM NO	SUPPLIES SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001801			Each		$0.00
	Funding Info Only FFP DAI # J9CBM12493. FOB: Destination				
				NET AMT	$0.00
	ACRN AH CIN: J9CBM12493001801				$200,000.00

SUBCLIN 001802 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
001802			Each		$0.00
	Funding Info Only FFP DAI #J9CBM12493. FOB: Destination				
				NET AMT	$0.00
	ACRN AD CIN: J9CBM12493001802				$125,693.98

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been added by full text:
STATEMENT OF WORK

November 10, 2011
September 18, 2012
July 2, 2014

STATEMENT OF WORK

Cooperative Biological Engagement Program
Statement of Work for
Continuation of the following research projects: (1) "Diversity of Filoviruses in the Tropical Rainforests of Central Africa; (2) "Remote Surveillance of Lassa Fever Virus in Sierra Leone"; (3) "Identification and characterization of a putative novel poxvirus in the DRC (Short title: POX NEAR NEIGHBORS)"; and (4) "Characterization of Viral Hemorrhagic Fevers of Unknown Origin (Short Name: High Consequence Pathogen Discovery in Central Africa)."

I. Introduction and background: The Defense Threat Reduction Agency (DTRA) Cooperative Biological Engagement Program (CBEP) previously funded Global Viral Forecasting (GVF) (now known as Metabiota, Inc.) indirectly through the U.S. Army Public Health Command to facilitate the following research projects: (1) "Diversity of Filoviruses in the Tropical Rainforests of Central Africa; (2) "Remote Surveillance of Lassa Fever Virus in Sierra Leone"; (3) "Identification and characterization of a putative novel poxvirus in the DRC (Short title: POX NEAR NEIGHBORS)"; and (4) "Characterization of Viral Hemorrhagic Fevers of Unknown Origin (Short Name: High Consequence Pathogen Discovery in Central Africa)." GVF (now known as Metabiota, Inc.) has already performed the work for these projects for the first year. This Statement of Work (SOW) outlines the CBEP requirements to continue and complete these projects under a direct contract.

II. Period of Performance: February 01, 2012 – January 31, 2014 for each of these 4 projects

III. Deliverables:

A. Project Status Reports (Quarterly and Final). On the first working day of the first month of each quarter the contractor shall provide Project Status Reports for each of the 4 projects to CBEP which include technical details including the accomplishment of requirements outlined in this Statement of Work (SOW) and progress against the Project Management Plan, with special emphasis on metrics

and any novel research findings. Details on the human research and animal use work (including number used, species, and location of testing) shall be included. This report shall be in contractor format sent to CBEP by email.

Within 30 days of the end of the projects, the contractor shall provide a final Project Status Report for each of the 4 projects to CBEP which will use the same information as the quarterly reports and will include summary details for the projects.

B. Published information. Prior to publishing, the contractor must first submit the language to be published to the DTRA CBEP POC/COR so that it may be cleared through DTRA channels for public release. After being cleared for public release by DTRA, the contractor shall publish information on any novel findings and provide a courtesy copy to CBEP upon publication. DTRA/CBEP shall be acknowledged in the publications for funding these projects.

C. Project Management Plan. The contractor shall submit to CBEP this detailed plan for each of the 4 projects within 30 days of the start of the period of performance (PoP), to include organizational structure involved, assignment of functions and duties, procedures, major milestones, associated timelines/schedules, deliverables, required travel, and travel purpose. This report shall be in contractor format sent to CBEP by email.

IV. Scope:

A. Objectives. The contractor shall execute continuation of the following research projects:
1. "Diversity of Filoviruses in the Tropical Rainforests of Central Africa";
2. "Remote Surveillance of Lassa Fever Virus in Sierra Leone";
3. "Identification and characterization of a putative novel poxvirus in the DRC (Short title: POX NEAR NEIGHBORS)"; and
4. "Characterization of Viral Hemorrhagic Fevers of Unknown Origin (Short Name: High Consequence Pathogen Discovery in Central Africa)."

B. General.

1. Biosafety and Biosecurity.
In order for CBEP to ensure that all collaborative research activities are conducted safely and securely, the contractor shall participate in biosafety and biosecurity (BS&S) initial and annual reviews of research projects. This will include a review of applicable CBEP documents (i.e.proposal, workplan), detailed facility and equipment information, verification of personnel training and project- and site-specific standard operating procedures (SOPs). The contractor shall adhere to CBEP biosafety and biosecurity programmatic guidance and shall address any BS&S-related concerns prior to initiation of work.

2. Human Subjects and Animal Use:

The contractor shall be responsible for obtaining and maintaining any required human subject and animal use exemptions or certifications, and the contractor shall keep CBEP informed of any new human subject and animal use exemptions or certifications. The contractor shall also keep CBEP informed of any new requirements for human subject and animal use exemptions or certifications. No work shall be performed which involves human subjects or animal use without appropriate human subject/animal use certifications in place.

C. Project 1: "Diversity of Filoviruses in the Tropical Rainforests of Central Africa"

1. Scope:

In mid-FY10, Global Viral Forecasting (GVF) (now known as Metabiota, Inc.) was funded for this project to examine the genetic diversity of filoviruses in Central Africa. In the year and a half since this Project was initiated, GVF (now known as Metabiota, Inc.) has: (1) identified a novel clade of Ebola virus Zaire (Luebo clade) from outbreaks that occurred in the DRC in 2008 and 2009; (2) In collaboration with USAMRIID, performed full genome analysis on 12 samples of Ebola virus Zaire that were obtained from outbreaks of Ebola virus in Central Africa over the past decade; and (3) identified the second only Marburg virus, culture-positive bat in the Republic of Gabon, thus furthering the argument that this species a reservoir host species for Marburg virus. The contractor will continue analysis of seed stocks of animal, primary human and cell culture, filovirus-positive samples from Central Africa, as well as continue to collect samples from relevant species in outbreak regions. The contractor shall execute continuation of this project.

The contractor will conduct analyses of sample sets of human and animal specimens collected in Central Africa beginning in 2001. Human samples were collected within the context of outbreak responses or routine infectious disease surveillance, and animal samples were collected both as part of routine surveillance for zoonotic infections and as part of viral hemorrhagic fever surveillance conducted by Metabiota, Inc. Associate Scientist Dr. Eric Leroy from 2001-2011, as well as studies conducted by other GVF (now known as Metabiota, Inc.) researchers in DRC. These collections consist primarily of fruit bat, non-human primate, and human samples, species known to be key in the transmission of filoviruses to humans.

The contractor will continue to collect samples from relevant species in outbreak regions that may happen in Option Year 1 and Option Year 2. However, collection of new samples is contingent upon bilateral contract modifications issued to authorize and fund this activity for each outbreak.

2. Project Requirements. The contractor shall execute this project using the below listed requirements to test the hypothesis that sequence analysis of an additional well characterized set of human and animal specimens collected by GVF

(now known as Metabiota, Inc.) from various regions within Central Africa will provide an improved understanding of the epidemiology and natural evolution of filoviruses in the tropical rainforests of Central Africa:

(a) Use direct full-length genome sequencing, random amplification PCR and virus chip technology to characterize the full-genome of filoviruses from known positive samples of human and animal origin.
(b) Based on the results of Requirement (a), determine the incidence and geographic distribution of EBOV and MBGV positive bats and non-human primates.
(c) Determine the relative filovirus-specific antibody prevalence in human populations known to consume bats and non-human primates as food sources.
(d) Use Bayesian regression and other methodologies to examine the genetic relationships among filoviruses identified in human and animal specimens, and use that information to further elucidate the evolution of these pathogens in Central Africa.

3. Background: Ebola (EBOV) and Marburg (MBGV) hemorrhagic fevers cause severe, often-fatal disease in humans and nonhuman primates (monkeys, gorillas, and chimpanzees), and have appeared sporadically since 1976. Disease is caused by infection with either EBOV, named after a river in the Democratic Republic of the Congo (formerly Zaire) in Africa, where it was first recognized, or MBVG, named after the city in Germany where it was first recognized in 1967 at primate research facility. Both viruses are members of a family of RNA viruses called the Filoviridae.

Ebola and Marburg viruses are known to be endemic in Central Africa. Numerous human and animal outbreaks of Ebola Zaire virus have occurred in the region over the past 15 years and Marburg virus was recently isolated from fruit bats collected in Gabon. GVF (now known as Metabiota, Inc.) partner institutions, the International Center for Medical Research (French acronym CIRMF) in Franceville, Gabon, as well as the National Institute of Biomedical Research (INRB) in Kinshasa, DRC, are the premier diagnostic laboratories in Central Africa and home to the world's largest collections of primary human and animal samples taken during Ebola and Marburg outbreaks in Gabon, RoC, DRC and Angola. It is through these extensive collections that MBGV was first isolated from fruit bats. The collections also helped to delineate the inflammatory patterns observed in humans that survive Ebola virus Zaire infection.

The exact origin and natural reservoir of EBOV and MBGV viruses remain unknown. However, on the basis of available evidence and the nature of similar viruses, researchers believe that the virus is zoonotic (animal-borne), occurring in an animal endemic to Africa.

Filovirus HF typically appears in sporadic outbreaks, usually spread within a health-care setting (i.e. amplification). It is likely that sporadic, isolated cases occur as well, but go unrecognized. Infections with filoviruses are acute. There is no carrier state in humans. Because the natural reservoir of the virus is unknown, the manner in which the virus first appears in a human at the start of an outbreak has not been determined. However, researchers have hypothesized that the first patient becomes infected through contact with an infected animal. Individuals in rural central Africa acutely infected with various pathogens may not seek treatment or may receive inaccurate diagnoses (Germani et al 1998; Cunin et al 1999; Nsutebu et al 2002; Nsutebu et al 2003; Ndip et al 2004; Kuniholm et al 2006; Peyrefitte et al 2006). Also, people who develop acute illness as the result of infection with zoonotic agents often have poor access to clinical facilities. When they do access health facilities, the lack of expertise or resources may sometimes lead to presumptive and/or incorrect clinical diagnoses. This may result in poor clinical outcomes, antibiotic resistance, and misguided health policies.

More extensive knowledge of the natural reservoir of filoviruses and how the viruses are spread must be acquired to prevent future outbreaks effectively. By determining the prevalence of filovirus antigen and antibody in collections derived from routine human surveillance, fevers of unknown origin, non-human primates, and bats, it can potentially be demonstrated that: 1) The human antibody prevalence to EBOV and MBGV in rural Central Africa; 2) the percentage of patients in rural Gabon presenting with fever of unknown that are infected with filoviruses; 3) the prevalence of filovirus antigens in bushmeat samples from bats and non-human primates 4) the geographic distribution of filoviruses in Central Africa by mapping human and animal data.

4. Contribution To DoD Research Mission:

Of the NIH NIAID Biodefense Priority Pathogens, seven are of relevance to rural central African populations highly exposed to wild animals and five (anthrax, monkeypox, Lassa, hantavirus and Ebola) have recently been associated with wild animals in central and western Africa. Studies of such pathogens, and the search for novel pathogens of human importance, play an important role in global security as response strategies depend to a large degree on information generated by biomedical research on such agents. Specifically, this project will close the gap in knowledge of a number of pathogens through the proposed research: 1) The human antibody prevalence to EBOV and MBGV in rural Central Africa; 2) the percentage of patients in rural Gabon infected with filoviruses; 3) the prevalence of filovirus antigens in bushmeat samples from bats and non-human primates 4) the geographic distribution of filoviruses in Central Africa. Such data aid in vaccine development, help determine risks to military populations, the US homeland and the global community.

D. Project 2: "Remote Surveillance of Lassa Fever Virus in Sierra Leone: Evaluation of microclimatic and terrain conditions in relation to disease incidence"

1. Scope:

In mid-FY10, Global Viral Forecasting (GVF) (now known as Metabiota, Inc.) was funded for this project to analyze the potential of developing a predictive model for Lassa fever infection in Sierra Leone. GVF (now known as Metabiota, Inc.) used a novel approach to medical diplomacy and engagement by seconding DTRA CBEP-funded employees to the local World Health Organization and Ministry of Health and Sanitation (MOHS) facilities in Sierra Leone in support of the predictive modeling and surveillance efforts for Lassa fever. This project has proven critical to the government of Sierra Leone and the WHO Mano River Union Lassa fever Network (MRU-LFN), and has resulted in the baseline data needed to develop a modeling system for Lassa fever. The contractor will continue collection of the multiple data points needed to develop a predictive model for Lassa fever infection, as well as incorporate human Lassa fever surveillance into model development. The contractor shall execute continuation of this project.

The contractor will use up to date surveillance data collected by the WHO Surveillance team paid by GVF (now known as Metabiota, Inc.) Sierra Leone and others at the Kenema LF Ward in Kenema, Sierra Leone, to identify villages where the greatest cases of both acute and convalescent LF have been reported or referenced.

Villages identified as reporting a higher than average incidence of LF will be examined and their terrain and habitat details recorded. Special attention will be paid to natural surrounding habitats (savanna, forest, etc), as well as local food storage conditions, lodging styles (mud-brick, tin, etc), and local interaction with rodents (are they prepared as a food source or not). Heavy-duty rain and temperature gauges will be used at each of the enrolled villages and a local resident will be identified as a dedicated record-keeper. In FY12, the contractor will continue to collect data from rainfall and temperature gauges 2 times daily and the average calculated. The contractor's team of epidemiologists and mammologists will return to each village twice per month to collect the data, as well as to trap rodents. Sherman live traps will be used to trap rodents in each village over a three-day period. *Mastomys* spp. rodents will be euthanized, exsanguinated, and their spleens removed and placed in Trizol solution. *Mastomys* specimens will be examined by real-time RT-PCR for the presence LASV antigen.



Human surveillance will be ongoing throughout the study period and will be directed by local contractor employees. Mr. James Bangura, WHO MRU-LFN Lassa Fever Surveillance Coordinator will direct surveillance operations from Kenema and will fully integrate all activities into the National Health and Surveillance Plan of Sierra Leone, as well as the WHO MRU-LFN planned activities. In addition to Sierra Leone, the MRU-LFN and the Kenema Government

Hospital Lassa fever Laboratory provides diagnosis of human Lassa fever for the Republic of Liberia. Under this proposal, the contractor will aim to continue this service, as it is not available in Liberia and provides a critical service to the Nation's Ministry of Health.

Data from temperature, rainfall, and terrain variables will be analyzed to determine their applicability towards developing a predictive model for Lassa fever.

2. Project Requirements. The reservoir of Lassa virus (LASV) is the "multimammate rat" of the genus Mastomys. Using the framework of the World Health Organization Mano River Union Lassa Fever Network (MRU-LFN) and the Sierra Leone Ministry of Health and Sanitation, continue human and rodent Lassa fever surveillance in the known LF hyper-endemic zone of Eastern Sierra Leone. Using historical data, the relative risk of infection with Lassa virus has been correlated to both rainfall and similarities in local terrain and environment, both factors that directly impact the ecological success of the Mastomys spp. The limitations to these studies were that they included limited data collection points (with regards to rainfall and temperature), were carried out retrospectively, and did not include data points from much of the hyper-endemic region of Eastern Sierra Leone. The contractor shall execute this project through continued regular monitoring of rainfall and temperature, further characterization of terrain and landscape similarities associated with Lassa fever infection, as well as overlapping surveillance of Lassa virus-positive human and Mastomys spp. populations. The data obtained will be used to develop a predictive modeling tool for Lassa fever infection.

3. Background:

Unlike many VHFs, LF is not a rare disease that emerges only in outbreak form; LF likely exists in focal pockets across West Africa, causing an estimated 300,000 to 500,000 infections and 5,000 deaths yearly. Thus, LF represents one of the only VHFs amenable to prospective study and indeed was the focus of various research programs in the 1970s and 80s. However, civil unrest in the countries with the highest incidence, especially Sierra Leone and Liberia, forced closure of most of these programs by the early 1990s. Ironically, this political instability seemed to exacerbate transmission, with frequent cases of LF in refugees, UN peacekeepers, aid workers, missionaries, and travelers in West Africa. Lassa Fever is also the most frequently imported person-to-person communicable VHF.

In 2004, the World Health Organization in Geneva and Sierra Leone established the World Health Organization Mano River Union Lassa Fever Network (MRU-LFN). The MRU-LFN is an established consortium of government, academic and private research organizations that joined together to provide critical infrastructure, essential public health services, and otherwise unobtainable information regarding viral hemorrhagic fever syndromes and tropical infections in West Africa. It is also a model of international cooperative threat reduction and unique testing ground for

diagnostic reagents and vaccine candidates against endemic, highly pathogenic agents such as Lassa fever.

GVF (now known as Metabiota, Inc.) investigators and international partners have developed this site into a key center of Lassa virus surveillance and applied research, as well as, provided support for the vital, life-saving Lassa fever ward in Kenema, the epicenter of Lassa virus outbreaks globally. An important aspect of these programs is the establishment of collaborations with the Ministry of Health and WHO in host countries.

The reservoir of LASV is the "multimammate rat" of the genus *Mastomys*. *Mastomys* show no symptoms of LASV infection, but shed the virus in saliva, urine and feces. The wide distribution of *Mastomys* in Africa makes eradication of this rodent reservoir impractical and ecologically undesirable. *Mastomys* often live in human homes, and the virus is easily transmitted to humans. Transmission occurs via direct contact with rat urine, feces, and saliva, or by contact or ingestion of excretion-contaminated materials. Infection may also occur when *Mastomys* are caught and prepared as food. LASV is readily transmitted between humans, via exposure to blood or body fluids, which makes nosocomial infection a great concern. Infection usually occurs via mucous membranes or skin breaks. LASV can also be transmitted to sexual partners of convalescent men via semen up to 6 weeks post-infection.

Mastomys as a genus is common throughout grassland and tropical secondary forest areas of sub-Saharan Africa. Focal variation in the prevalence of Mastomys and/or LASV infection in the *Mastomys* population might explain some of the patchy distribution observed for Lassa across divergent sites in West Africa. However, the distribution of cases is often extremely heterogeneous, even within well-circumscribed areas of contiguous and apparently identical ecosystems. Considerable heterogeneity in the distribution of LASV-infected *Mastomys* can be noted between neighboring villages or even within a given village, suggesting that the heterogeneity cannot be completely explained simply by variations in intensity of surveillance across regions. Significant temporal variation of Lassa has been noted, with a peak incidence usually occurring during the dry season. The seasonal variation in incidence has often been attributed to the tendency of *Mastomys* to breed primarily at the end of the rainy season, potentially introducing a large number of LASV-excreting juveniles into the population in the dry season. However, breeding patterns of small mammals often vary significantly in different habitats, and no thorough studies on the population dynamics of *Mastomys* have been conducted in West Africa. *Mastomys* may indeed breed throughout the year in tropical rainforest climates such as those found in Sierra Leone and Guinea. Furthermore, the observed seasonal variation in Lassa incidence, which is typically derived from hospital-based data, has also been noted for non-Lassa febrile illnesses, raising the question whether the pattern truly has a biological basis or is

instead related to behavioral, economic, and/or climatic factors that influence the likelihood of a person presenting for care.

4. Contribution To DoD Research Mission: Key to this project is the recognition that it crosses and links multiple DoD agencies, Commands, research efforts, and overall US Government policy objectives. Significant US and European investments have been made and leveraged over the years to combat a Category A pathogen that occurs in regular cycles in Sierra Leone, a war torn nation in need of significant public health investment. The DoD and others have invested millions of dollars in the development of diagnostics, candidate therapeutics and vaccines for viral hemorrhagic fevers, without the necessary understanding of human clinical disease due to the sporadic nature of these diseases. Lassa fever, this project, and Sierra Leone represent a highly unique opportunity to conduct an interdisciplinary, comprehensive research protocol that may lead to critical insights into the predictability of rodent-borne diseases incidence. The prior and upcoming investments made by the USG and others in this program, make this new endeavor a wise strategic investment to demonstrate interagency and international collaboration, as well as the real possibility of improving local public health.

The increasing strategic importance of the continent of Africa has compelled DoD to stand up the US Africa Command (AFRICOM). Existing Combatant Commands (COCOMS) have engaged extensively in medical diplomacy, particularly in the areas of improved AI/PI preparedness. These efforts aim to mitigate the impact of communicable disease and enhance the standing of COCOMS, thus facilitating implementation of other objectives. Medical diplomacy efforts such as the program described here will be especially useful for AFRICOM as it endeavors to establish beneficial partnerships.

US engagements supported by non-security related programs such as this are a cornerstone of CTR 2.0, and therefore its continuation will strengthen this fruitful public-private partnership which have been deemed essential to ensuring the sustainability and absorbability of biosecurity programs in the developing world. It is important to highlight the role that personal relationships and professional networks developed through these programs contribute directly to our national security. Collectively, activities such as these present the US in a very positive light locally, and offer AFRICOM a foundation to build upon that could both help address important global health challenges and provide access to critical local information and early warning of disease problems.

Lastly, UNMIL, the largest current deployment of United Nations peacekeepers is situated in Liberia, just across the border from Eastern Sierra Leone. The climate and terrain conditions found in Western Liberia and Eastern Sierra Leone are uniform, and UNMIL peacekeepers have experienced several zoonotic infections with Lassa virus in recent years. This study may directly benefit UN peacekeepers and local Sierra Leonean, Liberian and Guinean militaries by offering them means of determining the relative risk of infection with Lassa.

Capacity Building. The contractor will aim to ensure that the Kenema Government Hospital operates as an effective and exemplary Lassa fever treatment center by providing additional necessary equipment for the organization guaranteeing safe and sustainable patient care during the course of this program and onwards, including one (1) ambulance to ensure reliable and biosecure patient transport to the Lassa ward. These improvements will also prepare the hospital and its staff for the visiting outbreak response teams, and ensure that these individuals are able to participate fully the training process.

E. Project 3: Identification and characterization of a putative novel poxvirus in the DRC (Short title: POX NEAR NEIGHBORS)

1. Scope:

In mid-FY10, Global Viral Forecasting (GVF) (now known as Metabiota, Inc.) was funded for this project to identify near neighbors of monkeypox virus originating from the Democratic Republic of the Congo (DRC). To date they have found a number of unusual viruses in patient samples, including an arterivirus. Additionally, divergence has been identified in our monkeypox isolates; of particular interest is the significant number of single nucleotide polymorphisms (SNPs) in regions known to encode host immune response modulation and virulence factors. Full genome sequencing of orthopoxvirus^{+}/monkeypox virus^{-} samples is ongoing, presenting the potential for discovery of highly divergent poxviruses. The contractor shall execute continuation of this project.

In FY 12, the contractor will acquire and analyze additional samples, including a set of approximately 20 previously collected orthopox positive, monkeypox negative human samples collected for laboratory testing. These samples were collected beginning in 2005 using an established human monkeypox surveillance of sick individuals presenting to rural health clinics in DRC and through informal non-clinical settings using village-based surveillance (as only 30% of people in DRC utilize the formal healthcare system). These specimens are putative unknown poxviruses that likely represent a novel agent existing in nature. The proper identification and characterization of these agents is of critical importance in helping to predict and prevent future natural introductions, as well as in mitigating the risk of purposeful release of an unknown agent that could evade existing defenses and devastate human populations.

The contractor will continue to collect samples from relevant species in outbreak regions that may happen in Option Year 1 and Option Year 2. However, collection of new samples is contingent upon bilateral contract modifications issued to authorize and fund this activity for each outbreak.

2. Project Requirements. Recently analyzed biological specimens obtained suggest that a novel human disease agent(s) with orthopoxvirus-like symptoms may be emerging in central Africa. These specimens, obtained from suspected cases of human monkeypox infection through the DRC Ministry of Health disease surveillance program, indicate that nearly one-fifth of suspected human pox cases may not result from the known causes of poxvirus disease. The contractor shall execute this project using the following requirement to test the hypothesis that an unknown pathogen, potentially a near neighbor or neighbors to smallpox, is the cause of these illnesses: identify previously unknown disease agents in patients with orthopox-like symptoms using viral advanced pathogen discovery and molecular detection methods.

3. Background:

The 'near neighbor' approach to assessing risk among unknown agents focuses on identifying unknown viruses that are taxonomically closely related to known agents. Because closely related viruses often share the capacity for virulence and transmissibility within a particular host species, near neighbors of known agents represent obvious candidates for nefarious use. The early identification of such near neighbors will provide the capacity to assess the ability of existing diagnostics, treatments and vaccines to provide protection against such unknown risks.

Evidence for a newly emergent infectious disease(s) has arisen out of recent efforts to better understand the epidemiology of human monkeypox infection in DRC. Human monkeypox is a zoonotic infection that occurs primarily in the rainforests of Central and West Africa. An orthopoxvirus, it is maintained among animals in rain forest regions of Africa where humans and their primate ancestors have probably suffered from its infection for millennia, whenever they contracted the virus through hunting, butchering, or eating infected reservoir animals (Fenner et al. 1988; Jezek & Fenner 1988). The presentation of monkeypox is similar to smallpox, also an orthopoxvirus, and causes a rash-illness accompanied by fever and malaise. The virus acquired its name in 1958, when it caused an outbreak of smallpox-like disease among imported nonhuman primates in Copenhagen (vonMagnus 1959). Because of its similar clinical presentation to smallpox, it was not recognized as a distinct disease in humans until after the elimination of smallpox from the Democratic Republic of Congo, which revealed the continued occurrence of a smallpox-like illness among rural villagers. Since the eradication of smallpox in 1980, monkeypox is the only orthopoxvirus known to severely afflict humans.

From 2001-2004, local health workers obtained 171 biological specimens from 136 individuals with suspected monkeypox infection in the Democratic Republic of Congo as part of a joint project involving our collaborators Dr. Anne Rimoin at UCLA and the DRC Ministry of Health (Rimoin et al. 2007). Monkeypox infection was confirmed in 37.5% of cases, whereas varicella zoster virus, the herpesvirus

that is commonly mistaken for monkeypox infection, was determined to be the causative agent in 44.8% of patients. Taken together, monkeypox or varicella zoster virus was the likely cause of disease in greater than 80% of all patients presenting with symptoms indicative of monkeypox. This evidence suggests that, in nearly one-fifth of suspected cases of monkeypox, an unknown pathogen may be the cause of a disease with orthopox-like symptoms. These results suggest that a novel human disease agent with orthopox-like symptoms may be emerging in Central Africa.

4. Contribution To DoD Research Mission:
Of the NIH NIAID Biodefense Priority Pathogens, seven are of relevance to rural central African populations highly exposed to wild animals and five (anthrax, monkeypox, Lassa, hanta and Ebola) have recently been associated with wild animals in central and western Africa. Studies of such pathogens, and the search for novel pathogens of human importance, play an important role in global security as response strategies depend to a large degree on information generated by biomedical research. Specifically, this project will close the gap in knowledge of a number of pathogens through the proposed research by identifying the near neighbors of monkeypox virus, a close relative of smallpox virus and potentially deadly infectious agent.

F. Project 4: "Characterization of Viral Hemorrhagic Fevers of Unknown Origin (Short Name: High Consequence Pathogen Discovery in Central Africa)"

1. Scope:

In mid-FY10, Global Viral Forecasting (GVF) (now known as Metabiota, Inc.) was funded for this project to identify the etiological agents responsible for causing multiple cases of viral hemorrhagic fever syndrome of unknown origin (VHFUO). Out of a subset of these samples, the contractor identified a recombinant strain of Crimean Congo Hemorrhagic Fever virus (CCHFV), as well as a novel Rhabdovirus, suspected of causing viral hemorrhagic fever in the Democratic Republic of Congo (DRC) in 2009. GVF (now known as Metabiota, Inc.) has identified other previously collected sample sets of VHFUO in Gabon, DRC and the Republic of Congo (RoC) and has acquired novel samples through routine outbreak response activities beginning in 2003. The contractor will continue to analyze these high-value samples for the presence of novel pathogens, as well as continue to collect samples from relevant species in outbreak regions. The contractor shall execute continuation of this project.

GVF (now known as Metabiota, Inc.) has further identified approximately 100 other samples representing similar clinical manifestations that were analyzed by CIRMF, INRB or other local partners and remain undiagnosed. The contractor will acquire detailed histories (excluding unique patient identifiers) on these additional sets of

human sera samples from local host-country partners. These samples were collected at the request of the Ministries of Health of Gabon, the RoC and the DRC, and reside in GVF(now know as Metabiota, Inc.) partner repositories in Gabon and DRC.

The contractor will ship selected chemically inactivated aliquots of these samples to labs in the United States for viral discovery. Samples will be chosen based on the available clinical histories, the quality of each sample, and quantity of sample available. The contractor will use direct full-length genome sequencing, random amplification PCR and virus chip technology to elucidate the origins of these potentially high-impact viral hemorrhagic fevers of unknown origin. Simultaneously, the contractor will capitalize on scientific discoveries made in year 1 of this program by conducting an on-the-ground retrospective epidmemiological investigation of the novel Rhabdovirus outbreak suspected to have occurred in DRC in 2009. The contractor will utilize local contracted staff, in collaboration with the DRC Ministry of Health staff, and representatives from the WHO Afro and Geneva HQs. The contractor will express recombinant Rhabdovirus proteins, amplified by PCR from cDNA used in the above-mentioned sequencing effort. Using these recombinant viral proteins as serological reagents, the contractor will conduct an IgG serological survey of the village in which this outbreak occurred and the immediately surrounding areas, as well as a pilot animal reservoir and vector study in an effort to determine the source of the outbreak.

The contractor will continue to collect samples from relevant species in outbreak regions that may happen in Option Year 1 and Option Year 2. However, collection of new samples is contingent upon bilateral contract modifications issued to authorize and fund this activity for each outbreak.

2. Project Requirements. In year 1 of this study, 9 samples of acute serum for cases of suspected viral hemorrhagic fever, representing four micro-outbreaks from Gabon, ROC and DRC (2 cases per outbreak) were analyzed by random amplification PCR and full-genome, high fidelity Illumina sequencing. In one sample, GVF (now known as Metabiota, Inc.) has identified a novel virus that is highly divergent from other known similar viruses and the suspected cause of viral hemorrhagic fever syndrome in this patient. This pathogen, if confirmed in culture and/or found in the environment where the outbreak occurred, may represent a novel addition to the Viral Select Agent list and extremely important pathogen of high consequence and a major scientific discovery. The contractor shall execute this project using the below listed requirements to test the hypothesis that numerous other novel pathogens of potential high impact exist in this sample set AND that serological evidence and possibly the animal reservoir or vector of the novel virus outbreak exists in the area under study:

(a) Identify previously unknown disease agents in patients with viral hemorrhagic fever syndrome of unknown origin.

(b) Conduct a retrospective epidemiological/serological investigation of the suspected novel virus.
c) Specifically, deploy epidemiologists, mammologists and vector biologists to conduct a small-scale serological survey of the area in which this suspected outbreak occurred, as well as entomological vector and/or mammalian hosts surveys.

3. Background:

Evidence for a newly emergent infectious disease(s) has arisen out of a series of small outbreaks of suspected viral hemorrhagic fever outbreaks that occurred from 2003 to 2011 in Gabon, RoC and DRC. Ebola or Marburg viruses were first suspected in each outbreak, however subsequent laboratory analysis found that each sample was negative for the presence of any known filoviruses or other suspected causes of viral hemorrhagic fever.

Year 1 results. In mid-FY10, GVF (now known as Metabiota, Inc.) was funded to analyze a subset of these samples. Out of 9 samples that were analyzed by random amplification and full genome sequence analysis under this project, two novel viruses have been identified thus far. The first, a novel recombinant strain of Crimean Congo Hemorrhagic Fever Virus (CCHFV) was identified from a patient that presented with suspected viral hemorrhagic fever in DRC in 2008. This finding was accepted for publication in PLoS Neglected Tropical Diseases journal.

The second and highly important finding, was a novel Rhabdovirus identified by full-genome amplification and sequence analysis in the serum of one patient presenting with suspected viral hemorrhagic fever syndrome in DRC in 2009. The patient was one of three that presented to a local health center in Boma, DRC in June of 2009, displaying symptoms of hemorrhagic fever syndrome. The two first patients died two days after onset of symptoms, experiencing vomiting, bloody diarrhea, fever, and mucosal bleeding. The third patient survived, but displayed the same symptoms and a blood sample was sent to the CIRMF for diagnosis. Subsequent testing for Lassa fever, Ebola, Marburg, CCHFV, and other known causes of VHF in humans were ruled out and the sample was sent for advanced pathogen discovery by GVF (now known as Metabiota, Inc.) member laboratories.

Further analysis of this sample have identified this virus as being novel to science, demonstrating only 30-40% sequence homology with other known Rhabdoviruses and that this was the only pathogen present in the patient sample.

Additional suspected VHF samples. GVS has further identified approximately 100 other samples representing similar clinical manifestations that were analyzed by CIRMF, INRB or other GVF (now known as Metabiota, Inc.) partner laboratories and remain undiagnosed. In the majority of suspected VHF cases, primary serum samples were sent to either INRB in Kinshasa, DRC or CIRMF in Franceville, Gabon for further testing, where the samples were tested for: Ebola, Marburg,

CCHF, arenaviruses, and other common causes of viral hemorrhagic fever, and were ruled out. Malaria, typhoid and other common endemic diseases were also ruled out. In certain cases, serum was co-cultured with Vero E6 cells and cytopathic effect was observed, indicating the presence of a viral pathogen.

For the purposes of this study, the contractor will use both human serum and cell culture supernatants from CIRMF and the INRB (serum only) and will utilize them to conduct advanced pathogen discovery.

4. Contribution To DoD Research Mission:

Of the NIH NIAID Biodefense Priority Pathogens, seven are of relevance to rural central African populations highly exposed to wild animals and five (anthrax, monkeypox, Lassa, hanta and Ebola) have recently been associated with wild animals in central and western Africa. Studies of such pathogens, and the search for novel pathogens of human importance, play an important role in global security as response strategies depend to a large degree on information generated by biomedical research. Specifically, this project will close the gap in knowledge of a number of pathogens through the proposed research by identifying a potentially high-consequence viral hemorrhagic fever of unknown origin from the Congo Basin.

Importantly, this study has already generated tremendous value to both local and DoD stakeholders and may possibly result in the characterization of a novel select agent pathogen, capable of causing viral hemorrhagic fever syndrome in humans.

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0018:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
Destination	N/A	Destination	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001801:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following Acceptance/Inspection Schedule was added for SUBCLIN 001802:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item has been added to CLIN 0018:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-DEC-2014	6	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $325,693.98 from $3,136,498.48 to $3,462,192.46.

SUBCLIN 001801:
Funding on SUBCLIN 001801 is initiated as follows:

ACRN: AH

CIN: J9CBM12493001801

Acctng Data: 044315 097 0400 000 N 20132014 D 2620 0603384BP-CB-CBM 1314-0400-2620-TM3BP DTRA 255

Increase: $200,000.00

Total: $200,000.00

SUBCLIN 001802:
Funding on SUBCLIN 001802 is initiated as follows:

ACRN: AD

CIN: J9CBM12493001802

Acctng Data: 044315 097 0400 000 N 20132014 D 2620 0602384BP-CB-CBM 1314-0400-2620-TM2BC DTRA 255

Increase: $125,693.98

Total: $125,693.98

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1 CONTRACT ID CODE	PAGE OF PAGES
J	1 2

2 AMENDMENT/MODIFICATION NO	3 EFFECTIVE DATE	4 REQUISITION/PURCHASE REQ NO	5 PROJECT NO (If applicable)
P00012	23-Dec-2014	CT564	

6 ISSUED BY	CODE	7 ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8 NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO
METABIOTA INC FOIA (b)(6) PSUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4	FACILITY CODE 56SP4	X 10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

DAI J3CTB12493A. The purpose of this modification is to:

1) extend the Delivery Date of CLIN 0018 Ebola Virus Outbreak Survivor Sampling in Sierra Leone as follows:
FROM: December 31, 2014
TO: January 31, 2015.

2) This extension is to allow the contractor to ship samples from Sierra Leone to USAMRIID.

3) All other terms and conditions remain unchanged and in full force and effect.

SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
FOIA (b)(6)	(b)(6) Contracting Officer TEL: (b)(6) EMAIL: (b)(6)
15C. DATE SIGNED: December 23, 2014	16B. UNITED STATES OF AMERICA BY: (b)(6)
(Signature of person authorized to sign)	(Signature of Contracting Officer)
	16C. DATE SIGNED: 23-Dec-2014

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0018 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-DEC-2014	6	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	6	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00013	29-Jan-2015	CTB64	

6. ISSUED BY CODE	7. ADMINISTERED BY (If other than item 6) CODE
HDTRA1 DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)	9A. AMENDMENT OF SOLICITATION NO.
[redacted] FOIA (b)(6) SAN FRANCISCO CA 94104-4923	9B. DATED (SEE ITEM 11)
	X 10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-12-C-0024
CODE 56SP4 FACILITY CODE 56SP4	X 10B. DATED (SEE ITEM 13) 01-Feb-2012

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Mutual Agreement of the Parties

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
DAI #J3CTB12493B. The purpose of this modification is to:
1) Extend the Delivery Date of CLIN 0018 Ebola Virus Outbreak Survivor Sampling in Sierra Leone as follows:
FROM: January 31, 2015
TO: February 14, 2015
2) This no cost extension is to allow contractor to maintain continued cold chain and storage of human and animal samples in Sierra Leone
3) All other terms and conditions remain unchanged and in full force and effect
SEE SF 30 BLOCK 14 CONTINUATION PAGE

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
FOIA (b)(6)	(b)(6) Contracting Officer TEL (b)(6) EMAIL (b)(6)
15C. DATE SIGNED: January 29, 2015	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)
(Signature of person authorized to sign)	16C. DATE SIGNED: 29-Jan-2015

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0018 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
31-JAN-2015	6	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
14-FEB-2015	6	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

(End of Summary of Changes)

From: FOIA (b)(6)
To: FOIA (b)(6)
Cc: (b)(6); (b)(6); "ONR_BOSTON@NAVY.MIL"; DTRA Ft Belvoir J4-8 Mailbox BFKF SPS Contracts; (b)(6); (b)(6)
Subject: [Non-DoD Source] RE: Distribution HDTRA1-15-1-0053 P0002//HDTRA1523203//Metabiota
Date: Friday, March 31, 2017 8:58:10 AM

Dear (b)(6)
We confirm receipt of your email and attachment.

FOIA (b)(6)

Metabiota, Inc.
FOIA (b)(6)
metabiota.com

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

-----Original Message-----
From: (b)(6)
Sent: Friday, March 31, 2017 8:51 AM
To: FOIA (b)(6)
Cc: (b)(6); (b)(6); (b)(6); 'ONR_BOSTON@NAVY.MIL' <ONR_BOSTON@NAVY.MIL>; DTRA Ft Belvoir J4-8 Mailbox BFKF SPS Contracts <dtra.belvoir.j4-8.mbx.bfkf-sps-contracts@mail.mil>; (b)(6); (b)(6)
Subject: Distribution HDTRA1-15-1-0053 P0002//HDTRA1523203//Metabiota

Good morning,

Please respond to this e-mail to let me know you received it and the attachment(s).

Please see the attached modification to provide incremental funding in the amount of $930,866.00. The purpose of this modification can be found in block 14 of the attached modification. If you received this email in error, please reply immediately so we can correct the distribution.

V/R,

(b)(6)
Defense Threat Reduction Agency (DTRA)
J4COC Contract Specialist
(b)(6)

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page of pages
Defense Threat Reduction Agency HDTRA1	HDTRA1-14-1-0052	1 1

3. Recipient Organization (Name and complete address including Zip code)

Metabiota, Inc. 1 Sutter Street, Suite 600 San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(4)	Cage Code 56SP4	☒ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☒ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 08-05-2014	To: 8/5/2015	03/31/2015

10. **Transactions**	Cumulative
(Use lines a-c for single or combined multiple grant reporting)	
Federal Cash (To report multiple grants separately, also use FFR Attachment):	
a. Cash Receipts	$11,193.91
b. Cash Disbursements	$423,316.87
c. Cash on Hand (line a minus b)	-$412,122.96
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$870,729.00
e. Federal share of expenditures	$423,316.87
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$423,316.87
h. Unobligated balance of Federal funds (line d minus g)	$447,412.13
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal share of program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	
b. Signature of Authorized Certifying Official: FOIA (b)(6)	e. Date Report Submitted (Month, Day, Year): 07/14/2015
	14. Agency use only:

Standard Form 425 - Revised 10/11/2011
OMB Approval Number: 0348-0061
Expiration Date: 2/28/2015

Paperwork Burden Statement

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

DocuSign Envelope ID: 969DF597-C802-4410-BAA8-48833BC95180

REPORT OF GOVERNMENT-FURNISHED PROPERTY

Federal Agency: Defense Threat Reduction Agency
Agreement Number: HDTRA1-14-1-0052
Reporting for period: 8/5/2014 - 6/4/2018

Recipient Name and Address: Metabiota, Inc.
425 California Street, Suite 1200
San Francisco, CA 94104

EIN# FOIA (b)(6)

Name and Title of Authorized Certifying Official
FOIA (b)(6)

Signature of Authorized Certifying Officer | Date | Phone | Email Address

Property classification accounts	Description of Items	Quantity	Balance, Beginning of year ($)	Additions	Deletions	Balance, end of Year (USD)
			8/5/2014			6/4/2018
			Acquisition costs ($)	Government Furnished		
Property, Plant and Equipment $5,000 and over		N/A	0	0	0	0
Total Government Furnished Property			0	0	0	0

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page of pages
Defense Threat Reduction Agency HDTRA1	HDTRA1-14-1-0052	1 1

3. Recipient Organization (Name and complete address including Zip code)
Metabiota, Inc. 1 Sutter Street, Suite 600 San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(4)	Cage Code 56SP4	☑ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☑ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 08-05-2014	To: 6/4/2018	09/30/2017

10. **Transactions**	Cumulative
(Use lines a-c for single or combined multiple grant reporting)	
Federal Cash (To report multiple grants separately, also use FFR Attachment):	
a. Cash Receipts	$2,179,381.98
b. Cash Disbursements	$2,392,441.58
c. Cash on Hand (line a minus b)	-$213,059.60
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$2,520,847.00
e. Federal share of expenditures	$2,392,441.58
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$2,392,441.58
h. Unobligated balance of Federal funds (line d minus g)	$128,405.42
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal share of program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	e. Date Report Submitted (Month, Day, Year): 10/30/2017
	14. Agency use only:

Standard Form 425 - Revised 10/11/2011
OMB Approval Number: 0348-0061
Expiration Date: 2/28/2015

Paperwork Burden Statement
According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 33

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA1-14-1-0052	05 Aug 2014	HDTRA1412303

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4CO 8725 JOHN J. KINGMAN RD. FT. BELVOIR VA 22060-6201	HDTRA1	See Item 5	

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY	
METABIOTA, INC. FOIA (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923	[ ] FOB ORIGIN [X] OTHER (See below.)	
	9. DISCOUNT FOR PROMPT PAYMENT	
	10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:	ITEM
CODE 56SP4	FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPERATIONS P.O. BOX 182381 COLUMBUS OH 43218-2381	HQ0339

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$2,520,837.00**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 3			**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	4 - 26	X	J	LIST OF ATTACHMENTS	33
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	27		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	28				
X	G	CONTRACT ADMINISTRATION DATA	29 - 32		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17. [ ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18. [X] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____ REF: HDTRA1-09-14-FRCWD BAA including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) / CONTRACTS OFCR GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	05-Aug-2014

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition is usable

STANDARD FORM 26 (REV. 4 2008)
Prescribed by GSA
FAR (48 CFR) 53.214(a)

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	FOIA (b)(4)				$2,520,837.00

Zoonotic Viral Sharing in South Tanzania
FFP
Base Period: Grantee shall perform all work IAW the SOW in Section C of this document.
FOB: Destination

NET AMT $2,520,837.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Year One Funding
FFP
FY 14 Funds for Year One
FOB: Destination
PURCHASE REQUEST NUMBER: HDTRA1412303

NET AMT $0.00

ACRN AA $345,748.00
CIN: HDTRA14123030001

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00
	Year One Funding FFP FY 13 Funds for Year One FOB: Destination PURCHASE REQUEST NUMBER: HDTRA1412303				
				NET AMT	$0.00
	ACRN AB CIN: HDTRA14123030002				$524,981.00

Section C - Descriptions and Specifications

CLAUSES INCORPORATED BY FULL TEXT

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

a. This grant is awarded as a result of Broad Agency Announcement (BAA) **HDTRA1-09-14-FRCWMD-BAA**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

b. **CFDA #:** 12.351

c. **Authority:** 10 U.S.C. 2358 as amended

STATEMENT OF WORK

Evaluating Zoonotic Viral Sharing Among Bats, Primates, and People in a High Risk Transmission Interface in Southern Tanzania - *Phase II Technical Proposal*

I. ABSTRACT.

Viruses traced to bats and primates have caused some of the most significant human pandemics. As human populations rapidly expand into undeveloped areas, humans are living in closer contact with diverse wildlife, increasing the risk of disease transmission. In resource- limited areas, bushmeat hunting and consumption of forest plants shared with animals provide vital nutrients but may also put pathogens on the plate. Although extensive research has been directed at understanding transmission of viral diseases like Ebola, the ecology of these pathogens is not well understood. In the biodiverse Udzungwa Mountains, one of Tanzania's last areas of undeveloped mountain forest, bats and non-human primates live in close proximity to each other and human communities, creating a high-risk interface for zoonotic disease transmission and spillover of potentially pandemic pathogens. In this region, Ifakara Health Institute maintains human specimen banks that may be accessed to evaluate historical and ongoing pathogen sharing. Through our established viral detection project in the region, our collaborative TZ-US team is active on the ground and prepared to intensify wildlife and human surveillance to evaluate 1) transmission of potentially shared pathogens, like filoviruses; 2) the impact of bat and primate community composition on viral diversity; and 3) human exposure to zoonotic viruses in high-risk populations living at the forest interface. By investigating cross- species viral sharing at this high-risk interface using best known practices, our team will also strengthen Tanzanian surveillance and diagnostic capacity for dangerous pathogens and identify the critical control points to prevent local and pandemic outbreaks.

II. SCOPE.

A. OBJECTIVE.

We will analyze the risk of infection with filoviruses and other viruses, especially NIAID Biodefense Category

A and other potential CDC Select Agents, in Tanzania. We will evaluate the risk of zoonotic viral disease transmission among bats, non-human primates (NHP), and people sharing a forest interface with high human-wildlife contact in Southern Tanzania in order to identify critical control points for disease transmission and strengthen local surveillance capacity to prevent regional or pandemic outbreaks of disease.

Hypotheses: 1) Bats in Tanzania are a reservoir for emerging viral diseases, which have the potential to spread to humans through direct contact or intermediately via NHPs sharing habitats and resources with both bats and people. 2) Diversity of potentially zoonotic viruses in wildlife is associated with the number of bat and NHP species living in a given habitat. Protected areas bordered by human communities in the Udzungwa Mountains provide the ideal environment in which to investigate the potential for emerging viral disease transmission from bats and NHPs to humans. Viral investigation will target biodefense priority, Select Agent pathogens with recognized potential to initiate pandemics or to be weaponized as well as emerging viral disease threats from families including filoviruses, henipaviruses, coronaviruses, bunyaviruses, flaviviruses, and rhabdoviruses, among others.

Specific Project Objectives:

1) Engage local partners to characterize forest field sites. Partners will assess: bat-NHP interaction; bat and NHP species present; ecological variation; and degree of human contact. Identify specimens in human sample archives (frozen whole blood or serum) collected from acutely ill individuals living at high-risk interfaces for contact with bats and primates. (Yr 1)
2) Collect specimens (blood, saliva, urine, and/or feces) from bat and NHP populations living in characterized Udzungwa sites during wet and dry seasons (Yrs 1-3).
3) Collaborate with local health clinics and collect specimens (blood, oral swabs, and feces) from high-risk human groups bordering forest areas during wet and dry seasons (Yrs 1-3).
4) Test wildlife specimens, archived undiagnosed human febrile illness samples, and prospective human surveillance specimens for shedding of potentially zoonotic viral pathogens by molecular assays. Sample handling, RNA extraction, viral family level PCR analyses, and sample storage will occur in a locked BSL-3 laboratory as appropriate (Yr 1-3).
5) Characterize viral RNA amplified from animal and human samples and perform phylogenetic analyses. Assess viral diversity among bats, NHP, and humans to evaluate pathogen sharing in the Udzungwa ecosystem. (Yrs 2-3).
6) Conduct spatial analyses and epidemiologic modeling to identify risk factors for human exposure to bat and NHP viral pathogens, to assess options for mitigating viral spillover, and to target behavior change interventions. (Yrs 2-3).
7) Collaboratively train junior scientists (postdocs and graduate students) and local stakeholders to build capacity in: pathogen surveillance, wildlife and human sampling, molecular diagnostics, biosecurity, and One Health approaches and concepts in Tanzania (Yrs 1-3).

B. BACKGROUND.

We live in an ever-changing environment of pathogen distribution, prevalence, and transmission. Within the past 6 months alone, two deadly viruses (H7N9 influenza and Middle East respiratory syndrome Coronavirus (MERS-CoV)) have emerged as novel highly pathogenic infections. The majority of known human pathogens have an animal reservoir [1], emphasizing direct connections between human, wildlife, and domestic animal health. Recent East and Central African hemorrhagic fever outbreaks caused by the related filoviruses, Ebola and Marburg, have redirected global attention to the high potential for zoonotic spread from wildlife to human populations [2-4]. Bats are considered the most likely reservoir of pathogens like Ebola and Marburg viruses [5], but the transmission pathways to humans are not clearly understood. While humans may contact infected bats directly or indirectly (through exposure to saliva, urine, or feces), contact with other wildlife such as NHPs that share habitat and resources with bats may also provide a source of exposure as an intermediate vector. The flow of people into forests and wildlife out (of forests) provides diverse opportunities for filovirus and other zoonotic viral pathogen transfer, but the risks associated with different activities and habitats are not well understood. Bat-NHP interactions, as well as bat and NHP community assemblages, may shape viral diversity in a given environment and alter zoonotic disease transmission potential. Understanding the influence of bats, NHP, and people on viral transmission will help to direct surveillance and control strategies to limit the pandemic potential of filoviruses, as well as other existing and yet unknown emerging viral pathogens. Our proposed research targets diverse viral families that have zoonotic transmission potential at human-wildlife interfaces.

Bat and non-human primate zoonotic disease risks

Recent zoonotic disease research suggests that bats are critical reservoirs for filoviruses, as well as other diverse existing and emerging zoonotic pathogens, including henipaviruses, coronaviruses, paramyxoviruses, and flaviviruses [6-9]. Central and East African human outbreaks of Ebola and Marburg hemorrhagic fever, for example, have been linked to consumption of or environmental exposure to bats [2,3]. An urban straw-colored fruit bat (*Eidolon helvum*) seropositive for Ebola virus survived for at least 13 months post-capture, demonstrating that bat hosts of viruses that cause severe disease in humans and other mammals could potentially transmit these pathogens over long periods of time [10]. Interestingly, much higher prevalences of exposure to Ebola virus were detected in non-urban bat species in West Africa. Based on the distribution of Ebola virus seroprevalences in diverse bat species, Hayman et al. [11] suggest that human contact with bats in rural and forest settings may pose a greater zoonotic transmission risk than contact with urban fruit bat colonies.

Non-human primates also serve as a source of diverse viral zoonotic disease exposure for humans [12-14]. The zoonotic origin of HIV offers a dramatic example of NHP to human transmission [15], but human outbreaks of hemorrhagic fever have also been traced to contact with live or dead African NHPs [13]. For example, while NHPs are reservoirs for some zoonotic viruses, they may also act as a link between bats and people sharing forest landscapes. Gorillas and chimpanzees have experienced epidemics of Ebola [16], which suggests that NHPs are not a filovirus reservoir, but that they contact reservoir species (now known to include bats) in forest habitat. It has been proposed that NHPs can acquire filoviruses through hunting other NHPs or by direct or indirect contact with reservoir hosts [16]. In this case, Ebola virus exposure in terrestrial and predominantly arboreal NHP species suggests that contact may occur in multiple forest strata. Habitat and food resource sharing among bats, NHPs, and people therefore represent critical interfaces for zoonotic virus transmission, but interactions among these communities in tropical forests are not well understood. Bat sleeping and feeding roosts offer potential focal points of contact where bats and NHPs might share resources. Discarded fruits and seeds at feeding roosts [17] may present an opportunity for primates and people to directly contact viruses in bat saliva and/or feces. However, viral contamination of discarded food items at bat feeding roosts has not been thoroughly investigated.

Zoonotic virus transmission to people

Human outbreaks of Ebola and other agents have frequently started with infection of a single or few individuals expected to have been exposed to infected bats or NHP in forest habitats [3,13]. While exposure frequently occurs through hunting and butchering of animal carcasses, other extractive forest uses may also expose people to disease agents. Ebola infection in a forest-based charcoal worker and Marburg infection in mine workers and tourists visiting caves with bat colonies provide additional examples of modes of transmission [2,18]. In filovirus outbreaks, after the initially infected individuals contacted other members of their villages or sought care in clinics and hospital settings with limited sanitary practices, the number of cases and their geographic range often expanded rapidly through person-to-person transmission. Although periodic large outbreaks attract international media and research attention, undiagnosed filovirus and other zoonotic viral transfer may happen much more frequently. Even within outbreaks, viral diversity in different patients has suggested multiple independent zoonotic transmission events [18,19]. Understanding the risk of these initial zoonotic disease transmission events at the forest–human interface is essential to protect against the large-scale

outbreaks that threaten national and international public health. While frequent dead-end zoonotic transmission events likely occurred in isolated areas in the past, rapid human population growth and landscape conversion near protected areas may enhance outbreak potential.

Non-specific clinical symptoms including fever, headache, and muscle pain occur in the initial stages of many zoonotic viral illnesses [20]. Due to scarce clinical resources in many areas of Africa, patients with zoonotic virus-based fevers may be misdiagnosed with more common febrile illnesses, such as malaria. Misdiagnosis of filovirus infections, for example, as dysentery or yellow fever delayed critical medical intervention in past outbreak situations [21,22]. In two clinics adjacent to Udzungwa Mountains National Park, over 60% of patients presenting with febrile illness were incorrectly diagnosed with malaria when microscopy was used as the only diagnostic test [23]. While underlying causes of disease were not identified in misdiagnosed patients, it suggests that non-malarial causes of febrile illness are very common in this area. In the Eastern Arc Mountains of northern Tanzania, malaria was also commonly misdiagnosed in patients with severe febrile illness, especially those living at higher altitudes [24].

Study area

Part of the Eastern Afromontane biodiversity hotspot [25], the protected areas of the Udzungwa Mountains are islands of predominantly intact forest surrounded by human development. In Udzungwa Mountains National Park (UMNP) and a mosaic of nearby forest reserves, diverse assemblages of NHPs and bats share the largest remaining forest blocks in the Eastern Arc mountain chain [26], Figure 1. In the heterogeneous Udzungwa landscape, which is a mixture of lowland to montane closed canopy forest, woodlands, grasslands, and developed areas, protected forest blocks range in size from <1 km^2 to 526 km^2 [27]. The eastern sides of lower elevation forest blocks receive 2000-3000mm of rainfall per year, while higher elevation drier forests receive approximately 500mm per year. There are typically two periods of concentrated rainfall: December-January and March-May [28].

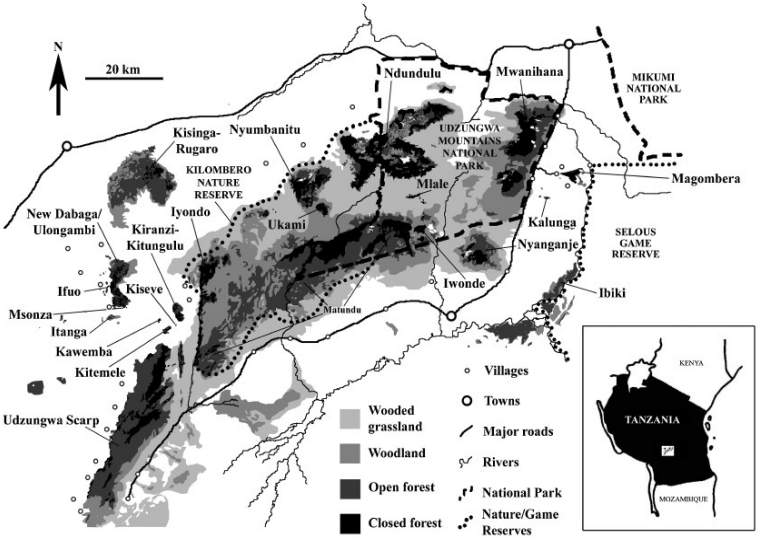


Figure 1. Habitat map of Park and neighboring forest reserves (modified from [27]).

The Udzungwas host 13 NHP species, including baboons, monkeys, and galagos [28]. Initial surveys of UMNP and forest reserves identified diverse megachiropteran (fruit bats) and microchiropteran bats [29,30], including species that have been shown to shed zoonotic viruses in other areas of East Africa [2]. Although the reserves are protected, widespread human use currently threatens NHPs and may expose people to pathogens. In addition to individuals gathering medicinal plants and traveling forest paths [31], bushmeat hunters kill NHP ranging from baboons to rarer, endemic monkeys and galagos [32,33]. Bushmeat is consumed locally in hunters' homes or villages, but a thriving

clandestine trade may also export some wildlife tissues to larger Tanzanian cities. This network offers an efficient potential pathway for wildlife products and pathogens to reach high-traffic areas with dense human populations. People living on park and reserve borders also visit sacred cave sites in the forests, increasing their potential exposure to NHPs and roosting bats. Farmers living near protected areas, UMNP staff members housed in the park, researchers, and tourists are also in contact with the diverse NHP populations. Ecological research is increasing in the Udzungwa Mountains, focusing on population dynamics, habitat use, response to environmental change, and animal behavior [27,34-37]. Building upon existing local and academic ecological knowledge, an investigation of emerging viruses in bats, primates, and people will provide critical insight on transmission of select agent and novel pathogens with pandemic potential.

C. **PROGRAMMATICS.**

Management team (MT) approach: Continuing their nearly 5 year partnership as implementing partners, Metabiota and the University of California, Davis (UCD) will co-manage this project with local partners in Tanzania. Metabiota will provide administrative and financial oversight while UCD will provide the scientific management and implementation of this research in Tanzania. Metabiota Principal Investigator, Dr. Falgunee Parekh, will work hand-in-hand with UC Davis Principal Investigator, Dr. Jonna Mazet to ensure project deliverables are met according to contract timelines or as nearly as possible.

Since 2006, investigators from UCD and Sokoine University of Agriculture (SUA) in Tanzania have been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania through our HALI (Health for Animals and Livelihood Improvement) project. In 2009, HALI became the Tanzanian institutional home of the USAID Emerging Pandemic Threats' PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects for over 20 years. Metabiota, a partner on the PREDICT project, has extensive experience investigating emerging viruses with zoonotic potential in West and Central Africa. Project study design, wildlife and human sampling, specimen diagnostics, as well as spatial analyses and epidemiologic modeling will be jointly coordinated through UCD, SUA, and IHI. Archived human samples from areas of human-wildlife contact will be identified by UCD and IHI. All human samples, both archived and prospective will be tested at IHI BSL-3 laboratory facilities. Our US-Tanzania MT will have monthly conference calls to coordinate research design, activities, and progress. The proposed One Health collaboration will facilitate cutting edge research on existing and emerging viral pathogens at critical wildlife-human interfaces in Tanzania, and build local, regional, and national capacity to detect and mitigate zoonotic transmission of select agents.

Falgunee Parekh, PhD, MPH, **Metabiota** – liaison to DTRA for coordination of project administration and reporting; will provide input on public health-related project objectives.

Jonna Mazet, DVM, MPVM, PhD, One Health Institute, School of Veterinary Medicine, **UCD** – program director responsible for project oversight. Mazet will facilitate collaborative relationships, study design, and interpretation of findings.

Elizabeth VanWormer, DVM, PhD, One Health Institute, **UCD** – project manager responsible for coordination of teams and project objectives across US institutions and in Tanzania. VanWormer will facilitate project implementation and epidemiologic analyses.

Rudovick Kazwala, BVM, PhD, Faculty of Veterinary Medicine, **SUA**, Morogoro, Tanzania – Professor responsible for SUA-related laboratory and field activities as part of the HALI Project in Tanzania. Kazwala will facilitate capacity building of Tanzanian laboratories and scientists.
Joseph Paschal Mugasa, MS, PhD, Laboratory director at **IHI** Bagamoyo Research site – responsible for input and oversight of laboratory activities related to biosafety and security. Mugasa will also faciliate capacity building of Tanzanian laboratories and scientists.
Progress evaluation: The MT will monitor project activities to achieve the following benchmarks: 1) obtain US and Tanzanian protocol approval, characterize field sites, and identify junior scientists in Year 1; 2) perform field sampling and laboratory diagnostic activities in Years 1-3 and initiate data analysis in year 2; and 3) prepare recommendations to reduce zoonotic viral transmission potential to local and global communities and prepare at least 2 scientific publications in Year 3.

D. RELEVANCE.

The proposed work will improve fundamental understanding of filoviruses and other emerging virus epidemiology and add tangible data on these agents to the DTRA knowledge base. It will provide a platform for engaging and networking with professionals working in emerging infectious diseases (EIDs) in both the human and animal sectors and will increase the capacity for rapid and accurate local detection and mitigation of threats to humans and animals with positive economic, health, and other security implications.

Ebola and Marburg viruses, as well as certain other viruses known to circulate in bats are NIAID Category A Biodefense Priority Pathogens and US DHHS Select Agents. While these viruses are considered research priorities, little is understood about their natural history and transmission cycle, as well as their replication in their reservoir host species, which are believed to be African bat species. Bats, as well as their natural interaction with NHPs, humans, and other intermediary species are also poorly understood. Thus, it is paramount to better understand the circulating viruses in bat populations in Tanzania and elsewhere, as well as to understand the interaction that humans and other species have with bats in that region. Through the proposed research, we will engage emerging scientific leaders in Tanzania and will closely collaborate on the proposed research, the results of which may directly increase global public health security by allowing us to better understand the distribution, prevalence, and high risk behaviors associated with filoviruses and other emerging viruses of pandemic potential. The proposed research targets Thrust Area 6 and advances C-WMD science by building local and global understanding of pathogens that pose the greatest threat as biological weapons. Weapons and terrorism in Tanzania are a concern due to past and recent political events in the East African sub-region.

Investigating zoonotic viruses in bats, NHPs, and people in Udzungwa Mountain forests strengthens local capacity to conduct surveillance for pathogens that severely threaten public health and global security. Understanding the natural ecology of emerging zoonotic viruses will facilitate control strategies to reduce human exposure and disease spread, a globally valuable outcome. In addition to enhancing in-country pathogen detection capability, the proposed research will build understanding of risk factors for transmission among bats, NHPs, and humans. Targeting surveillance and control strategies to high-risk human-wildlife interfaces for disease emergence protects people in the US homeland and abroad by limiting the risk posed by pathogen spillover. Understanding viral transmission events at human-wildlife interfaces will help public health officials and researchers to distinguish between a naturally occurring spillover

event such as MERS-CoV verses an intentional release. Increasing knowledge of naturally-occurring viruses that could be inappropriately handled or developed into weapons of mass destruction will also help to safeguard Tanzanian and global public health.

The proposed work will also extend the reach of the Cooperative Biologic Engagement Program (CBEP) and will advance partnerships that University of California, Davis and Metabiota have with institutions in Tanzania that are hubs for research excellence in East Africa. The institutional partnerships will have particular benefits given the active USAID and NIH-funded research programs that UCD can leverage in the region and will enhance the potential for collaborative One Health research that is a proven model within this internationally experienced and respected research team. These features have the potential to radically improve sustainability and absorbability of these investments for long-term impact.

III. CREDENTIALS.

Our consortium is comprised of a group of highly qualified experts from across academia, industry, and government backgrounds, all of whom have successfully implemented large-scale USG and internationally funded programs abroad. First funded by CBEP in mid-2010, Metabiota has demonstrated high-quality research collaborations in some of the world's most austere settings. This work has resulted in 6 CBEP-funded high-impact publications, including the description of a novel virus associated with viral hemorrhagic fever syndrome in the Democratic Republic of the Congo (DRC). Metabiota supported the response to 6 outbreaks (suspected viral hemorrhagic fever, polio, and yellow fever) and has facilitated shipment of samples back to US DoD laboratories for the further development and testing of diagnostics and countermeasures. Metabiota, as a member of the WHO GOARN, was considered an invaluable resource during these events, setting the stage for future engagements globally, and, in this regard, is a long-time collaborator with US military labs overseas. Our successes in working with CBEP have been sustained by involving multiple international and regional networks, such as the African Field Epidemiology Network (AFENET), the WHO Especially Dangerous Pathogens Laboratory Network (WHO-EDPLN), and existing research and public health laboratory networks. We also have experience facilitating the establishment of regional networks as demonstrated through our assistance in the creation of the Central African Military Health Alliance (CAMHA), which Metabiota continues to serve as integrating contractor. Metabiota actively engages local, regional, and international partners in project implementation.

The UCD team is comprised of a highly qualified and integrated set of infectious disease faculty and researchers who specialize in the epidemiology and surveillance of zoonotic diseases that may be transmitted between animals and humans. Based within the One Health Institute at UCD, the multidisciplinary team has extensive experience in core CBEP topics, including infectious disease research, grant writing, mentoring, and training. For example, the UCD team manages an implementing consortium for and scientifically leads the USAID's Emerging Pandemic Threats Program PREDICT project, a $75 million multi-institutional, trans-disciplinary project in 20 developing countries that aims to enable global surveillance for zoonotic diseases emerging from wildlife using geospatial modeling, genomics, molecular virology, epidemiology, and targeted field studies at hot zoonotic disease transmission interfaces. In just over three years since it's implementation, PREDICT has discovered over 200 novel viruses, trained over 1500 collaborators from developing nations, and published over 28 manuscripts in the peer-reviewed literature.

Sokoine University of Agriculture (SUA) is the premier veterinary school for Tanzania, and Ifakara Health Institute is a leader in public health research in the country. Since 2006, SUA has been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania as a partnership with UCD through our HALI project. In 2009, HALI became the Tanzanian institutional home of the PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects.

Personnel

Falgunee K. Parekh, PhD, MPH, will serve as PI for this effort as the Lead Metabiota Staff Scientist. Dr. Parekh serves as the scientific technical lead on epidemiologic studies of various infectious diseases, including Lassa Fever and Ebola, to characterize the morbidity, mortality and risk factors associated with disease and clinical outcomes.

Jonna A.K. Mazet, DVM, MPVM, PhD will serve as PI and lead for UCD. Professor Mazet currently leads a global network to build capacity within more than 20 countries to develop surveillance and complete the necessary research to halt pandemics. As a professor in the School of Veterinary Medicine, Mazet provides service to government agencies faced with emerging infectious disease challenges, including USAID and U.S. Department of Agriculture.

Woutrina Miller, DVM, MPVM, PhD will serve as a SME for infectious zoonotic diseases. Dr. Miller is a veterinarian and Associate Professor in the School of Veterinary Medicine at UCD. She is an infectious disease molecular biologist with extensive experience working on zoonotic diseases that can be transmitted from animals to humans and currently has active research in Tanzania that involves both the animal and human health sectors.

Elizabeth VanWormer, DVM, PhD, One Health Institute, UCD will serve as a project scientist and implementation manager. Dr. VanWormer is an epidemiologist currently living in Tanzania and facilitating the HALI Project that would house the proposed research. She has in-depth experience conducting wildlife and zoonotic disease research and managing multi-disciplinary international teams in Tanzania, implementing federal grants/contracts, and integrating technical activities with stakeholders from government ministries to communities.

Rudovick Kazwala, BVM, PhD will serve as a Co-PI and lead for the Tanzania team. He is a Professor of Public Health and Epidemiology at SUA as well as Chairman of the Tanzania Veterinary Medical Association. Professor Kazwala is on the IHR Roster of Experts for veterinary issues involving zoonoses and currently leads viral disease research for the PREDICT project in Tanzania. As a founding PI of the HALI Project with UCD, Professor Kazwala is well established with all the partner organizations involved in this DTRA research proposal.

Honorati Masanja, MS, PhD will serve as the Ifakara Health Institute lead in his role as Chief of Research Operations at IHI. Dr. Masanja is an epidemiologist skilled in data management and biostatistics who leads numerous collaborative studies in Tanzania and is funded by international organizations such as the WHO and CDC.

Joseph Paschal Mugasa, MS, PhD will serve as a SME for viral zoonoses and lead for the IHI laboratory team. Dr. Mugasa is currently the laboratory director at the IHI Bagamoyo research site and the head of biomedical research at IHI. Dr. Mugasa has extensive experience working with international teams on molecular investigations of human and animal pathogens.

Tanzania Wildlife Research Institute (TAWIRI) specialist,either Robert Fyumagwa, DVM, PhD or his designee. The TAWIRI representative (TBN in conjunction with Dr. Fyumagwa and

TAWIRI Director of Research, Dr. Julius Keyyu) will serve as SME for wildlife disease surveillance and lead for the TAWIRI Team. Dr. Fyumagwa is currently the Center Director for TAWIRI's Serengeti Wildlife Research Centre and is a collaborator with our collaborative TZ-US led PREDICT project in Tanzania. Dr. Fyumagwa has extensive experience working with international teams on wildlife and zoonotic disease research, including NHPs.

IV. **WORK TO BE PERFORMED.**

A. **GENERAL**

We will investigate the epidemiology of filoviruses and other zoonotic viruses in bat, NHP, and human populations sharing a mosaic of protected forests and bordering lands in southern Tanzania. By examining viruses circulating in wildlife and human hosts in this biodiverse environment, we will increase the understanding of pathogen emergence risk and zoonotic disease transmission while building local capacity to diagnose, conduct surveillance for, and control pathogens of pandemic and biosecurity concerns. To characterize potentially zoonotic viruses in bat and primate hosts, samples will be collected from these animals from identified sites with differing bat and primate community composition and likelihood of human contact (based on distance to nearest villages and reported human forest use). Primates and bats captured at field sites will be sampled twice yearly to reflect seasonal differences (wet vs. dry season) in viral shedding. Saliva samples from discarded seeds and fruits at bat feeding roosts [17] will also be collected, as these sites offer an environmental focus of potential virus exposure for primates and other animals. Remote-triggered digital field cameras will be used to monitor other taxa visiting bat feeding roosts to assess the potential for inter-taxa viral transmission. All samples will be transported securely under project supervision in locked containers from field sites to the labs at SUA and IHI for secured storage and testing.

To investigate human exposure to filoviruses and other zoonotic viruses, we will collaborate with health clinics near Udzungwa forests to sample individuals presenting with non-malarial febrile illness. By collecting blood, oropharyngeal swabs, and fecal samples along with survey data on forest use and wildlife contact, we will be able to examine risk factors for wildlife origin virus exposure. Humans will be sampled seasonally in parallel with wildlife to capture differences in wet and dry periods. In addition to the prospectively collected human samples, we will evaluate archived human samples from sick individuals living near forests or likely to have had high contact with wildlife. Testing wildlife and human specimens with the efficient viral family PCR screening approach developed by PREDICT to detect emerging viral threats, we will capture critical information about viruses circulating in sympatric bat, NHP, and human populations while developing essential local laboratory capacity to detect priority pathogens. Sequencing and phylogenetic mapping will be used to determine the genetic similarity of viruses. Statistical models will be used to evaluate demographic, seasonal, and ecological risk factors for viral family or individual virus exposure. Spatial analyses will be performed to identify hotspots of pathogen transmission for targeting control of spillover from wildlife to human populations.

B. **SUMMARY.**

Year #1
Task 1: Management team meetings (monthly)
Task 2: Administrative startup and maintenance (Quarters 1-3)

Task 3: Data management (Quarters 1-4)
Task 4: Staff training, trainee identification, and mentorship (Quarters 1-4)

Task 5: Field site assessment and preparation (Quarters 1-2)
Task 6: Human sample archive assessment (Quarters 1-4) Task
7: Active human surveillance (Quarters 3-4)
Task 8: Active wildlife surveillance (Quarters 2-4)
Task 9: Environmental characterization and sampling (Quarters 2-4)
Task 10: Establishment of sample repository/metadata records, accession numbers (Quarters 1-4)
Task 11: Viral diagnostics (Quarters 3-4)

Year #2

Task 1: Management team meetings (monthly)
Task 2: Administrative maintenance (Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and trainee mentorship (Quarters 1-4)
Tasks 5 & 6: Not applicable for Year 2
Task 7: Active human surveillance (Quarters 1-4)
Task 8: Active wildlife surveillance (Quarters 1-4)
Task 9: Environmental characterization (Quarters 1-4)
Task 10: Sample repository maintenance (Quarters 1-4)
Task 11: Viral diagnostics (Quarters1-4)
Task 12: Molecular characterization of viruses (Quarters 3-4)
Task 13: Data analysis/modeling (Quarters 1-4)

Year #3

Task 1: Management team meetings (monthly)
Task 2: Administrative maintenance (Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and student mentorship (Quarters 1-2)
Tasks 5 & 6: Not applicable for Year 3
Task 7: Active human surveillance (Quarters 1-2)
Task 8: Active wildlife surveillance (Quarters 1-2)
Task 9: Environmental characterization (Quarters 1-2)
Task 10: Sample repository maintenance (Quarters 1-4)
Task 11: Viral diagnostics (Quarters 1-3)
Task 12: Molecular characterization of viruses (Quarters 1-4)
Task 13: Data analysis/modeling (Quarters 1-4)
Task 14: Data interpretation, development of stakeholder communications, local distribution of findings, and manuscript preparation (Quarters 1-4)

C. **DETAILED TASKS.**

i. Task 1: Monthly Management Team (MT) Meetings (Years 1-3)

The project MT will meet once per month using Skype or a similar internet-based international communication tool. Project logistics and progress will be assessed, and action items for the coming month will be identified. A written record of meetings will be maintained for reference. *Personnel involved:* Parekh, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* At least 12 MT meetings logged per project year. *Deliverables:* MT meeting minutes will be archived and progress on identified action items highlighted in the annual report.

ii. **Task 2: Administrative startup and maintenance (Years 1-3)**

Subtask 2-a: Obtain appropriate US and Tanzania research approval (Years 1-3)

The MT will obtain ethical clearance for human surveys, human prospective specimen collection, and human specimen archive use through the University of California, Davis IRB and the Tanzania National Institute of Medical Research (NIMR). Research permission for wildlife sampling in Udzungwa Mountain forests will be obtained from the UCD Animal Care and Use Committee and the Tanzania Wildlife Research Institute (TAWIRI). TAWIRI approval includes permission to conduct research on lands within and surrounding national parks and forest reserves. Following TAWIRI and NIMR approval, general research and residence permits will be obtained from the Tanzania Committee on Science and Technology (COSTECH) and Tanzanian Ministry of Home Affairs (Immigration). The MT has extensive experience with UCD and Tanzania permitting system requirements and timelines, which will allow permits to be acquired smoothly. Permits will be renewed annually.

Subtask 2-b: Develop study protocols, survey instruments, and data collection forms (Year 1)

Working with the MT, junior scientists will generate study field and lab protocols and surveys for human risk factors, as well as specimen management forms, diagnostic results logs, and forms for collecting information on animal demographics and environmental characteristics of field sites. General and Tanzania-specific protocols on wildlife handling and capture, safe specimen collection, specimen storage and transport, personal safety and biosecurity, and cold chain maintenance have already been established through the PREDICT viral surveillance program and will be adapted for use here.

Subtask 2-c: Procure supplies for field surveillance and laboratory diagnostics (Years 1-3)

Working with the MT, staff will order field and laboratory supplies and equipment necessary for human and animal sampling and testing. As part of the PREDICT program, relationships with scientific supply vendors (VWR, Fisher, African Biosystems, etc.) have already been established for efficiently purchasing and acquiring supplies. To maintain a steady supply, materials will be assessed and reordered as needed on a quarterly basis.

Subtask 2-d: Strengthen local stakeholder collaborations - Regional and District Veterinary Officers, Wildlife Officers, Forest Officers, Executive Officers; Udzungwa Mountains Park Staff and Researchers; Village Government Leaders and Health Clinic Officers – (Years 1-3)

Through HALI project wildlife sampling activities and previous zoonotic disease investigations, strong relationships have already been established with relevant veterinary, wildlife, and forest officers, as well as district executive directors. In a PREDICT-funded Udzungwa pilot surveillance program, we built relationships with Udzungwa Mountains National Park Staff, Kilombero Nature reserve directors, district-level forest officials, and village government leaders. The MT members and junior scientists will work to strengthen the existing relationships and to create collaborations with village health clinic officers by providing quarterly updates on research progress, as well as annual trainings on wildlife and human sampling for relevant partners.

Subtask 2-e: Complete quarterly financial reports; manage logistics of staff and lab/field office operation (Years 1-3)

The project logistics manager will complete quarterly financial reports in collaboration with the Tanzanian research institutions (SUA and IHI). Junior scientists and MT members will jointly manage staff logistics and office operation.

Subtask 2-f: Complete quarterly reports on project activities for funders and project partners in Tanzania and the United States (Years 1-3)

The MT and junior scientists will provide quarterly email updates to project partners to share preliminary research results and progress on project timelines. In accordance with Tanzanian policy, all viral diagnostic results will initially be shared with the Tanzania Ministry of Health, Ministry of Livestock and Fisheries Development, and Ministry of Wildlife and Tourism, with whom we have existing relationships. Following approval for release by Tanzanian ministries, results will be provided to other project partners. This reporting system is desirable for in-country and foreign partners.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Research permits approved each year, protocols and data collection forms developed, supply inventories updated quarterly, financial and project activity reports generated quarterly. *Deliverables:* Documentation of research permit and ethical clearance approval, stakeholder collaboration section in annual report, list of approved protocols and data collection forms included as appendix in annual report, quarterly reports included as appendix in annual report.

iii. **Task 3: Data management**

Subtask 3-a: Database creation

Following development of field and lab data forms, the junior scientists and MT will create separate secure electronic databases to store wildlife, environmental, and human data.

Subtask 3-b: Data entry and cleaning

Within 2 weeks of field data collection, junior scientists will enter and check wildlife, environmental, and human data in the project databases. A MT member will review entered data for accuracy. Human data forms with information identifying individual study subjects will be stored in a locked cabinet at the project office and destroyed 12 months after study completion.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Databases developed in Year 1, project data entered and assessed within 2 weeks of field collection. *Deliverables:* Database section included in annual report.

iv. **Task 4: Staff and stakeholder training and junior scientist mentorship**

Subtask 4-a: Identify and hire junior scientists (postdoc, PhD, and master students; Year 1)

In order to build sustainable capacity and long-term research networks, one US-based postdoctoral scholar and one post-DVM PhD student and at least one Tanzanian masters student (SUA) and one postdoctoral fellow (IHI) will be recruited for the research project.

Subtask 4-b: Conduct annual and quarterly trainings (Years 1-3)

PREDICT staff members with extensive field experience in wildlife capture and sampling, viral specimen collection, cold chain management, and personal and laboratory biosafety will train the junior scientists, field staff, and local stakeholders including veterinary and human health partners and district wildlife officers on these topics. Veterinarians and ecologists from UMNP, Tanzania National Parks Association (TANAPA), and TAWIRI will be invited to participate in animal-based trainings to build national wildlife surveillance capacity and biosecurity awareness. MT members from IHI will train health clinic staff and junior scientists on human data and specimen collection and storage. Laboratory experts from UCD, SUA, and IHI will provide training on PCR-based viral family diagnostics, cloning, sequencing, and phylogenetic analyses.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Quarterly training events conducted each year, at least

two postdoctoral scientists and graduate students mentored each year. *Deliverables:* Training documents compiled for annual report, trainee progress reports and trainer evaluations included as an appendix to annual report.

v. **Task 5: Field site assessment and preparation**

Subtask 5-a: Human health clinic assessment

We will identify health clinics that treat patients, including those with febrile illnesses, from areas near or adjacent to the wildlife sampling sites. MT members will assess clinic willingness to participate in a research study on zoonotic viral diseases involving collecting human blood, oropharyngeal swab samples, and fecal specimens. After identifying four clinics from different geographic locations representative of the study area, we will recruit one health officer or nurse as a research partner from each clinic to participate in human sample collection. We have experience in these recruitments through our ongoing NIH-supported research in the region.

Subtask 5-b: Wildlife sampling site assessment

Prior to the first season of animal specimen collection, the forest reserve network will be assessed to identify 4 field sites for seasonal bat and NHP sampling for the duration of the project. Two sites will be identified in forests with low NHP diversity (2-3 species present). The remaining sites will be in forests with higher NHP diversity (4-6 species present). All sites will be chosen in forests used by neighboring human communities for bushmeat hunting, sacred site visitation, and/or resource extraction, such as medicinal plant gathering. Field site vegetation and forest cover will be characterized visually and using available remote sensing/GIS data.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Number of patients enrolled annually; number of staff trained; laboratory capacity; elevation, latitude/longitude, and proximity to forest characterized for each human health clinic. Vegetation and forest cover, climate, elevation, latitude/longitude, known wildlife species composition, human use, and proximity to human communities will be characterized for each wildlife sampling site. *Deliverables:* Clinic and field site characterization in annual report.

vi. **Task 6: Human sample archive assessment**

Archived frozen human whole blood samples stored at IHI research facilities due to previously completed in-depth investigations of zoonotic and human diseases in Tanzania will be selected for study inclusion based upon where subjects lived and any known risk factors for wildlife contact (bushmeat hunting, medicinal plant gathering, other forest resource extraction, or agricultural conflict with primates). If risk factor information for previously collected human samples is too sparse or sample quality is questionable, human sampling emphasis will be placed more heavily on prospective specimen collection.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* List of potential archive samples generated, risk factor information assessed for human sample archives. *Deliverables:* Human sample archive assessment and use section in annual report.

vii. **Task 7: Active human surveillance**

Subtask 7-a: Patient recruitment

Adult and child patients presenting to participating health clinics with a fever will be offered a rapid diagnostic test for malaria. Patients testing negative by rapid test will be asked to join the

study and formally consented following standardized, approved Tanzanian consent procedures. Participating patients will be interviewed about their contact with forests and wildlife before specimen collection. *Sample size*: 30 patients will be recruited each season at each health clinic.

Subtask 7-b: Forest risk factor survey

Consenting patients with a non-malarial febrile illness will be interviewed by a trained nurse at the health clinic regarding their use of forest products or habitats and contact with wildlife species, especially bats and NHP, in or near forests. Data will be disaggregated from individually identifying information prior to data analysis to protect patient confidentiality. However, patient recruitment and contact information will be maintained in locked facilities to contact individuals regarding the results of diagnostic testing.

Subtask 7-c: Sample collection

Whole blood, oropharyngeal swabs (2), and approximately 400mg of feces will be collected from patients by a trained nurse. Oropharyngeal swabs and feces will be divided and stored in lysis buffer and VTM. All samples will be stored in liquid nitrogen at the health clinic (in provided dewars). Clinics will also be provided standard government issue malaria rapid diagnostic tests to rule out malaria as a cause of febrile illness, and human sampling supplies to collect oral swabs and feces. Following each season (wet and dry) of sampling, specimens will be transferred to IHI BSL-3 laboratory for storage in -80C freezers and diagnostic testing.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Masanja, Mugasa. *Metrics of Success:* Risk factor surveys and samples collected for at least 240 human patients annually. *Deliverables:* Active human surveillance section in annual report, at least 1 publication prepared.

viii. **Task 8: Active wildlife surveillance**

To detect potential differences in seasonal viral shedding, bats and NHP will be sampled twice yearly, during December-March (wet season) and June-September (dry season), which also correspond to different phases in bat reproduction cycles that might affect viral shedding.

Subtask 8-a: Bat capture and sampling

Capture: Megachiropterans (fruit bats) and microchiropterans (small, predominantly insectivorous bats) at targeted sites will be captured in synthetic mist nets placed near caves, tree roosts, or forest flyways. Following surveillance to determine habitual bat foraging departure and return times, nets will be set after bats leave roosts in the evening. Nets will be monitored continuously when bats begin to return in the early morning. Captured bats will be removed from nets by trained field staff within 30 minutes of capture to minimize stress, and placed in a closed cotton bag until processing. *Sample size:* 30 bats per site per season

Sampling: Under manual restraint, blood will be collected from the brachial (fruit bats) or radial (small bats) vein. For bats weighing <60g, blood may be diluted with phosphate buffered saline to increase sample volume as previously described [38]. Oropharyngeal swabs (2) and rectal swabs (2) will be stored in lysis buffer and viral transport media (one of each type of swab in each medium). Demographic data (species, age class, sex, and pregnancy/lactation status), digital photos, and morphometric measurements will be collected during processing. Bats will additionally be marked with individually identified lipped rings on wings (microchiropterans) or thumb rings (megachiropterans) prior to release at the site of capture. Bat markings will be used to identify recaptured bats in subsequent seasons as well as capture of previously sampled bats at novel sites. Satellite telemetry collars will be placed on 1-2 adult fruit bats per sampled site (4-8 collars in total) to remotely follow movement and migration patterns over the study period. Sera will be stored in empty cryovials and blood clots in lysis buffer following centrifugation of

whole blood samples. Specimens will be stored in a locked liquid nitrogen dry shipper in the field to preserve viral RNA prior to transport to the SUA lab and longer-term storage at -80C. During animal handling, staff will wear appropriate PPE to prevent zoonotic viral transmission including N95 respirators, goggles, gloves, and tyvek suits (Figure 2).

Bat identification: Visual appearance and morphometric measurements will be used to determine the genus and species of easily differentiated megachiropterans such as straw-colored fruit bats (*Eidolon helvum*). Project MT members with experience trapping and identifying mega and microchiropterans in Tanzania will train junior scientists and staff. However, due to the difficulty of differentiating some species of fruit bats and many microchiropterans, wing tissue punch biopsy samples for genetic testing will be aseptically collected from each sampled bat. Biopsies will be stored in 95% ethanol at room temperature. Host DNA will be extracted, amplified, and sequenced to confirm the precise genus and species of any bat testing positive for target viruses.



Figure 2. Tanzania field team members prepare to safely collect samples from a captured fruit bat (held in the cotton bag) in an urban setting [Dar es Salaam, Tanzania, April, 2013]. Established PREDICT protocols for biosafety, animal capture and sampling, cold chain specimen storage and transport, and viral disinfection will be adapted to the proposed wildlife sampling activities in the Udzungwa Mountain forests.

Subtask 8-b: Non-human primate (NHP) sampling

Non-invasive sampling: Known NHP troops at designated field sites will be tracked to collect fresh fecal specimens. Iringa red colobus monkeys (*Procolobus gordonorum*) will be sampled at each site and Sykes' monkeys (*Cercopithecus mitis*) will be sampled when present at a site. These species will be targeted to create comparable data among the sites, as these monkeys are found in almost all forests in the study area. Red colobus are predominantly arboreal, while Sykes' monkeys use all strata of the forest [28]. Additionally, people living near the forest reserves hunt both species [32,34]. Local guides familiar with the animals' habitat use and behavior will be employed to assist in locating and collecting samples from target troops. Following observation of defecation by identified individuals of known primate species, field team members will collect approximately 200mg of feces for storage in lysis buffer and 200mg for storage in VTM. When observable, sex and age class of the primate will be recorded. Discarded foods from primates actively foraging will be swabbed with sterile, polyester swabs to collect a non-invasive saliva sample. Swabbing primate bite marks in discarded food items has been shown to be an effective route of obtaining saliva samples [39]. One swab will be stored in lysis buffer, and the other in VTM. Following sample collection, all specimens will be immediately placed in a portable liquid nitrogen dry shipper in the field to preserve viral RNA. If necessary, dental ropes for saliva collection may also be used, as they have been shown to be effective in our field sites in Asia. *Sample size: 30 red colobus per site per season, 30 Sykes monkeys per site per season when present*

NHP identification: The seven diurnal primate species found in Udzungwa Mountains National Park and/or neighboring forest reserves are easily distinguished based on their size, body shape, coloration, and predominant forest use (arboreal vs. terrestrial) [28]. Field team members will be trained to accurately identify each of the resident diurnal primate species.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). *Metrics of Success:* Samples collected from at least 240 bats and at least 240 NHPs annually, satellite transmitters on at least 1 bat from each study site. *Deliverables:* Wildlife surveillance section in annual report, at least 1 publication.

ix. **Task 9: Environmental characterization and sampling**

Subtask 9-a: Indirect sampling at bat feeding roosts

Working with local guides, bat feeding roosts will be identified in or near at least two of the wildlife sampling sites. Discarded seeds and fruits will be assessed at dawn and swabbed with sterile, synthetic swabs to collect bat saliva. Thirty specimens will be collected seasonally per site and stored in lysis buffer in a locked field dry shipper. Specimens will then be stored at -80C prior to diagnostic testing.

Subtask 9-b: Camera trapping at bat feeding roosts

Two remote-triggered, waterproof, infrared field cameras will be set and left in the field for one to two weeks seasonally at each bat feeding roost to assess the potential for other wildlife taxa to contact food items discarded by bats. Images of visiting wildlife will be used to target additional wildlife sampling at field sites.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). Metrics of Success: At least 120 swab samples will be collected annually from discarded foods, at least 8 weeks of total annual camera trapping. *Deliverables:* Environmental sampling section in annual report, select camera trap images in annual report index.

x. **Task 10: Establishment of sample repository/metadata information data sheets and accession numbers**

A human and wildlife sample repository will be created at the IHI BSL-3 laboratory in Bagamoyo. Standardized metadata will be recorded for each sample, and accession numbers assigned for future access. Samples will be stored in secure freezers and/or liquid nitrogen Dewar's in secure facilities with limited access to project personnel and other authorized personnel. Sample repository and security will be established according to the BMBL approved safety guidelines as well as international security guidelines.

Personnel involved: Parekh, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Sample repository and data sheets established in Year 1 and assessed quarterly for accurate entry of all new specimens. *Deliverables:* Sample repository section in annual report.

xi. **Task 11: Viral diagnostics**

Following lab storage in locked -80C freezers, RNA extraction and viral family level diagnostic testing will be performed on deactivated specimens to identify potentially zoonotic viruses. Priority viral families: filoviruses, flaviviruses, and coronaviruses will be assessed in all specimens tested. Viral family level testing emphasis will then shift to henipaviruses, bunyaviruses, and rhabdoviruses as resources permit. RNA extraction will be performed with Qiagen RNA extraction kits using our established PREDICT protocols for blood, oropharyngeal swabs, and feces in a class II biosafety cabinet or BSL-3 facility. Beta actin PCR analyses of cDNA products will be used to confirm successful RNA extraction. Viral family level primers will be used in established conventional PCR reactions to amplify viral RNA and synthetic positive controls will be employed. Suspect positive samples will be confirmed through cloning and sequencing.

Subtask 11-a: Human specimen viral testing

Trained personnel at the IHI BSL-3 laboratory in Bagamoyo, Tanzania, will conduct RNA extraction, cDNA production, Beta actin PCR, and viral family level PCR diagnostics for archived and prospectively collected human samples as above.

Subtask 11-b: Wildlife specimen viral family testing

RNA extraction from deactivated wildlife samples and cDNA production will be conducted at the Sokoine University of Agriculture (SUA) Emerging Infectious Disease Molecular Diagnostic Laboratory in Morogoro, Tanzania, as above. As capacity is built at the SUA diagnostic laboratory for viral family level PCR protocols, testing will be completed for all possible viral families on-site. In addition, an aliquot of the cDNA products will be reserved for shipment to IHI for viral family screening if timelines for testing cannot be met at SUA. An additional aliquot will be reserved in case shipment to the University of California, Davis (UCD) One Health Institute molecular diagnostic laboratory is necessary for assessment of capacity building; quality control screening as SUA and IHI gain experience with the viral family level protocols; and to augment capacity if both SUA and IHI become overloaded by sample submission numbers. Comparative screening at UCD will be used to help refine laboratory protocols at SUA and IHI to ensure high-level in-country viral diagnostic capacity. Lab technicians at SUA have experience extracting viral RNA from diverse wildlife specimens. Duplicate wildlife specimens will be stored in VTM in a secured BSL-3 laboratory at IHI for transfer to more biosecure facilities if further diagnostic work is indicated.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Kazwala, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* At least 500 specimens screened yearly (screening capacity and activity is expected to increase substantially following year 1 trainings). *Deliverables:* Viral diagnostics section in annual report.

xii. **Task 12: Molecular characterization of viruses**

For any suspect positive sample (wildlife or human), confirmatory cloning of PCR products will initially be performed at the in-country laboratories with the UCD One Health Institute molecular diagnostic lab providing back-up support for sequencing and for additional testing in case DTRA-specific timelines for research completion are not being met or if our team is not able to efficiently obtain results that will be used to refine field sampling approaches. Cloning procedures will also be introduced to IHI to increase in-country diagnostic capacity, should equipment and maintenance be available. SUA and IHI currently lack the physical infrastructure for viral sequencing. Initial samples will be sequenced at UCD and through the locally sustainable option of sending samples to Korea for economically efficient ($7) outsourced sequencing (ILRI also an option if economically feasible), as is practiced in much of the world. Following viral sample sequencing, Bayesian and maximum likelihood phylogenetic analyses will be used to determine the genetic similarity of viruses from bats, primates, and humans.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* All suspect positive specimens will be characterized within 3 months of initial diagnostic testing results. *Deliverables:* Molecular characterization section in annual report, at least 1 publication.

xiii. **Task 13: Data analysis/modeling**

All statistical modeling and spatial analyses will be jointly conducted by Tanzania and US-based researchers. Tanzanian masters students, the IHI post-doctoral scientist, and additional research

partners from SUA, IHI, and TAWIRI will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries. Collaborative model building by US and Tanzanian researchers will enhance local relevance and the capacity for epidemiologic data analysis in Tanzania. Jointly developed models and software code will serve as a resource for future wildlife and human surveillance data analysis by SUA, IHI, and TAWIRI. Data sharing between partner institutions will also ensure that the most current and accurate risk factor, geospatial, and animal and human population data are integrated into the analyses.

Subtask 13-a: Statistical risk factor modeling

Prevalence of exposure for each viral family will be estimated in bats, NHP, and people at characterized field sites, and mixed effects logistic regression models will be used to evaluate demographic, seasonal, and ecological risk factors for exposure in humans and wildlife. Mixed effects models will use site of capture (wildlife) or health clinic as the cluster variable for animal and human models, respectively, to account for unmeasured correlation among individuals. Environmental risk factors will be characterized during field site assessments and using GIS data in QGIS. All statistical analyses will be performed in R or other open source statistical software.

Subtask 13-b: Spatial analyses

Spatial analyses for clusters of viral exposure will be performed to identify hotspots of pathogen transmission as targets for controlling spillover from wildlife to human populations. GPS locations collected during fieldwork will be used for bats and NHP. Human locations will be geocoded based on village of primary residence. Geographical clustering of viral exposure (each identified viral family and all viral families combined) will be evaluated among bats, NHPs, and humans using a Bernoulli model elliptical scanning window in SatScan v. 9.0 [40,41]. Tanzanian masters students will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries.

Personnel involved: Parekh, Mazet, Miller,VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Statistical risk factor models and spatial models developed to characterize risk factors for and potential geographic hotspots of zoonotic viral transmission. *Deliverables:* Data analysis and modeling section in annual report and likely publication depending on results.

xiv. **Task 14: Data interpretation, development of stakeholder communications, and local distribution of findings**

Data analyzed above will be used to develop reports for DTRA and the Tanzanian government. In addition, informational materials will be developed in consultation with these agencies and participating stakeholders to provide community education on disease transmission risks and to influence behavior change. These materials may include household-targeted materials, posters, and animated educational videos distributable to mobile devices. At least two peer-reviewed manuscripts are expected in total from the proposed research project.

Personnel involved: Parekh, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Final report of data analysis and results delivered to all international and local stakeholders, locally appropriate outreach materials developed and distributed for community outreach. *Deliverables:* Data analysis and results section in annual report, at least 2 publications in total following data interpretation. Outreach materials included as appendix in annual report.

V. PERFORMANCE SCHEDULE.

Project Timeline	**Year 1** Oct2014-Sep2015				**Year 2** Oct2015-Sep2016				**Year 3** Oct2016-Sep2017			
Task: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings												
2: Administrative startup and maintenance												
3: Data management												
4: Training & mentorship												
5: Field site assessment & prep												
6: Human sample archive assessment												
7: Active human surveillance												
8: Active wildlife surveillance												
9: Environmental characterization												
10: Sample repository management												
11: Viral diagnostics												
12: Molecular viral characterization												
13: Data analysis/ modeling												
14: Data interpretation, distribution of findings												

VI. REFERENCES

1. Taylor L, Latham S, Woolhouse M (2001) Risk factors for human disease emergence. Philosophical Transactions of the Royal Society of London B 356: 983-989.
2. Amman BR, Carroll SA, Reed ZD, Sealy TK, Balinandi S, et al. (2012) Seasonal pulses of Marburg virus circulation in juvenile *Rousettus aegyptiacus* bats coincide with periods of increased risk of human infection. PLoS Pathogens 8: e1002877.
3. Leroy EM, Epelboin A, Pourrut X, Gonzalez J-P, Muyembe-Tamfum J-J, et al. (2009) Human Ebola outbreak resulting from direct exposure to fruit bats in Luebo, Democratic Republic of Congo, 2007. Vector-borne and Zoonotic Diseases 9: 723-728.
4. Albarino CG, Shoemaker T, Khristova ML, Wamala JF, Muyembe JJ, et al. (2013) Genomic analysis of filoviruses associated with four viral hemorrhagic fever outbreaks in Uganda and the Democratic Republic of the Congo in 2012. Virology: *in press*.
5. Leroy EM, Kumulungui B, Pourrut X, Rouquet P, Hassanin A, et al. (2005) Fruit bats as reservoirs of Ebola virus. Nature 438: 575-576.
6. Calisher CH, Holmes KV, Dominguez SR, Shountz T, Cryan P (2008) Bats prove to be rich reservoirs for emerging diseases. Microbe 3: 521-528.
7. Luis AD, Hayman DTS, O'Shea TJ, Cryan PM, Gilbert AT, et al. (2013) A comparison of bats and rodents as reservoirs of zoonotic viruses: are bats special? Proceedings of the Royal Society B 280: *in press*.
8. Hayman DTS, Bowen RA, Cryan PM, McCracken GF, O'Shea TJ, et al. (2013) Ecology of zoonotic infectious diseases in bats: current knowledge and future directions. Zoonoses and Public Health 60: 2-21.

9. Quan P-L, Firth C, Conte JM, Williams SH, Zambrana-Torrelio CM, et al. (2013) Bats are a major natural reservoir for hepaciviruses and pegiviruses. PNAS 110: 8194-8199.
10. Hayman DTS, Emmerich P, Yu M, Wang L-F, Suu-Ire R, et al. (2010) Long-term survival of an urban fruit bat seropositive for Ebola and Lagos bat viruses. PLoS one 5: e11978.
11. Hayman DTS, Yu M, Crameri G, Wang L-F, Suu-Ire R, et al. (2012) Ebola virus antibodies in fruit bats, Ghana, West Africa. Emerging Infectious Diseases 18: 1207-1209.
12. Wolfe ND, Heneine W, Carr JK, Garcia AD, Shanmugam V, et al. (2005) Emergence of unique primate T-lymphotropic viruses among central African bushmeat hunters. PNAS 102: 7994-7999.
13. Pourrut X, Kumulungui B, Wittmann T, Moussavou G, Delicat A, et al. (2005) The natural history of Ebola virus in Africa. Microbes and Infection 7: 1005-1014.
14. Gomez JM, Nunn CL, Verdu M (2013) Centrality in primate-parasite networks reveals the potential for the transmission of emerging infectious diseases to humans. PNAS: *in press*.
15. Heeney JL, Dalgeish AG, Weiss RA (2006) Origins of HIV and the evolution of resistance to AIDS. Science 313: 462-466.
16. Rouquet P, Froment J-M, Bermejo M, Kilbourn A, Karesh W, et al. (2005) Wild animal mortality monitoring and human ebola outbreaks, Gabon and Republic of Congo, 2001-2003. Emerging Infectious Diseases 11: 283-290.
17. Seltzer CE, Ndangalasi HJ, Cordeiro NJ (2013) Seed dispersal in the dark- shedding light on the role of fruit bats in Africa. Biotropica: *in press*.
18. Bausch DG, Nichol ST, Muyembe-Tamfum JJ, Borchert M, Rollin PE, et al. (2006) Marburg hemorrhagic fever associated with multiple genetic lineages of virus. New England Journal of Medicine 355: 909-919.
19. Towner JS, Amman BR, Sealy TK, Carroll SAR, Comer JA, et al. (2009) Isolation of genetically diverse Marburg viruses from Egyptian fruit bats. PLoS Pathogens 5: e1000536.
20. Khan AS, Sanchez A, Pflieger AK (1998) Filoviral haemorrhagic fevers. British Medical Bulletin 54: 675-692.
21. Amblard J, Obiang P, Edzang S, Prehaud C, Bouloy M, et al. (1997) Identification of the Ebola virus in Gabon in 1994. The Lancet 349: 181-182.
22. Muyembe-Tamfum JJ, Kipasa M, Kiyungu C, Colebunders R (1999) Ebola outbreak in Kikwit, Democratic Repubilc of Congo: Discovery and control measures. Journal of Infectious Diseases 179: S259-S262.
23. Harchut K, Standley C, Dobson A, Klaassen B, Rambaud-Althaus C, et al. (2013) Over-diagnosis of malaria by microscopy in Kilombero Valley, Southern Tanzania: evaluation of the utility and cost-effectiveness of rapid diagnostic tests. Malaria Journal 12: 159.
24. Reyburn H, Mbatia R, Drakeley C, Carneiro I, Mwakasungula E, et al. (2004) Overdiagnosis of malaria in patients with severe febrile illness in Tanzania: a prospective study. BMJ 329: 1212-1218.
25. Mittermeier RA, Gil PR, Hoffman M, Pilgrim J, Brooks T, et al. (2004) Hotspots revisited: Earth's biologically richest and most endangered terrestrial ecosystems.
26. Burgess N, Butynski T, Cordeiro N, Doggart N, Fjeldsa J, et al. (2007) The biological importance of the Eastern Arc Mountains of Tanzania and Kenya. Biological Conservation 134: 209-231.

27. Marshall AR, Jorgensbye HI, Rovero F, Platts PJ, White PC, et al. (2010) The species-area relationship and confounding variables in a threatened monkey community. American Journal of Primatology 72: 325-336.
28. Rovero F, Marshall AR, Jones T, Perkin A (2009) The primates of the Udzungwa Mountains: diversity, ecology and conservation. Journal of Anthropological Sciences 87: 93-126.
29. Trentin L, Rovero F (2011) Results of an inventory of bats in the Uzungwa Scarp Forest Reserve, Tanzania. Journal of East African Natural History 100: 45-57.
30. Stanley WT, Nikundiwe AM, Mturi FA, Kihaule PM, Moehlman PD (2005) Small mammals collected in the Udzungwa Mountains National Park, Tanzania. Journal of East African Natural History 94: 203-212.
31. Kitula RA (2007) Use of medicinal plants for human health in Udzungwa Mountains Forests: a case study of New Dabaga Ulongambi Forest Reserve, Tanzania. Journal of Ethnobiology and Ethnomedicine 3: 7.
32. Nielsen MR (2006) Importance, cause and effect of bushmeat hunting in the Udzungwa Mountains, Tanzania: Implications for community based wildlife management. Biological Conservation 128: 509-516.
33. Topp-Jorgensen E, Nielsen MR, Marshall A, Pedersen U (2009) Mammalian density in response to different levels of bushmeat hunting in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 2: 70-87.
34. Rovero F, Mtui AS, Kitegile AS, Nielsen MR (2012) Hunting or habitat degradation? Decline of primate populations in Udzungwa Mountains, Tanzania: An analysis of threats. Biological Conservation 146: 89-96.
35. Marshall AR, Topp-Jorgensen JE, Brink H, Fanning E (2005) Monkey abundance and social structure in two high-elevation forest reserves in the Udzungwa Mountains of Tanzania. International Journal of Primatology 26: 127-145.
36. Marshall AR (2007) Disturbance in the Udzungwas: responses of monkeys and trees to forest degradation. York, UK: University of York. 151 p.
37. Topp-Jorgensen JE, Marshall AR, Brink H, Pedersen UB (2008) Quantifying the response of tree hyraxes (*Dendrohyrax validus*) to human disturbance in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 1: 63-74.
38. Smith CS, De Jong CE, Field HE (2010) Sampling small quantities of blood from microbats. Acta Chiropterologica 12: 255-258.
39. Smiley T, Spelman L, Lukasik-Braum M, Mukherjee J, Kaufman G, et al. (2010) Noninvasive saliva collection techniques for free-ranging Mountain gorillas and captive Eastern gorillas. Journal of Zoo and Wildlife Medicine 41: 201-209.
40. Kulldorff M, Nagarwalla N (1995) Spatial disease clusters: detection and inference. Statistics in Medicine 14: 799-810.
41. Kulldorff M, Huang L, Pickle L, Duczmal L (2006) An elliptic spatial scan statistic. Statistics in Medicine 25: 3929-3943.

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	N/A	Government
000101	N/A	N/A	N/A	Government
000102	N/A	N/A	N/A	Government

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 05-AUG-2014 TO 04-AUG-2017	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A
000102	N/A	N/A	N/A	N/A

Section G - Contract Administration Data

CLAUSES INCORPORATED BY FULL TEXT

252.232-7007 LIMITATION OF GOVERNMENT'S OBLIGATION (APR 2014)

(a) Contract line item **0001** is incrementally funded. For this item, the sum of **$870,729.00** of the total price is presently available for payment and allotted to this contract. An allotment schedule is set forth in paragraph (j) of this clause.

(b) For items(s) identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those item(s) for the Government's convenience, approximates the total amount currently allotted to the contract. The Contractor is not authorized to continue work on those item(s) beyond that point. The Government will not be obligated in any event to reimburse the Contractor in excess of the amount allotted to the contract for those item(s) regardless of anything to the contrary in the clause entitled "TERMINATION FOR THE CONVENIENCE OF THE GOVERNMENT." As used in this clause, the total amount payable by the Government in the event of termination of applicable contract line item(s) for convenience includes costs, profit and estimated termination settlement costs for those item(s).

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (j) of this clause, the Contractor will notify the Contracting Officer in writing at least ninety days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s). The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (j) of this clause, or to a mutually agreed upon substitute date. The notification will also advise the Contracting Officer of the estimated amount of additional funds that will be required for the timely performance of the item(s) funded pursuant to this clause, for subsequent period as may be specified in the allotment schedule in paragraph (j) of this clause, or otherwise agreed to by the parties. If after such notification additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause of this contract entitled "TERMINATION FOR TIIE CONVENIENCE OF THE GOVERNMENT".

(d) When additional funds are allotted for continued performance of the contract line item(s) identified in paragraph (a) of this clause, the parties will agree as to the period of contract performance which will be covered by the funds. The provisions of paragraph (b) through (d) of this clause will apply in like manner to the additional allotted funds and agreed substitute date, and the contract will be modified accordingly.

(e) If, solely by reason of failure of the Government to allot additional funds, by the dates indicated below, in amounts sufficient for timely performance of the contract line item(s) identified in paragraph (a) of this clause, the Contractor incurs additional costs or is delayed in the performance of the work under this contract and if additional funds are allotted, an equitable adjustment will be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the item(s), or in the time of delivery, or both. Failure to agree to any such equitable adjustment hereunder will be a dispute concerning a question of fact within the meaning of the clause entitled "disputes."

(f) The Government may at any time prior to termination allot additional funds for the performance of the contract line item(s) identified in paragraph (a) of this clause.

(g) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "DEFAULT." The provisions of this clause are limited to work and allotment of funds for the contract line item(s)

set forth in paragraph (a) of this clause. This clause no longer applies once the contract if fully funded except with regard to the rights or obligations of the parties concerning equitable adjustments negotiated under paragraphs (d) or (e) of this clause.

(h) Nothing in this clause affects the right of the Government to this contract pursuant to the clause of this contract entitled "TERMINATION FOR CONVENIENCE OF THE GOVERNMENT."

(i) Nothing in this clause shall be construed as authorization of voluntary services whose acceptance is otherwise prohibited under 31 U.S.C. 1342.

(j) The parties contemplate that the Government will allot funds to this contract in accordance with the following schedule:

On execution of contract $870,729.00

August 5, 2015 $857,523.00

August 5, 2016 $792,585.00

(End of clause)

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20142016 D 34HQ 0901515BR-KD-BP 1416-0134-34HQ-TANCT DTRA 410
AMOUNT: $345,748.00
CIN HDTRA14123030001: $345,748.00

AB: 044315 097 0134 000 N 20132015 D 34HQ 0901515BR-KD-BP 1315-0134-34HQ-TANCT DTRA 410
AMOUNT: $524,981.00
CIN HDTRA14123030002: $524,981.00

CLAUSES INCORPORATED BY FULL TEXT

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

d. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addres

e. Grantee Business Office:
Name: FOIA (b)(6)
Title:

Phone: FOIA (b)(6)
E-mail:

f. Grantee Principal Investigator (PI):
Name: FOIA (b)(6)
Title:
Phone:
E-mail:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

g. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The amount of $870,729.00 is obligated for work to be performed during the period beginning with grant award and continuing through Year 1. Additional incremental funding planned, but not obligated, is:

Year 2 $857,523.00
Year 3 $792,585.00

The Government's liability is limited to the amount obligated

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Terms & Conditions	39	

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003	04-Aug-2017	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA STREET SUITE 200 SAN FRANCISCO CA 94104-2104		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1723202A

The purpose of this modification is to execute a one time no-cost extension by changing the period of performance from August 5, 2016-August 4, 2017 to August 5, 2016-June 4, 2017. This modification will also update the Grants Officers Representative clause 252.601-9001.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 04-Aug-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'Payment will be made by' organization has changed from

DFAS COLUMBUS CENTER
DFAS-CO/WEST ENTITLEMENT OPERATIONS
P.O. BOX 182381
COLUMBUS OH 43218-2381

to

DFAS COLUMBUS CENTER
DFAS-CO/WEST ENTITLEMENT OPERATIONS
P.O. BOX 182317
COLUMBUS OH 43218-2317

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 05-AUG-2014 TO 04-AUG-2017	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 05-AUG-2014 TO 04-JUN-2018	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been modified:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

a. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email add

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00005	01-Dec-2017	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-AC 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA ST STE 200 SAN FRANCISCO CA 94104-2104		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1723202C

The purpose of this administrative modification is to correct Block 14 on modification P00002 by clarifying that Year 3 funding was provided on subCLIN 000104, ACRN AD, in support of CLIN 0001 in the amount of $792,585.00. This modification also updates the Grant Points-of-Contact.

All terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 28-Nov-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'issued by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4CO
8725 JOHN J. KINGMAN RD.
FT. BELVOIR VA 22060-6201
to
DEFENSE TIIREAT REDUCTION AGENCY/AL-AC
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/J4CO
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Phone (b)(6)
E-mail

b. Grantee Business Office:
Name: FOIA (b)(6)
Title:
Phone:
E-mail:

c. Grantee Principal Investigator (PI):
Name: FOIA (b)(6)
Title:
Phone:
E-mail

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total obligated amount under this Grant is $2,520,837.00 for work performed during the period beginning with Grant award and continuing through June 04, 2018. Additional incremental funding planned, but not obligated, is:

$0.00

The Government's liability is limited to the amount obligated

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 25

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00006	11-Apr-2018	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA ST STE 200 SAN FRANCISCO CA 94104-2104		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(6)
RQN: ACOPI181065

The purpose of this administrative modification is to revise the Statement of Work. No additional costs will be incurred as a result of the SOW revision.

All terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL (b)(6) EMAIL (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 11-Apr-2018

HDTRA1-14-1-0052

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'issued by' organization has changed from

DEFENSE THREAT REDUCTION AGENCY/AL-AC
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

to

DEFENSE THREAT REDUCTION AGENCY/AL-ACO
8725 JOHN J.KINGMAN RD
FT BELVOIR VA 22060-6201

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been added by full text:

SOW

Evaluating Zoonotic Viral Sharing Among Bats, Primates, and People in a High Risk Transmission Interface in Southern Tanzania - *Phase II Technical Proposal*

Revised April 10, 2018

I. ABSTRACT.

Viruses traced to bats and primates have caused some of the most significant human pandemics. As human populations rapidly expand into undeveloped areas, humans are living in closer contact with diverse wildlife, increasing the risk of disease transmission. In resource-limited areas, bushmeat hunting and consumption of forest plants shared with animals provide vital nutrients but may also put pathogens on the plate. Although extensive research has been directed at understanding transmission of viral diseases like Ebola, the ecology of these pathogens is not well understood. In the biodiverse Udzungwa Mountains, one of Tanzania's last areas of undeveloped mountain forest, bats and non-human primates live in close proximity to each other and human communities, creating a high-risk interface for zoonotic disease transmission and spillover of potentially pandemic pathogens. In this region, Ifakara Health Institute maintains human specimen banks that may be accessed to evaluate historical and ongoing pathogen sharing. Through our established viral detection project in the region, our collaborative TZ-US team is active on the ground and prepared to intensify wildlife and human surveillance to evaluate 1) transmission of potentially shared pathogens, like filoviruses; 2) the impact of bat and primate community composition on viral diversity; and 3) human exposure to zoonotic viruses in high-risk populations living at the forest interface. By investigating cross-species viral sharing at this high-risk interface using best known practices, our team will also strengthen Tanzanian surveillance and diagnostic capacity for dangerous pathogens and identify the critical control points to prevent local and pandemic outbreaks.

II. SCOPE.

A. OBJECTIVE.

We will analyze the risk of infection with filoviruses and other viruses, especially NIAID Biodefense Category A and other potential CDC Select Agents, in Tanzania. We will evaluate the risk of zoonotic viral disease transmission among bats, non-human primates (NHP), and people sharing a forest interface with high human-wildlife contact in Southern Tanzania in order to identify critical control points for disease transmission and strengthen local surveillance capacity to prevent regional or pandemic outbreaks of disease.

Hypotheses: 1) Bats in Tanzania are a reservoir for emerging viral diseases, which have the potential to spread to humans through direct contact or intermediately via NHPs sharing habitats and resources with both bats and people. 2) Diversity of potentially zoonotic viruses in wildlife is associated with the number of bat and NHP species living in a given habitat. Protected areas bordered by human communities in the Udzungwa Mountains provide the ideal environment in which to investigate the potential for emerging viral disease transmission from bats and NHPs to humans. Viral investigation will target biodefense priority, Select Agent pathogens with recognized potential to initiate pandemics or to be weaponized as well as emerging viral disease threats from families including filoviruses, henipaviruses, coronaviruses, bunyaviruses, flaviviruses, and rhabdoviruses, among others.

Specific Project Objectives:

1) Engage local partners to characterize forest field sites. Partners will assess: bat-NHP interaction; bat and NHP species present; ecological variation; and degree of human contact. Identify specimens in human sample archives (frozen whole blood or serum) collected from acutely ill individuals living at high-risk interfaces for contact with bats and primates. (Yr 1)
2) Collect specimens (blood, saliva, urine, and/or feces) from bat and NHP populations living in characterized Udzungwa sites during wet and dry seasons (Yrs 1-3).
3) Collaborate with local health clinics and collect specimens (blood, oral swabs, and feces) from high-risk human groups bordering forest areas during wet and dry seasons (Yrs 1-3).
4) Test wildlife specimens, archived undiagnosed human febrile illness samples, and prospective human surveillance specimens for shedding of potentially zoonotic viral pathogens by molecular assays. Sample handling, RNA extraction, viral family level PCR analyses, and sample storage will occur in a locked BSL-3 laboratory as appropriate (Yr 1-3).
5) Characterize viral RNA amplified from animal and human samples and perform phylogenetic analyses. Assess viral diversity among bats, NHP, and humans to evaluate pathogen sharing in the Udzungwa ecosystem. (Yrs 2-3).
6) Conduct spatial analyses and epidemiologic modeling to identify risk factors for human exposure to bat and NHP viral pathogens, to assess options for mitigating viral spillover, and to target behavior change interventions. (Yrs 2-3).
7) Collaboratively train junior scientists (postdocs and graduate students) and local stakeholders to build capacity in: pathogen surveillance, wildlife and human sampling, molecular diagnostics, biosecurity, and One Health approaches and concepts in Tanzania (Yrs 1-3).

B. BACKGROUND.

We live in an ever-changing environment of pathogen distribution, prevalence, and transmission. Within the past 6 months alone, two deadly viruses (H7N9 influenza and Middle East respiratory syndrome Coronavirus (MERS-CoV)) have emerged as novel highly pathogenic infections. The majority of known human pathogens have an animal reservoir [1], emphasizing direct connections between human, wildlife, and domestic animal health. Recent East and Central African hemorrhagic fever outbreaks caused by the related filoviruses, Ebola and Marburg, have redirected global attention to the high potential for zoonotic spread from wildlife to human populations [2-4]. Bats are considered the most likely reservoir of pathogens like Ebola and Marburg viruses [5], but the transmission pathways to humans are not clearly understood. While humans may contact infected bats directly or indirectly (through exposure to saliva, urine, or feces), contact with other wildlife such as NHPs that share habitat and resources with bats may also provide a source of exposure as an intermediate vector. The flow of people into forests and wildlife out (of forests) provides diverse opportunities for filovirus and other zoonotic viral pathogen transfer, but the risks associated with different activities and habitats are not well understood. Bat-NHP interactions, as well as bat and NHP community assemblages, may shape viral diversity in a given environment and alter zoonotic disease transmission potential. Understanding the influence of bats, NHP, and people on viral transmission will help to direct surveillance and control strategies to limit the pandemic potential of filoviruses, as well as other existing and yet unknown emerging viral pathogens. Our proposed research targets diverse viral families that have zoonotic transmission potential at human-wildlife interfaces.

Bat and non-human primate zoonotic disease risks

Recent zoonotic disease research suggests that bats are critical reservoirs for filoviruses, as well as other diverse existing and emerging zoonotic pathogens, including henipaviruses, coronaviruses, paramyxoviruses, and flaviviruses [6-9]. Central and East African human outbreaks of Ebola and Marburg hemorrhagic fever, for example, have been linked to consumption of or environmental exposure to bats [2,3]. An urban straw-colored fruit bat (*Eidolon helvum*) seropositive for Ebola virus survived for at least 13 months post-capture, demonstrating that bat hosts of viruses that cause severe disease in humans and other mammals could potentially transmit these pathogens over long periods of time [10]. Interestingly, much higher prevalences of exposure to Ebola virus were detected in non-urban bat species in West Africa. Based on the distribution of Ebola virus seroprevalences in diverse bat species, Hayman et al. [11] suggest that human contact with bats in rural and forest settings may pose a greater zoonotic transmission risk than contact with urban fruit bat colonies.

Non-human primates also serve as a source of diverse viral zoonotic disease exposure for humans [12-14]. The zoonotic origin of HIV offers a dramatic example of NHP to human transmission [15], but human outbreaks of hemorrhagic fever have also been traced to contact with live or dead African NHPs [13]. For example, while NHPs are reservoirs for some zoonotic viruses, they may also act as a link between bats and people sharing forest landscapes. Gorillas and chimpanzees have experienced epidemics of Ebola [16], which suggests that NHPs are not a filovirus reservoir, but that they contact reservoir species (now known to include bats) in forest habitat. It has been proposed that NHPs can acquire filoviruses through hunting other NHPs or by direct or indirect contact with reservoir hosts [16]. In this case, Ebola virus exposure in terrestrial and predominantly arboreal NHP species suggests that contact may occur in multiple forest strata. Habitat and food resource sharing among bats, NHPs, and people therefore represent critical interfaces for zoonotic virus transmission, but interactions among these communities in tropical forests are not well understood. Bat sleeping and feeding roosts offer potential focal points of contact where bats and NHPs might share resources. Discarded fruits and seeds at feeding roosts [17] may present an opportunity for primates and people to directly contact viruses in bat saliva and/or feces. However, viral contamination of discarded food items at bat feeding roosts has not been thoroughly investigated.

Zoonotic virus transmission to people

Human outbreaks of Ebola and other agents have frequently started with infection of a single or few individuals expected to have been exposed to infected bats or NHP in forest habitats [3,13]. While exposure frequently occurs through hunting and butchering of animal carcasses, other extractive forest uses may also expose people to disease agents. Ebola infection in a forest-based charcoal worker and Marburg infection in mine workers and tourists visiting caves with bat colonies provide additional examples of modes of transmission [2,18]. In filovirus outbreaks, after the initially infected individuals contacted other members of their villages or sought care in clinics and hospital settings with limited sanitary practices, the number of cases and their geographic range often expanded rapidly through person-to-person transmission. Although periodic large outbreaks attract international media and research attention, undiagnosed filovirus and other zoonotic viral transfer may happen much more frequently. Even within outbreaks, viral diversity in different patients has suggested multiple independent zoonotic transmission events [18,19]. Understanding the risk of these initial zoonotic disease transmission events at the forest–human interface is essential to protect against the large-scale outbreaks that threaten national and international public health. While frequent dead-end

zoonotic transmission events likely occurred in isolated areas in the past, rapid human population growth and landscape conversion near protected areas may enhance outbreak potential.

Non-specific clinical symptoms including fever, headache, and muscle pain occur in the initial stages of many zoonotic viral illnesses [20]. Due to scarce clinical resources in many areas of Africa, patients with zoonotic virus-based fevers may be misdiagnosed with more common febrile illnesses, such as malaria. Misdiagnosis of filovirus infections, for example, as dysentery or yellow fever delayed critical medical intervention in past outbreak situations [21,22]. In two clinics adjacent to Udzungwa Mountains National Park, over 60% of patients presenting with febrile illness were incorrectly diagnosed with malaria when microscopy was used as the only diagnostic test [23]. While underlying causes of disease were not identified in misdiagnosed patients, it suggests that non-malarial causes of febrile illness are very common in this area. In the Eastern Arc Mountains of northern Tanzania, malaria was also commonly misdiagnosed in patients with severe febrile illness, especially those living at higher altitudes [24].

Study area

Part of the Eastern Afromontane biodiversity hotspot [25], the protected areas of the Udzungwa Mountains are islands of predominantly intact forest surrounded by human development. In Udzungwa Mountains National Park (UMNP) and a mosaic of nearby forest reserves, diverse assemblages of NHPs and bats share the largest remaining forest blocks in the Eastern Arc mountain chain [26], Figure 1. In the heterogeneous Udzungwa landscape, which is a mixture of lowland to montane closed canopy forest, woodlands, grasslands, and developed areas, protected forest blocks range in size from <1 km^2 to 526 km^2 [27]. The eastern sides of lower elevation forest blocks receive 2000-3000mm of rainfall per year, while higher elevation drier forests receive approximately 500mm per year. There are typically two periods of concentrated rainfall: December January and March-May [28].

F Park and neighboring forest reserves

(20 km

Ndundulo Mwanihana

MIKUMI NATIONAL PARK

Kisinga-Rugaro Nyumbanitu

UDZUNGWA MOUNTAINS NATIONAL PARK

KILOSA-MPERO NATURE RESERVE

Mlale

Mtibwa

Mtibwa

Mtibwa

offers an efficient potential pathway for wildlife products and pathogens to reach high-traffic areas with dense human populations. People living on park and reserve borders also visit sacred cave sites in the forests, increasing their potential exposure to NHPs and roosting bats. Farmers living near protected areas, UMNP staff members housed in the park, researchers, and tourists are also in contact with the diverse NHP populations. Ecological research is increasing in the Udzungwa Mountains, focusing on population dynamics, habitat use, response to environmental change, and animal behavior [27,34-37]. Building upon existing local and academic ecological knowledge, an investigation of emerging viruses in bats, primates, and people will provide critical insight on transmission of select agent and novel pathogens with pandemic potential.

C. PROGRAMMATICS.

Management team (MT) approach: Continuing their nearly 5 year partnership as implementing partners, Metabiota and the University of California, Davis (UCD) will co-manage this project with local partners in Tanzania. Metabiota will provide administrative and financial oversight while UCD will provide the scientific management and implementation of this research in Tanzania. Principal Investigator, Dr. Joseph Fair, will work hand-in-hand with Co-Principal Investigator, Dr. Jonna Mazet to ensure project deliverables are met according to contract timelines or as nearly as possible.

Since 2006, investigators from UCD and Sokoine University of Agriculture (SUA) in Tanzania have been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania through our HALI (Health for Animals and Livelihood Improvement) project. In 2009, HALI became the Tanzanian institutional home of the USAID Emerging Pandemic Threats' PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects for over 20 years. Metabiota, a partner on the PREDICT project, has extensive experience investigating emerging viruses with zoonotic potential in West and Central Africa. Project study design, wildlife and human sampling, specimen diagnostics, as well as spatial analyses and epidemiologic modeling will be jointly coordinated through UCD, SUA, and IHI. Archived human samples from areas of human- wildlife contact will be identified by UCD and IHI. All human samples, both archived and prospective will be tested at IHI BSL-3 laboratory facilities. Our US-Tanzania MT will have monthly conference calls to coordinate research design, activities, and progress. The proposed One Health collaboration will facilitate cutting edge research on existing and emerging viral pathogens at critical wildlife-human interfaces in Tanzania, and build local, regional, and national capacity to detect and mitigate zoonotic transmission of select agents.

Joseph Fair, PhD, MPH, **Metabiota** liaison to DTRA for coordination of project administration and reporting; will provide input on public health-related project objectives.

Jonna Mazet, DVM, MPVM, PhD, One Health Institute, School of Veterinary Medicine, **UCD** program director responsible for project oversight. Mazet will facilitate collaborative relationships, study design, and interpretation of findings.

Elizabeth VanWormer, DVM, PhD, One Health Institute, **UCD** – project manager responsible for coordination of teams and project objectives across US institutions and in Tanzania. VanWormer will facilitate project implementation and epidemiologic analyses.

Rudovick Kazwala, BVM, PhD, Faculty of Veterinary Medicine, **SUA**, Morogoro, Tanzania – Professor responsible for SUA-related laboratory and field activities as part of the HALI Project in Tanzania. Kazwala will facilitate capacity building of Tanzanian laboratories and scientists.
Joseph Paschal Mugasa, MS, PhD, Laboratory director at **IHI** Bagamoyo Research site – responsible for input and oversight of laboratory activities related to biosafety and security. Mugasa will also faciliate capacity building of Tanzanian laboratories and scientists.

Progress evaluation: The MT will monitor project activities to achieve the following benchmarks: 1) obtain US and Tanzanian protocol approval, characterize field sites, and identify junior scientists in Year 1; 2) perform field sampling and laboratory diagnostic activities in Years 1-3 and initiate data analysis in year 2; and 3) prepare recommendations to reduce zoonotic viral transmission potential to local and global communities and prepare at least 2 scientific publications in Year 3.

D. RELEVANCE.

The proposed work will improve fundamental understanding of filoviruses and other emerging virus epidemiology and add tangible data on these agents to the DTRA knowledge base. It will provide a platform for engaging and networking with professionals working in emerging infectious diseases (EIDs) in both the human and animal sectors and will increase the capacity for rapid and accurate local detection and mitigation of threats to humans and animals with positive economic, health, and other security implications.

Ebola and Marburg viruses, as well as certain other viruses known to circulate in bats are NIAID Category A Biodefense Priority Pathogens and US DHHS Select Agents. While these viruses are considered research priorities, little is understood about their natural history and transmission cycle, as well as their replication in their reservoir host species, which are believed to be African bat species. Bats, as well as their natural interaction with NHPs, humans, and other intermediary species are also poorly understood. Thus, it is paramount to better understand the circulating viruses in bat populations in Tanzania and elsewhere, as well as to understand the interaction that humans and other species have with bats in that region. Through the proposed research, we will engage emerging scientific leaders in Tanzania and will closely collaborate on the proposed research, the results of which may directly increase global public health security by allowing us to better understand the distribution, prevalence, and high risk behaviors associated with filoviruses and other emerging viruses of pandemic potential. The proposed research targets Thrust Area 6 and advances C-WMD science by building local and global understanding of pathogens that pose the greatest threat as biological weapons. Weapons and terrorism in Tanzania are a concern due to past and recent political events in the East African sub-region.

Investigating zoonotic viruses in bats, NHPs, and people in Udzungwa Mountain forests strengthens local capacity to conduct surveillance for pathogens that severely threaten public health and global security. Understanding the natural ecology of emerging zoonotic viruses will facilitate control strategies to reduce human exposure and disease spread, a globally valuable outcome. In addition to enhancing in-country pathogen detection capability, the proposed research will build understanding of risk factors for transmission among bats, NHPs, and humans. Targeting surveillance and control strategies to high-risk human-wildlife interfaces for disease emergence protects people in the US homeland and abroad by limiting the risk posed by pathogen spillover. Understanding viral transmission events at human-wildlife interfaces will help public health officials and researchers to distinguish between a naturally occurring spillover

event such as MERS-CoV verses an intentional release. Increasing knowledge of naturally-occurring viruses could be inappropriately handled or developed into weapons of mass destruction will also help to safeguard Tanzanian and global public health.

The proposed work will also extend the reach of the Cooperative Biologic Engagement Program (CBEP) and will advance partnerships that University of California, Davis and Metabiota have with institutions in Tanzania that are hubs for research excellence in East Africa. The institutional partnerships will have particular benefits given the active USAID and NIH- funded research programs that UCD can leverage in the region and will enhance the potential for collaborative One Health research that is a proven model within this internationally experienced and respected research team. These features have the potential to radically improve sustainability and absorbability of these investments for long-term impact.

III. CREDENTIALS.

Our consortium is comprised of a group of highly qualified experts from across academia, industry, and government backgrounds, all of whom have successfully implemented large-scale USG and internationally funded programs abroad. First funded by CBEP in mid- 2010, Metabiota has demonstrated high-quality research collaborations in some of the world's most austere settings. This work has resulted in 6 CBEP-funded high-impact publications, including the description of a novel virus associated with viral hemorrhagic fever syndrome in the Democratic Republic of the Congo (DRC). Metabiota supported the response to 6 outbreaks (suspected viral hemorrhagic fever, polio, and yellow fever) and has facilitated shipment of samples back to US DoD laboratories for the further development and testing of diagnostics and countermeasures. Metabiota, as a member of the WHO GOARN, was considered an invaluable resource during these events, setting the stage for future engagements globally, and, in this regard, is a long-time collaborator with US military labs overseas. Our successes in working with CBEP have been sustained by involving multiple international and regional networks, such as the African Field Epidemiology Network (AFENET), the WHO Especially Dangerous Pathogens Laboratory Network (WHO-EDPLN), and existing research and public health laboratory networks. We also have experience facilitating the establishment of regional networks as demonstrated through our assistance in the creation of the Central African Military Health Alliance (CAMHA), which Metabiota continues to serve as integrating contractor. Metabiota actively engages local, regional, and international partners in project implementation.

The UCD team is comprised of a highly qualified and integrated set of infectious disease faculty and researchers who specialize in the epidemiology and surveillance of zoonotic diseases that may be transmitted between animals and humans. Based within the One Health Institute at UCD, the multidisciplinary team has extensive experience in core CBEP topics, including infectious disease research, grant writing, mentoring, and training. For example, the UCD team manages an implementing consortium for and scientifically leads the USAID's Emerging Pandemic Threats Program PREDICT project, a $75 million multi-institutional, trans- disciplinary project in 20 developing countries that aims to enable global surveillance for zoonotic diseases emerging from wildlife using geospatial modeling, genomics, molecular virology, epidemiology, and targeted field studies at hot zoonotic disease transmission interfaces. In just over three years since it's implications, PREDICT has discovered over 200 novel viruses, trained over 1500 collaborators from developing nations, and published over 28 manuscripts in the peer-reviewed literature.

Sokoine University of Agriculture (SUA) is the premier veterinary school for Tanzania, and Ifakara Health Institute is a leader in public health research in the country. Since 2006, SUA has been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania as a partnership with UCD through our HALI project. In 2009, HALI became the Tanzanian institutional home of the PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects.

Key personnel

Joseph Fair, PhD, MPH, will serve as PI for this effort as the Metabiota Vice President of Research and Development, and is a Technical Advisor to the WHO. As VP of R&D, Dr. Fair oversees the implementation of disease surveillance and specialized research globally and has over 10 years experience living and working in Africa and with DoD.

Jonna A.K. Mazet, DVM, MPVM, PhD will serve as Co-PI and lead for the UCD. Professor Mazet currently leads a global network to build capacity within more than 20 countries to develop surveillance and complete the necessary research to halt pandemics. As a professor in the School of Veterinary Medicine, Mazet provides service to government agencies faced with emerging infectious disease challenges, including USAID and U.S. Department of Agriculture.

Woutrina Miller, DVM, MPVM, PhD will serve as a SME for infectious zoonotic diseases. Dr. Miller is a veterinarian and Adjunct Associate Professor in the School of Veterinary Medicine at UCD. She is an infectious disease molecular biologist with extensive experience working on zoonotic diseases that can be transmitted from animals to humans and currently has active research in Tanzania that involves both the animal and human health sectors.

Elizabeth VanWormer, DVM, PhD, One Health Institute, UCD will serve as a project scientist and implementation manager. Dr. VanWormer is an epidemiologist currently living in Tanzania and facilitating the HALI Project that would house the proposed research. She has in-depth experience conducting wildlife and zoonotic disease research and managing multi-disciplinary international teams in Tanzania, implementing federal grants/contracts, and integrating technical activities with stakeholders from government ministries to communities.

Rudovick Kazwala, BVM, PhD will serve as a Co-PI and lead for the Tanzania team. He is a Professor of Public Health and Epidemiology at SUA as well as Chairman of the Tanzania Veterinary Medical Association. Professor Kazwala is on the IHR Roster of Experts for veterinary issues involving zoonoses and currently leads viral disease research for the PREDICT project in Tanzania. As a founding PI of the HALI Project with UCD, Professor Kazwala is well established with all the partner organizations involved in this DTRA research proposal.

Honorati Masanja, MS, PhD will serve as the Ifakara Health Institute lead in his role as Chief of Research Operations at IHI. Dr. Masanja is an epidemiologist skilled in data management and biostatistics who leads numerous collaborative studies in Tanzania and is funded by international organizations such as the WHO and CDC.

Joseph Paschal Mugasa, MS, PhD will serve as a SME for viral zoonoses and lead for the IHI laboratory team. Dr. Mugasa is currently the laboratory director at the IHI Bagamoyo research site and the head of biomedical research at IHI. Dr. Mugasa has extensive experience working with international teams on molecular investigations of human and animal pathogens.

Tanzania Wildlife Research Institute (TAWIRI) specialist, either Robert Fyumagwa, DVM, PhD or his designee. The TAWIRI representative (TBN in conjunction with Dr. Fyumagwa and

TAWIRI Director of Research, Dr. Julius Keyyu) will serve as SME for wildlife disease surveillance and lead for the TAWIRI Team. Dr. Fyumagwa is currently the Center Director for TAWIRI's Serengeti Wildlife Research Centre and is a collaborator with our collaborative TZ- US led PREDICT project in Tanzania. Dr. Fyumagwa has extensive experience working with international teams on wildlife and zoonotic disease research, including NHPs.

IV. WORK TO BE PERFORMED.

A. GENERAL

We will investigate the epidemiology of filoviruses and other zoonotic viruses in bat, NHP, and human populations sharing a mosaic of protected forests and bordering lands in southern Tanzania. By examining viruses circulating in wildlife and human hosts in this biodiverse environment, we will increase the understanding of pathogen emergence risk and zoonotic disease transmission while building local capacity to diagnose, conduct surveillance for, and control pathogens of pandemic and biosecurity concerns. To characterize potentially zoonotic viruses in bat and primate hosts, samples will be collected from these animals from identified sites with differing bat and primate community composition and likelihood of human contact (based on distance to nearest villages and reported human forest use). Primates and bats captured at field sites will be sampled twice yearly to reflect seasonal differences (wet vs. dry season) in viral shedding. Saliva samples from discarded seeds and fruits at bat feeding roosts [17] will also be collected, as these sites offer an environmental focus of potential virus exposure for primates and other animals. Remote-triggered digital field cameras will be used to monitor other taxa visiting bat feeding roosts to assess the potential for inter-taxa viral transmission. All samples will be transported securely under project supervision in locked containers from field sites to the labs at SUA and IHI for secured storage and testing.

To investigate human exposure to filoviruses and other zoonotic viruses, we will collaborate with health clinics near Udzungwa forests to sample individuals presenting with non- malarial febrile illness. By collecting blood, oropharyngeal swabs, and fecal samples along with survey data on forest use and wildlife contact, we will be able to examine risk factors for wildlife origin virus exposure. Humans will be sampled seasonally in parallel with wildlife to capture differences in wet and dry periods. In addition to the prospectively collected human samples, we will evaluate archived human samples from sick individuals living near forests or likely to have had high contact with wildlife. Testing wildlife and human specimens with the efficient viral family PCR screening approach developed by PREDICT to detect emerging viral threats, we will capture critical information about viruses circulating in sympatric bat, NHP, and human populations while developing essential local laboratory capacity to detect priority pathogens. Sequencing and phylogenetic mapping will be used to determine the genetic similarity of viruses. Statistical models will be used to evaluate demographic, seasonal, and ecological risk factors for viral family or individual virus exposure. Spatial analyses will be performed to identify hotspots of pathogen transmission for targeting control of spillover from wildlife to human populations.

B. SUMMARY.

Year #1

Task 1: Management team meetings (monthly)
Task 2: Administrative startup and maintenance (Quarters 1-3) Task 3:
Data management (Quarters 1-4)
Task 4: Staff training, trainee identification, and mentorship (Quarters 1-4)

Task 5: Field site assessment and preparation (Quarters 1-2)
Task 6: Human sample archive assessment (Quarters 1-4) Task
7: Active human surveillance (Quarters 3-4)
Task 8: Active wildlife surveillance (Quarters 2-4)
Task 9: Environmental characterization and sampling (Quarters 2-4)
Task 10: Establishment of sample repository/metadata records, accession numbers (Quarters 1-4)
Task 11: Viral diagnostics (Quarters 3-4)

Year #2
Task 1: Management team meetings (monthly) Task
2: Administrative maintenance (Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and trainee mentorship (Quarters 1-4)
Tasks 5 & 6: Not applicable for Year 2
Task 7: Active human surveillance (Quarters 1-4) Task
8: Active wildlife surveillance (Quarters 1-4) Task 9:
Environmental characterization (Quarters 1-4)
Task 10: Sample repository maintenance (Quarters 1-4) Task
11: Viral diagnostics (Quarters1-4)
Task 12: Molecular characterization of viruses (Quarters 3-4)
Task 13: Data analysis/modeling (Quarters 1-4)

Year #3
Task 1: Management team meetings (monthly) Task
2: Administrative maintenance (Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and student mentorship (Quarters 1-2)
Tasks 5 & 6: Not applicable for Year 3
Task 7: Active human surveillance (Quarters 1-2) Task
8: Active wildlife surveillance (Quarters 1-2) Task 9:
Environmental characterization (Quarters 1-2)
Task 10: Sample repository maintenance (Quarters 1-4) Task
11: Viral diagnostics (Quarters 1-3)
Task 12: Molecular characterization of viruses (Quarters 1-4)
Task 13: Data analysis/modeling (Quarters 1-4)
Task 14: Data interpretation, development of stakeholder communications, local distribution of findings, and manuscript preparation (Quarters 1-4)

C. DETAILED TASKS.

i. Task 1: Monthly Management Team (MT) Meetings (Years 1-3)

The project MT will meet once per month using Skype or a similar internet-based international communication tool. Project logistics and progress will be assessed, and action items for the coming month will be identified. A written record of meetings will be maintained for reference. *Personnel involved:* Fair, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* At least 12 MT meetings logged per project year. *Deliverables:* MT meeting minutes will be archived and progress on identified action items highlighted in the annual report.

ii. **Task 2: Administrative startup and maintenance (Years 1-3)**

Subtask 2-a: Obtain appropriate US and Tanzania research approval (Years 1-3)

The MT will obtain ethical clearance for human surveys, human prospective specimen collection, and human specimen archive use through the University of California, Davis IRB and the Tanzania National Institute of Medical Research (NIMR). Research permission for wildlife sampling in Udzungwa Mountain forests will be obtained from the UCD Animal Care and Use Committee and the Tanzania Wildlife Research Institute (TAWIRI). TAWIRI approval includes permission to conduct research on lands within and surrounding national parks and forest reserves. Following TAWIRI and NIMR approval, general research and residence permits will be obtained from the Tanzania Committee on Science and Technology (COSTECH) and Tanzanian Ministry of Home Affairs (Immigration). The MT has extensive experience with UCD and Tanzania permitting system requirements and timelines, which will allow permits to be acquired smoothly. Permits will be renewed annually.

Subtask 2-b: Develop study protocols, survey instruments, and data collection forms (Year 1)

Working with the MT, junior scientists will generate study field and lab protocols and surveys for human risk factors, as well as specimen management forms, diagnostic results logs, and forms for collecting information on animal demographics and environmental characteristics of field sites. General and Tanzania-specific protocols on wildlife handling and capture, safe specimen collection, specimen storage and transport, personal safety and biosecurity, and cold chain maintenance have already been established through the PREDICT viral surveillance program and will be adapted for use here.

Subtask 2-c: Procure supplies for field surveillance and laboratory diagnostics (Years 1-3) Working with the MT, staff will order field and laboratory supplies and equipment necessary for human and animal sampling and testing. As part of the PREDICT program, relationships with scientific supply vendors (VWR, Fisher, African Biosystems, etc.) have already been established for efficiently purchasing and acquiring supplies. To maintain a steady supply, materials will be assessed and reordered as needed on a quarterly basis.

Subtask 2-d: Strengthen local stakeholder collaborations - Regional and District Veterinary Officers, Wildlife Officers, Forest Officers, Executive Officers; Udzungwa Mountains Park Staff and Researchers; Village Government Leaders and Health Clinic Officers – (Years 1-3)

Through HALI project wildlife sampling activities and previous zoonotic disease investigations, strong relationships have already been established with relevant veterinary, wildlife, and forest officers, as well as district executive directors. In a PREDICT-funded Udzungwa pilot surveillance program, we are in the process of currently building relationships with Udzungwa Mountains Park Staff and village government leaders. The MT members and junior scientists will work to strengthen the existing relationships and to create collaborations with village health clinic officers by providing quarterly updates on research progress, as well as annual trainings on wildlife and human sampling for relevant partners.

Subtask 2-e: Complete quarterly financial reports; manage logistics of staff and lab/field office operation (Years 1-3)

The project logistics manager will complete quarterly financial reports in collaboration with the Tanzanian research institutions (SUA and IHI). Junior scientists and MT members will jointly manage staff logistics and office operation.

Subtask 2-f: Complete quarterly reports on project activities for funders and project partners in Tanzania and the United States (Years 1-3)

The MT and junior scientists will provide quarterly email updates to project partners to share preliminary research results and progress on project timelines. In accordance with Tanzanian policy, all viral diagnostic results will initially be shared with the Tanzania Ministry of Health, Ministry of Livestock and Fisheries Development, and Ministry of Wildlife and Tourism, with whom we have existing relationships. Following approval for release by Tanzanian ministries, results will be provided to other project partners. This reporting system is desirable for in-country and foreign partners.
Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Research permits approved each year, protocols and data collection forms developed, supply inventories updated quarterly, financial and project activity reports generated quarterly. *Deliverables:* Documentation of research permit and ethical clearance approval, stakeholder collaboration section in annual report, list of approved protocols and data collection forms included as appendix in annual report, quarterly reports included as appendix in annual report.

iii. **Task 3: Data management**

Subtask 3-a: Database creation

Following development of field and lab data forms, the junior scientists and MT will create separate secure electronic databases to store wildlife, environmental, and human data.

Subtask 3-b: Data entry and cleaning

Within 2 weeks of field data collection, junior scientists will enter and check wildlife, environmental, and human data in the project databases. A MT member will review entered data for accuracy. Human data forms with information identifying individual study subjects will be stored in a locked cabinet at the project office and destroyed 12 months after study completion.
Personnel involved: Fair, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Databases developed in Year 1, project data entered and assessed within 2 weeks of field collection. *Deliverables:* Database section included in annual report.

iv. **Task 4: Staff and stakeholder training and junior scientist mentorship**

Subtask 4-a: Identify and hire junior scientists (postdoc, PhD, and master students; Year 1)

In order to build sustainable capacity and long-term research networks, one US-based postdoctoral scholar and one post-DVM PhD student and at least one Tanzanian master student (SUA) and one postdoctoral fellow (IHI) will be recruited for the research project.

Subtask 4-b: Conduct annual and quarterly trainings (Years 1-3)

PREDICT staff members with extensive field experience in wildlife capture and sampling, viral specimen collection, cold chain management, and personal and laboratory biosafety will train the junior scientists, field staff, and local stakeholders including veterinary and human health partners and district wildlife officers on these topics. Veterinarians and ecologists from UMNP, Tanzania National Parks Association (TANAPA), and TAWIRI will be invited to participate in animal-based trainings to build national wildlife surveillance capacity and biosecurity awareness. MT members from IHI will train health clinic staff and junior scientists on human data and specimen collection and storage. Laboratory experts from UCD, SUA, and IHI will provide training on PCR-based viral family diagnostics, cloning, sequencing, and phylogenetic analyses.
Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Quarterly training events conducted each year, at least two postdoctoral scientists and graduate students mentored each year. *Deliverables:* Training

documents compiled for annual report, trainee progress reports and trainer evaluations included as an appendix to annual report.

v. **Task 5: Field site assessment and preparation**

Subtask 5-a: Human health clinic assessment

We will identify health clinics that treat patients, including those with febrile illnesses, from areas near or adjacent to the wildlife sampling sites. MT members will assess clinic willingness to participate in a research study on zoonotic viral diseases involving collecting human blood, oropharyngeal swab samples, and fecal specimens. After identifying four clinics from different geographic locations representative of the study area, we will recruit one health officer or nurse as a research partner from each clinic to participate in human sample collection. We have experience in these recruitments through our ongoing NIH-supported research in the region.

Subtask 5-b: Wildlife sampling site assessment

Prior to the first season of animal specimen collection, the forest reserve network will be assessed to identify 4 field sites for seasonal bat and NHP sampling for the duration of the project. Two sites will be identified in forests with low NHP diversity (2-3 species present). The remaining sites will be in forests with higher NHP diversity (4-6 species present). Bat diversity will be assessed at the time of capture using audio data recorders. All sites will be chosen in forests used by neighboring human communities for bushmeat hunting, sacred site visitation, and/or resource extraction, such as medicinal plant gathering. Field site vegetation and forest cover will be characterized visually and using available remote sensing/GIS data.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Number of patients enrolled annually; number of staff trained; laboratory capacity; elevation, latitude/longitude, and proximity to forest characterized for each human health clinic. Vegetation and forest cover, climate, elevation, latitude/longitude, known wildlife species composition, human use, and proximity to human communities will be characterized for each wildlife sampling site. *Deliverables:* Clinic and field site characterization in annual report.

vi. **Task 6: Human sample archive assessment**

Archived frozen human whole blood samples stored at IHI research facilities due to previously completed in-depth investigations of zoonotic and human diseases in Tanzania will be selected for study inclusion based upon where subjects lived and any known risk factors for wildlife contact (bushmeat hunting, medicinal plant gathering, other forest resource extraction, or agricultural conflict with primates). If risk factor information for previously collected human samples is too sparse or sample quality is questionable, human sampling emphasis will be placed more heavily on prospective specimen collection.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* List of potential archive samples generated, risk factor information assessed for human sample archives. *Deliverables:* Human sample archive assessment and use section in annual report.

vii. **Task 7: Active human surveillance**

Subtask 7-a: Patient recruitment

Adult and child patients presenting to participating health clinics with a fever will be offered a rapid diagnostic test for malaria. Patients testing negative by rapid test will be asked to join the study and formally consented following standardized, approved Tanzanian consent procedures.

Participating patients will be interviewed about their contact with forests and wildlife before specimen collection. *Sample size*: 50 patients will be recruited each season at each health clinic.

Subtask 7-b: Forest risk factor survey

Consenting patients with a non-malarial febrile illness will be interviewed by a trained nurse at the health clinic regarding their use of forest products or habitats and contact with wildlife species, especially bats and NHP, in or near forests. Data will be disaggregated from individually identifying information prior to data analysis to protect patient confidentiality. However, patient recruitment and contact information will be maintained in locked facilities to contact individuals regarding the results of diagnostic testing.

Subtask 7-c: Sample collection

Whole blood, oropharyngeal swabs (2), and approximately 400mg of feces will be collected from patients by a trained nurse. Oropharyngeal swabs and feces will be divided and stored in lysis buffer and VTM. All samples will be stored in liquid nitrogen at the health clinic (in provided dewars). Clinics will also be provided standard government issue malaria rapid diagnostic tests to rule out malaria as a cause of febrile illness, and human sampling supplies to collect oral swabs and feces. Following each season (wet and dry) of sampling, specimens will be transferred to IHI BSL-3 laboratory for storage in -80C freezers and diagnostic testing.

Personnel involved: Fair, Mazet, Miller, VanWormer, Masanja, Mugasa. *Metrics of Success:* Risk factor surveys and samples collected for 400 human patients annually. *Deliverables:* Active human surveillance section in annual report, at least 1 publication prepared.

viii. **Task 8: Active wildlife surveillance**

To detect potential differences in seasonal viral shedding, bats and NHP will be sampled twice yearly, during December-March (wet season) and June-September (dry season), which also correspond to different phases in bat reproduction cycles that might affect viral shedding.

Subtask 8-a: Bat capture and sampling

Capture: Megachiropterans (fruit bats) and microchiropterans (small, predominantly insectivorous bats) at targeted sites will be captured in synthetic mist nets placed near caves, tree roosts, or forest flyways. Following surveillance to determine habitual bat foraging departure and return times, nets will be set after bats leave roosts in the evening. Nets will be monitored continuously when bats begin to return in the early morning. Captured bats will be removed from nets by trained field staff within 30 minutes of capture to minimize stress, and placed in a closed cotton bag until processing.

Sample size: 60 bats per site per season

Sampling: Under manual restraint, blood will be collected from the brachial (fruit bats) or radial (small bats) vein. For bats weighing <60g, blood may be diluted with phosphate buffered saline to increase sample volume as previously described [38]. Oropharyngeal swabs (2) and rectal swabs (2) will be stored in lysis buffer and viral transport media (one of each type of swab in each medium). Demographic data (species, age class, sex, and pregnancy/lactation status), digital photos, and morphometric measurements will be collected during processing. Bats will additionally be marked with individually identified lipped rings on wings (microchiropterans) or thumb rings (megachiropterans) prior to release at the site of capture. Bat markings will be used to identify recaptured bats in subsequent seasons as well as capture of previously sampled bats at novel sites. Satellite telemetry collars will be placed on 1-2 adult fruit bats per sampled site (4-8 collars in total) to remotely follow movement and migration patterns over the study period. Sera will be stored in empty cryovials and blood clots in lysis buffer following centrifugation of whole blood samples. Specimens will be stored in a locked liquid nitrogen dry shipper in the

field to preserve viral RNA prior to transport to the SUA lab and longer-term storage at -80C. During animal handling, staff will wear appropriate PPE to prevent zoonotic viral transmission including N95 respirators, goggles, gloves, and tyvek suits (Figure 2).

Bat identification: Visual appearance and morphometric measurements will be used to determine the genus and species of easily differentiated megachiropterans such as straw-colored fruit bats (*Eidolon helvum*). Project MT members with experience trapping and identifying mega and microchiropterans in Tanzania will train junior scientists and staff. However, due to the difficulty of differentiating some species of fruit bats and many microchiropterans, wing tissue punch biopsy samples for genetic testing will be aseptically collected from each sampled bat. Biopsies will be stored in 95% ethanol at room temperature. Host DNA will be extracted, amplified, and sequenced to confirm the precise genus and species of any bat testing positive for target viruses.



F embers prepare to safely collect samples from a captured fruit b urban setting [Dar es Salaam, Tanzania, April, 2013]. Established F ty, animal capture and sampling, cold chain specimen storage a on will be adapted to the proposed wildlife sampling activities in tl

S (NHP) sampling

A NHP troops at designated field sites will be tracked to collect fresh f bus monkeys (*Procolobus gordonorum*) and Sykes' monkeys (ampled at each site.

T create comparable data among the sites, as these monkeys are f he study area. Red colobus are predominantly arboreal, while Sykes' monkeys use all strata of the forest [28]. Additionally, people living near the forest reserves hunt both species [32,34]. Local guides familiar with the animals' habitat use and behavior will be employed to assist in locating and collecting samples from target troops. Following observation of defecation by identified individuals of known primate species, field team members will collect approximately 200mg of feces for storage in lysis buffer and 200mg for storage in VTM. When observable, sex and age class of the primate will be recorded. Discarded foods from primates actively foraging will be swabbed with sterile, polyester swabs to collect a non-invasive saliva sample. Swabbing primate bite marks in discarded food items has been shown to be an effective route of obtaining saliva samples [39]. One swab will be stored in lysis buffer, and the other in VTM. Following sample collection, all specimens will be immediately placed in a portable liquid nitrogen dry shipper in the field to preserve viral RNA. If necessary, dental ropes for saliva collection may also be used, as they have been shown to be effective in our field sites in Asia. *Sample size: 30 animals per species per site per season*

NHP identification: The seven diurnal primate species found in Udzungwa Mountains National Park and/or neighboring forest reserves are easily distinguished based on their size, body shape, coloration, and predominant forest use (arboreal vs. terrestrial) [28]. Field team members will be trained to accurately identify each of the resident diurnal primate species.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). *Metrics of Success:* Samples collected from at least 480 bats and 240 NHPs annually, satellite

transmitters on at least 1 bat from each study site. *Deliverables:* Wildlife surveillance section in annual report, at least 1 publication.

ix. **Task 9: Environmental characterization and sampling**

Subtask 9-a: Indirect sampling at bat feeding roosts

Working with local guides, bat feeding roosts will be identified in or near wildlife sampling sites. Discarded seeds and fruits will be assessed at dawn and swabbed with sterile, synthetic swabs to collect bat saliva. Thirty specimens will be collected seasonally per site and stored in lysis buffer in a locked field dry shipper. Specimens will then be stored at -80C prior to diagnostic testing.

Subtask 9-b: Camera trapping at bat feeding roosts

Two remote-triggered, waterproof, infrared field cameras will be set and left in the field for one to two weeks seasonally at each bat feeding roost to assess the potential for other wildlife taxa to contact food items discarded by bats. Images of visiting wildlife will be used to target additional wildlife sampling at field sites.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). Metrics of Success: At least 240 swab samples will be collected annually from discarded foods, at least 8 weeks of total annual camera trapping. *Deliverables:* Environmental sampling section in annual report, select camera trap images in annual report index.

x. **Task 10: Establishment of sample repository/metadata information data sheets and accession numbers**

A human and wildlife sample repository will be created at the IHI BSL-3 laboratory in Bagamoyo. Standardized metadata will be recorded for each sample, and accession numbers assigned for future access. Samples will be stored in secure freezers and/or liquid nitrogen Dewar's in secure facilities with limited access to project personnel and other authorized personnel. Sample repository and security will be established according to the BMBL approved safety guidelines as well as international security guidelines.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Sample repository and data sheets established in Year 1 and assessed quarterly for accurate entry of all new specimens. *Deliverables:* Sample repository section in annual report.

xi. **Task 11: Viral diagnostics**

Following lab storage in locked -80C freezers, RNA extraction and viral family level diagnostic testing will be performed on deactivated specimens to identify potentially zoonotic viruses from the following viral families: filoviruses, henipaviruses, coronaviruses, bunyaviruses, flaviviruses, and rhabdoviruses. RNA extraction will be performed with Qiagen RNA extraction kits using our established PREDICT protocols for blood, oropharyngeal swabs, and feces in a class II biosafety cabinet or BSL-3 facility. Beta actin PCR analyses of cDNA products will be used to confirm successful RNA extraction. Viral family level primers will be used in established conventional PCR reactions to amplify viral RNA and synthetic positive controls will be employed. Suspect positive samples will be confirmed through cloning and sequencing.

Subtask 11-a: Human specimen viral testing

Trained personnel at the IHI BSL-3 laboratory in Bagamoyo, Tanzania, will conduct RNA extraction, cDNA production, Beta actin PCR, and viral family level PCR diagnostics for archived and prospectively collected human samples as above. During the original proposal, serologic testing of humans was not proposed as a defined specific aim.

However, during discussions regarding the challenges of human RVF serology with Dr. Stuart Nichol, Chief of the Viral Special Pathogens Branch (VSPB), Centers for Disease Control and Prevention in Atlanta, GA, an offer was made to help to validate the ID-Vet ELISA against the VPSB gold-standard human IgG ELISA, and to expand our surveillance for VISHA to include other serologic testing. Dr. Nichol offered to test approximately 750 specimens from the VISHA project.

Given the likelihood of relatively high seroprevalence to RVF in the study area, it is presumed that enough high and low-titer antibody specimens will exist in our study population to determine the limit of detection (LOD) and other assay parameters of the ID-Vet kit versus the VSPB gold-standard assay, and for VISHA, to assess a variety of different exposures to viral hemorrhagic fevers (VHFs) through this enhanced additional serologic testing and screening that would be allowable under the VISHA IRB consent approvals. The VISHA informed consent documents state that the samples collected and information will be kept for 15 years and can be used to perform analysis related to evaluation of other zoonoses that can cause febrile illness with the appropriate ethical approval as required.

Both the proposed RVF and other VHF serologic testing would be provided in-kind by CDC, with the VISHA project paying for shipping and the cost of the required ID-VET kits for the validation assessment. These funds will be drawn from existing project line-items dedicated to shipments for lab result confirmation and testing reagents. The diagnostic testing by CDC will serve multiple purposes including the timely assistance in completion of our proposed DTRA project-related activities, provide a viable alternative for human RVF serological testing (if the ID-Vet assay performs as expected against the gold-standard assay), and insights into other potential VHF exposure risks in the study area.

Dr. Nichol also indicated that VSPB would, in the future, be willing to transfer the CDC RVF IgG and IgM assays to our Tanzanian counterpart organizations as part of an overall capacity gain for our teams in-country.

Subtask 11-b: Wildlife specimen viral family testing

RNA extraction from deactivated wildlife samples and cDNA production will be conducted at the Sokoine University of Agriculture (SUA) Emerging Infectious Disease Molecular Diagnostic Laboratory in Morogoro, Tanzania, as above. As capacity is built at the SUA diagnostic laboratory for viral family level PCR protocols, testing will be completed for all possible viral families on-site. In addition, an aliquot of the cDNA products will be reserved for shipment to IHI for viral family screening if timelines for testing cannot be met at SUA. An additional aliquot will be reserved in case shipment to the University of California, Davis (UCD) One Health Institute molecular diagnostic laboratory is necessary for assessment of capacity building; quality control screening as SUA and IHI gain experience with the viral family level protocols; and to augment capacity if both SUA and IHI become overloaded by sample submission numbers. Comparative screening at UCD will be used to help refine laboratory protocols at SUA and IHI to ensure high-level in-country viral diagnostic capacity. Lab technicians at SUA have experience extracting viral RNA from diverse

wildlife specimens. Duplicate wildlife specimens will be stored in VTM in a secured BSL-3 laboratory at IHI for transfer to more biosecure facilities if further diagnostic work is indicated. *Personnel involved:* Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* At least 500 specimens screened yearly (screening capacity and activity is expected to increase substantially following year 1 trainings). *Deliverables:* Viral diagnostics section in annual report.

xii. **Task 12: Molecular characterization of viruses**

For any suspect positive sample (wildlife or human), confirmatory cloning of PCR products will initially be performed at the in-country laboratories with the UCD One Health Institute molecular diagnostic lab providing back-up support for sequencing and for additional testing in case DTRA-specific timelines for research completion are not being met or if our team is not able to efficiently obtain results that will be used to refine field sampling approaches. Cloning procedures will also be introduced to IHI to increase in-country diagnostic capacity, should equipment and maintenance be available. SUA and IHI currently lack the physical infrastructure for viral sequencing. Initial samples will be sequenced at UCD and through the locally sustainable option of sending samples to Korea for economically efficient ($7) outsourced sequencing (ILRI also an option if economically feasible), as is practiced in much of the world. Following viral sample sequencing, Bayesian and maximum likelihood phylogenetic analyses will be used to determine the genetic similarity of viruses from bats, primates, and humans.

Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* All suspect positive specimens will be characterized within 3 months of initial diagnostic testing results. *Deliverables:* Molecular characterization section in annual report, at least 1 publication.

xiii. **Task 13: Data analysis/modeling**

All statistical modeling and spatial analyses will be jointly conducted by Tanzania and US-based researchers. Tanzanian masters students, the IHI post-doctoral scientist, and additional research partners from SUA, IHI, and TAWIRI will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries. Collaborative model building by US and Tanzanian researchers will enhance local relevance and the capacity for epidemiologic data analysis in Tanzania. Jointly developed models and software code will serve as a resource for future wildlife and human surveillance data analysis by SUA, IHI, and TAWIRI. Data sharing between partner institutions will also ensure that the most current and accurate risk factor, geospatial, and animal and human population data are integrated into the analyses.

Subtask 13-a: Statistical risk factor modeling

Prevalence of exposure for each viral family will be estimated in bats, NHP, and people at characterized field sites, and mixed effects logistic regression models will be used to evaluate demographic, seasonal, and ecological risk factors for exposure in humans and wildlife. Mixed effects models will use site of capture (wildlife) or health clinic as the cluster variable for animal and human models, respectively, to account for unmeasured correlation among individuals. Environmental risk factors will be characterized during field site assessments and using GIS data in QGIS. All statistical analyses will be performed in R statistical software.

Subtask 13-b: Spatial analyses

Spatial analyses for clusters of viral exposure will be performed to identify hotspots of pathogen transmission as targets for controlling spillover from wildlife to human populations. GPS locations collected during fieldwork will be used for bats and NHP. Human locations will be geocoded based on village of primary residence. Geographical clustering of viral exposure (each identified viral family and all viral families combined) will be evaluated among bats, NHPs, and humans using a Bernoulli model elliptical scanning window in SatScan v. 9.0 [40,41]. Tanzanian masters students will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries.

Personnel involved: Fair, Mazet, Miller,VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Statistical risk factor models and spatial models developed to characterize risk factors for and potential geographic hotspots of zoonotic viral transmission. *Deliverables:* Data analysis and modeling section in annual report and likely publication depending on results.

xiv. **Task 14: Data interpretation, development of stakeholder communications, and local distribution of findings**

Data analyzed above will be used to develop reports for DTRA and the Tanzanian government. In addition, informational materials will be developed in consultation with these agencies and participating stakeholders to provide community education on disease transmission risks and to influence behavior change. These materials may include household-targeted materials, posters, and animated educational videos distributable to mobile devices. At least two peer-reviewed manuscripts are expected in total from the proposed research project.

Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Final report of data analysis and results delivered to all international and local stakeholders, locally appropriate outreach materials developed and distributed for community outreach. *Deliverables:* Data analysis and results section in annual report, at least 2 publications in total following data interpretation. Outreach materials included as appendix in annual report.

V. PERFORMANCE SCHEDULE.

Project Timeline	**Year 1** Oct2013-Sep2014				**Year 2** Oct2014-Sep2015				**Year 3** Oct2015-Sep2016			
Task: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings	■	■	■	■	■	■	■	■	■	■	■	■
2: Administrative startup and maintenance	■				■	■	■	■	■	■	■	■
3: Data management	■	■	■	■	■	■	■	■	■	■	■	■
4: Training & mentorship	■	■	■	■	■	■	■	■	■	■	■	■
5: Field site assessment & prep	■	■										
6: Human sample archive assessment												
7: Active human surveillance												
8: Active wildlife surveillance		■	■	■	■	■	■	■	■	■		
9: Environmental characterization		■	■	■	■	■	■	■	■	■		
10: Sample repository management	■	■	■	■	■	■	■	■	■	■	■	■
11: Viral diagnostics			■	■	■	■	■	■	■	■	■	
12: Molecular viral characterization									■	■	■	■
13: Data analysis/ modeling					■	■	■	■	■	■	■	■
14: Data interpretation, distribution of findings									■	■	■	■

VI. REFERENCES

1. Taylor L, Latham S, Woolhouse M (2001) Risk factors for human disease emergence. Philosophical Transactions of the Royal Society of London B 356: 983-989.
2. Amman BR, Carroll SA, Reed ZD, Sealy TK, Balinandi S, et al. (2012) Seasonal pulses of Marburg virus circulation in juvenile *Rousettus aegyptiacus* bats coincide with periods of increased risk of human infection. PLoS Pathogens 8: e1002877.
3. Leroy EM, Epelboin A, Pourrut X, Gonzalez J-P, Muyembe-Tamfum J-J, et al. (2009) Human Ebola outbreak resulting from direct exposure to fruit bats in Luebo, Democratic Republic of Congo, 2007. Vector-borne and Zoonotic Diseases 9: 723-728.
4. Albarino CG, Shoemaker T, Khristova ML, Wamala JF, Muyembe JJ, et al. (2013) Genomic analysis of filoviruses associated with four viral hemorrhagic fever outbreaks in Uganda and the Democratic Republic of the Congo in 2012. Virology: *in press*.
5. Leroy EM, Kumulungui B, Pourrut X, Rouquet P, Hassanin A, et al. (2005) Fruit bats as reservoirs of Ebola virus. Nature 438: 575-576.
6. Calisher CH, Holmes KV, Dominguez SR, Shountz T, Cryan P (2008) Bats prove to be rich reservoirs for emerging diseases. Microbe 3: 521-528.

7. Luis AD, Hayman DTS, O'Shea TJ, Cryan PM, Gilbert AT, et al. (2013) A comparison of bats and rodents as reservoirs of zoonotic viruses: are bats special? Proceedings of the Royal Society B 280: *in press*.
8. Hayman DTS, Bowen RA, Cryan PM, McCracken GF, O'Shea TJ, et al. (2013) Ecology of zoonotic infectious diseases in bats: current knowledge and future directions. Zoonoses and Public Health 60: 2-21.
9. Quan P-L, Firth C, Conte JM, Williams SH, Zambrana-Torrelio CM, et al. (2013) Bats are a major natural reservoir for hepaciviruses and pegiviruses. PNAS 110: 8194-8199.
10. Hayman DTS, Emmerich P, Yu M, Wang L-F, Suu-Ire R, et al. (2010) Long-term survival of an urban fruit bat seropositive for Ebola and Lagos bat viruses. PLoS one 5: e11978.
11. Hayman DTS, Yu M, Crameri G, Wang L-F, Suu-Ire R, et al. (2012) Ebola virus antibodies in fruit bats, Ghana, West Africa. Emerging Infectious Diseases 18: 1207-1209.
12. Wolfe ND, Heneine W, Carr JK, Garcia AD, Shanmugam V, et al. (2005) Emergence of unique primate T-lymphotropic viruses among central African bushmeat hunters. PNAS 102: 7994-7999.
13. Pourrut X, Kumulungui B, Wittmann T, Moussavou G, Delicat A, et al. (2005) The natural history of Ebola virus in Africa. Microbes and Infection 7: 1005-1014.
14. Gomez JM, Nunn CL, Verdu M (2013) Centrality in primate-parasite networks reveals the potential for the transmission of emerging infectious diseases to humans. PNAS: *in press*.
15. Heeney JL, Dalgeish AG, Weiss RA (2006) Origins of HIV and the evolution of resistance to AIDS. Science 313: 462-466.
16. Rouquet P, Froment J-M, Bermejo M, Kilbourn A, Karesh W, et al. (2005) Wild animal mortality monitoring and human ebola outbreaks, Gabon and Republic of Congo, 2001-2003. Emerging Infectious Diseases 11: 283-290.
17. Seltzer CE, Ndangalasi HJ, Cordeiro NJ (2013) Seed dispersal in the dark- shedding light on the role of fruit bats in Africa. Biotropica: *in press*.
18. Bausch DG, Nichol ST, Muyembe-Tamfum JJ, Borchert M, Rollin PE, et al. (2006) Marburg hemorrhagic fever associated with multiple genetic lineages of virus. New England Journal of Medicine 355: 909-919.
19. Towner JS, Amman BR, Sealy TK, Carroll SAR, Comer JA, et al. (2009) Isolation of genetically diverse Marburg viruses from Egyptian fruit bats. PLoS Pathogens 5: e1000536.
20. Khan AS, Sanchez A, Pflieger AK (1998) Filoviral haemorrhagic fevers. British Medical Bulletin 54: 675-692.
21. Amblard J, Obiang P, Edzang S, Prehaud C, Bouloy M, et al. (1997) Identification of the Ebola virus in Gabon in 1994. The Lancet 349: 181-182.
22. Muyembe-Tamfum JJ, Kipasa M, Kiyungu C, Colebunders R (1999) Ebola outbreak in Kikwit, Democratic Repubilc of Congo: Discovery and control measures. Journal of Infectious Diseases 179: S259-S262.
23. Harchut K, Standley C, Dobson A, Klaassen B, Rambaud-Althaus C, et al. (2013) Over-diagnosis of malaria by microscopy in Kilombero Valley, Southern Tanzania: evaluation of the utility and cost-effectiveness of rapid diagnostic tests. Malaria Journal 12: 159.
24. Reyburn H, Mbatia R, Drakeley C, Carneiro I, Mwakasungula E, et al. (2004) Overdiagnosis of malaria in patients with severe febrile illness in Tanzania: a prospective study. BMJ 329: 1212-1218.

25. Mittermeier RA, Gil PR, Hoffman M, Pilgrim J, Brooks T, et al. (2004) Hotspots revisited: Earth's biologically richest and most endangered terrestrial ecosystems.
26. Burgess N, Butynski T, Cordeiro N, Doggart N, Fjeldsa J, et al. (2007) The biological importance of the Eastern Arc Mountains of Tanzania and Kenya. Biological Conservation 134: 209-231.
27. Marshall AR, Jorgensbye HI, Rovero F, Platts PJ, White PC, et al. (2010) The species-area relationship and confounding variables in a threatened monkey community. American Journal of Primatology 72: 325-336.
28. Rovero F, Marshall AR, Jones T, Perkin A (2009) The primates of the Udzungwa Mountains: diversity, ecology and conservation. Journal of Anthropological Sciences 87: 93-126.
29. Trentin L, Rovero F (2011) Results of an inventory of bats in the Uzungwa Scarp Forest Reserve, Tanzania. Journal of East African Natural History 100: 45-57.
30. Stanley WT, Nikundiwe AM, Mturi FA, Kihaule PM, Moehlman PD (2005) Small mammals collected in the Udzungwa Mountains National Park, Tanzania. Journal of East African Natural History 94: 203-212.
31. Kitula RA (2007) Use of medicinal plants for human health in Udzungwa Mountains Forests: a case study of New Dabaga Ulongambi Forest Reserve, Tanzania. Journal of Ethnobiology and Ethnomedicine 3: 7.
32. Nielsen MR (2006) Importance, cause and effect of bushmeat hunting in the Udzungwa Mountains, Tanzania: Implications for community based wildlife management. Biological Conservation 128: 509-516.
33. Topp-Jorgensen E, Nielsen MR, Marshall A, Pedersen U (2009) Mammalian density in response to different levels of bushmeat hunting in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 2: 70-87.
34. Rovero F, Mtui AS, Kitegile AS, Nielsen MR (2012) Hunting or habitat degradation? Decline of primate populations in Udzungwa Mountains, Tanzania: An analysis of threats. Biological Conservation 146: 89-96.
35. Marshall AR, Topp-Jorgensen JE, Brink H, Fanning E (2005) Monkey abundance and social structure in two high-elevation forest reserves in the Udzungwa Mountains of Tanzania. International Journal of Primatology 26: 127-145.
36. Marshall AR (2007) Disturbance in the Udzungwas: responses of monkeys and trees to forest degradation. York, UK: University of York. 151 p.
37. Topp-Jorgensen JE, Marshall AR, Brink H, Pedersen UB (2008) Quantifying the response of tree hyraxes (*Dendrohyrax validus*) to human disturbance in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 1: 63-74.
38. Smith CS, De Jong CE, Field HE (2010) Sampling small quantities of blood from microbats. Acta Chiropterologica 12: 255-258.
39. Smiley T, Spelman L, Lukasik-Braum M, Mukherjee J, Kaufman G, et al. (2010) Noninvasive saliva collection techniques for free-ranging Mountain gorillas and captive Eastern gorillas. Journal of Zoo and Wildlife Medicine 41: 201-209.
40. Kulldorff M, Nagarwalla N (1995) Spatial disease clusters: detection and inference. Statistics in Medicine 14: 799-810.

41. Kulldorff M, Huang L, Pickle L, Duczmal L (2006) An elliptic spatial scan statistic. Statistics in Medicine 25: 3929-3943.

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 2	Terms & Conditions	39	

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Exhibit A Statement of Work	22	10-APR-2018
Exhibit B	Terms & Conditions	39	

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 29

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00007	25-May-2018	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA ST STE 200 SAN FRANCISCO CA 94104-2104		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this modification is to revise the Statement of Work dated 2 May 2018. No additional costs will be incurred as a result of the SOW revision.

All terms and conditions remain unchaged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 25-May-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:
SOW

Evaluating Zoonotic Viral Sharing Among Bats, Primates, and People in a High Risk Transmission Interface in Southern Tanzania - *Phase II Technical Proposal*
Revised May 2, 2018

I. ABSTRACT.

Viruses traced to bats and primates have caused some of the most significant human pandemics. As human populations rapidly expand into undeveloped areas, humans are living in closer contact with diverse wildlife, increasing the risk of disease transmission. In resource- limited areas, bushmeat hunting and consumption of forest plants shared with animals provide vital nutrients but may also put pathogens on the plate. Although extensive research has been directed at understanding transmission of viral diseases like Ebola, the ecology of these pathogens is not well understood. In the biodiverse Udzungwa Mountains, one of Tanzania's last areas of undeveloped mountain forest, bats and non-human primates live in close proximity to each other and human communities, creating a high-risk interface for zoonotic disease transmission and spillover of potentially pandemic pathogens. In this region, Ifakara Health Institute maintains human specimen banks that may be accessed to evaluate historical and ongoing pathogen sharing. Through our established viral detection project in the region, our collaborative TZ-US team is active on the ground and prepared to intensify wildlife and human surveillance to evaluate 1) transmission of potentially shared pathogens, like filoviruses; 2) the impact of bat and primate community composition on viral diversity; and 3) human exposure to zoonotic viruses in high-risk populations living at the forest interface. By investigating cross- species viral sharing at this high-risk interface using best known practices, our team will also strengthen Tanzanian surveillance and diagnostic capacity for dangerous pathogens and identify the critical control points to prevent local and pandemic outbreaks.

II. SCOPE.

A. OBJECTIVE.

We will analyze the risk of infection with filoviruses and other viruses, especially NIAID Biodefense Category A and other potential CDC Select Agents, in Tanzania. We will evaluate the risk of zoonotic viral disease transmission among bats, non-human primates (NHP), and people sharing a forest interface with high human-wildlife contact in Southern Tanzania in order to identify critical control points for disease transmission and strengthen local surveillance capacity to prevent regional or pandemic outbreaks of disease.

Hypotheses: 1) Bats in Tanzania are a reservoir for emerging viral diseases, which have the potential to spread to humans through direct contact or intermediately via NHPs sharing habitats and resources with both bats and people. 2) Diversity of potentially zoonotic viruses in wildlife is associated with the number of bat and NHP species living in a given habitat. Protected areas bordered by human communities in the Udzungwa Mountains provide the ideal environment in which to investigate the potential for emerging viral disease transmission from bats and NHPs to humans. Viral investigation will target biodefense priority, Select Agent pathogens with recognized potential to initiate pandemics or to be weaponized as well as emerging viral disease threats from families including filoviruses, henipaviruses, coronaviruses, bunyaviruses, flaviviruses, and rhabdoviruses, among others.

Specific Project Objectives:

1) Engage local partners to characterize forest field sites. Partners will assess: bat-NHP interaction; bat and NHP species present; ecological variation; and degree of human contact. Identify specimens in human sample archives (frozen whole blood or serum) collected from acutely ill individuals living at high-risk interfaces for contact with bats and primates. (Yr 1)
2) Collect specimens (blood, saliva, urine, and/or feces) from bat and NHP populations living in characterized Udzungwa sites during wet and dry seasons (Yrs 1-3).
3) Collaborate with local health clinics and collect specimens (blood, oral swabs, and feces) from high-risk human groups bordering forest areas during wet and dry seasons (Yrs 1-3).
4) Test wildlife specimens, archived undiagnosed human febrile illness samples, and prospective human surveillance specimens for shedding of potentially zoonotic viral pathogens by molecular assays. Sample handling, RNA extraction, viral family level PCR analyses, and sample storage will occur in a locked BSL-3 laboratory as appropriate (Yr 1-3).
5) Characterize viral RNA amplified from animal and human samples and perform phylogenetic analyses. Assess viral diversity among bats, NHP, and humans to evaluate pathogen sharing in the Udzungwa ecosystem. (Yrs 2-3).
6) Conduct spatial analyses and epidemiologic modeling to identify risk factors for human exposure to bat and NHP viral pathogens, to assess options for mitigating viral spillover, and to target behavior change interventions. (Yrs 2-3).
7) Collaboratively train junior scientists (postdocs and graduate students) and local stakeholders to build capacity in: pathogen surveillance, wildlife and human sampling, molecular diagnostics, biosecurity, and One Health approaches and concepts in Tanzania (Yrs 1-3).

B. BACKGROUND.

We live in an ever-changing environment of pathogen distribution, prevalence, and transmission. Within the past 6 months alone, two deadly viruses (H7N9 influenza and

Middle East respiratory syndrome Coronavirus (MERS-CoV)) have emerged as novel highly pathogenic infections. The majority of known human pathogens have an animal reservoir [1], emphasizing direct connections between human, wildlife, and domestic animal health. Recent East and Central African hemorrhagic fever outbreaks caused by the related filoviruses, Ebola and Marburg, have redirected global attention to the high potential for zoonotic spread from wildlife to human populations [2-4]. Bats are considered the most likely reservoir of pathogens like Ebola and Marburg viruses [5], but the transmission pathways to humans are not clearly understood. While humans may contact infected bats directly or indirectly (through exposure to saliva, urine, or feces), contact with other wildlife such as NHPs that share habitat and resources with bats may also provide a source of exposure as an intermediate vector. The flow of people into forests and wildlife out (of forests) provides diverse opportunities for filovirus and other zoonotic viral pathogen transfer, but the risks associated with different activities and habitats are not well understood. Bat-NHP interactions, as well as bat and NHP community assemblages, may shape viral diversity in a given environment and alter zoonotic disease transmission potential. Understanding the influence of bats, NHP, and people on viral transmission will help to direct surveillance and control strategies to limit the pandemic potential of filoviruses, as well as other existing and yet unknown emerging viral pathogens. Our proposed research targets diverse viral families that have zoonotic transmission potential at human-wildlife interfaces.

Bat and non-human primate zoonotic disease risks

Recent zoonotic disease research suggests that bats are critical reservoirs for filoviruses, as well as other diverse existing and emerging zoonotic pathogens, including henipaviruses, coronaviruses, paramyxoviruses, and flaviviruses [6-9]. Central and East African human outbreaks of Ebola and Marburg hemorrhagic fever, for example, have been linked to consumption of or environmental exposure to bats [2,3]. An urban straw-colored fruit bat (*Eidolon helvum*) seropositive for Ebola virus survived for at least 13 months post-capture, demonstrating that bat hosts of viruses that cause severe disease in humans and other mammals could potentially transmit these pathogens over long periods of time [10]. Interestingly, much higher prevalences of exposure to Ebola virus were detected in non-urban bat species in West Africa. Based on the distribution of Ebola virus seroprevalences in diverse bat species, Hayman et al. [11] suggest that human contact with bats in rural and forest settings may pose a greater zoonotic transmission risk than contact with urban fruit bat colonies.

Non-human primates also serve as a source of diverse viral zoonotic disease exposure for humans [12-14]. The zoonotic origin of HIV offers a dramatic example of NHP to human transmission [15], but human outbreaks of hemorrhagic fever have also been traced to contact with live or dead African NHPs [13]. For example, while NHPs are reservoirs for some zoonotic viruses, they may also act as a link between bats and people sharing forest landscapes. Gorillas and chimpanzees have experienced epidemics of Ebola [16], which suggests that NHPs are not a filovirus reservoir, but that they contact reservoir species (now known to include bats) in forest habitat. It has been proposed that NHPs can acquire filoviruses through hunting other NHPs or by direct or indirect contact with reservoir hosts

[16]. In this case, Ebola virus exposure in terrestrial and predominantly arboreal NHP species suggests that contact may occur in multiple forest strata. Habitat and food resource sharing among bats, NHPs, and people therefore represent critical interfaces for zoonotic virus transmission, but interactions among these communities in tropical forests are not well understood. Bat sleeping and feeding roosts offer potential focal points of contact where bats and NHPs might share resources. Discarded fruits and seeds at feeding roosts [17] may present an opportunity for primates and people to directly contact viruses in bat saliva and/or feces. However, viral contamination of discarded food items at bat feeding roosts has not been thoroughly investigated.

Zoonotic virus transmission to people

Human outbreaks of Ebola and other agents have frequently started with infection of a single or few individuals expected to have been exposed to infected bats or NHP in forest habitats [3,13]. While exposure frequently occurs through hunting and butchering of animal carcasses, other extractive forest uses may also expose people to disease agents. Ebola infection in a forest-based charcoal worker and Marburg infection in mine workers and tourists visiting caves with bat colonies provide additional examples of modes of transmission [2,18]. In filovirus outbreaks, after the initially infected individuals contacted other members of their villages or sought care in clinics and hospital settings with limited sanitary practices, the number of cases and their geographic range often expanded rapidly through person-to-person transmission. Although periodic large outbreaks attract international media and research attention, undiagnosed filovirus and other zoonotic viral transfer may happen much more frequently. Even within outbreaks, viral diversity in different patients has suggested multiple independent zoonotic transmission events [18,19]. Understanding the risk of these initial zoonotic disease transmission events at the forest human interface is essential to protect against the large-scale outbreaks that threaten national and international public health. While frequent dead-end

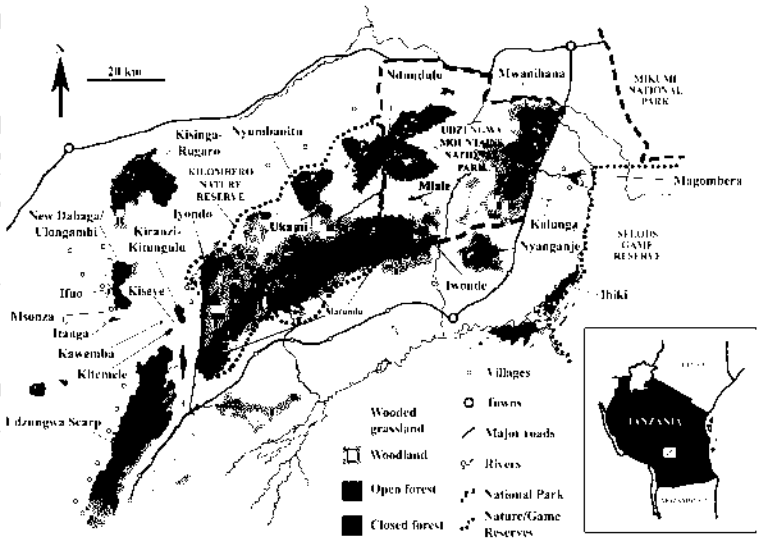
zoonotic transmission events likely occurred in isolated areas in the past, rapid human population growth and landscape conversion near protected areas may enhance outbreak potential.
Non-specific clinical symptoms including fever, headache, and muscle pain occur in the initial stages of many zoonotic viral illnesses [20]. Due to scarce clinical resources in many areas of Africa, patients with zoonotic virus-based fevers may be misdiagnosed with more common febrile illnesses, such as malaria. Misdiagnosis of filovirus infections, for example, as dysentery or yellow fever delayed critical medical intervention in past outbreak situations [21,22]. In two clinics adjacent to Udzungwa Mountains National Park, over 60% of patients presenting with febrile illness were incorrectly diagnosed with malaria when microscopy was used as the only diagnostic test [23]. While underlying causes of disease were not identified in misdiagnosed patients, it suggests that non-malarial causes of febrile illness are very common in this area. In the Eastern Arc Mountains of northern Tanzania, malaria was also commonly misdiagnosed in patients with severe febrile illness, especially those living at higher altitudes [24].

Study area

Part of the Eastern Afromontane biodiversity hotspot [25], the protected areas of the Udzungwa Mountains are islands of predominantly intact forest surrounded by human development. In Udzungwa Mountains National Park (UMNP) and a mosaic of nearby forest reserves, diverse assemblages of NHPs and bats share the largest remaining forest blocks in the Eastern Arc mountain chain [26], Figure 1. In the heterogeneous Udzungwa landscape, which is a mixture of lowland to montane closed canopy forest, woodlands, grasslands, and developed areas, protected forest blocks range in size from <1 km^2 to 526 km^2 [27]. The eastern sides of lower elevation forest blocks receive 2000-3000mm of rainfall per year, while higher elevation drier forests receive approximately 500mm per year. There are typically two periods of concentrated rainfall: December January and March-May[28].

Figu . neighboring forest reserves (modified from

The keys, and galagos [28]. Initial surveys of U (fruit bats) and microchiropteran bats [29,3 c viruses in other areas of East Africa [2].
Alth ently threatens NHPs and may expose peop inal plants and traveling forest paths [31], ndemic monkeys and galagos [32,33]. Bush t a thriving clandestine trade may also expo ork



offers an efficient potential pathway for wildlife products and pathogens to reach high-traffic areas with dense human populations. People living on park and reserve borders also visit sacred cave sites in the forests, increasing their potential exposure to NHPs and roosting bats. Farmers living near protected areas, UMNP staff members housed in the park, researchers, and tourists are also in contact with the diverse NHP populations. Ecological research is increasing in the Udzungwa Mountains, focusing on population dynamics, habitat use, response to environmental change, and animal behavior [27,34-37]. Building upon existing local and academic ecological knowledge, an investigation of emerging viruses in bats, primates, and people will provide critical insight on transmission of select agent and novel pathogens with pandemic potential.

C. PROGRAMMATICS.

Management team (MT) approach: Continuing their nearly 5 year partnership as implementing partners, Metabiota and the University of California, Davis (UCD) will co-manage this project with local partners in Tanzania. Metabiota will provide administrative and financial oversight while UCD will provide the scientific management and implementation of this research in Tanzania. Principal Investigator, (b)(6) will work hand-in-hand with Co-Principal Investigator, Dr. Jonna Mazet to ensure project deliverables are met according to contract timelines or as nearly as possible.

Since 2006, investigators from UCD and Sokoine University of Agriculture (SUA) in Tanzania have been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania through our HALI (Health for Animals and Livelihood Improvement) project. In 2009, HALI became the Tanzanian institutional home of the USAID Emerging Pandemic Threats' PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects for over 20 years. Metabiota, a partner on the PREDICT project, has extensive experience investigating emerging viruses with zoonotic potential in West and Central Africa. Project study design, wildlife and human sampling, specimen diagnostics, as well as spatial analyses and epidemiologic modeling will be jointly coordinated through UCD, SUA, and IHI. Archived human samples from areas of human- wildlife contact will be identified by UCD and IHI. All human samples, both archived and prospective will be tested at IHI BSL-3 laboratory facilities. Our US-Tanzania MT will have monthly conference calls to coordinate research design, activities, and progress. The proposed One Health collaboration will facilitate cutting edge research on existing and emerging viral pathogens at critical wildlife-human interfaces in Tanzania, and build local, regional, and national capacity to detect and mitigate zoonotic transmission of select agents.

(b)(6) (b)(6) PhD, MPH, **Metabiota** liaison to DTRA for coordination of project administration and reporting; will provide input on public health-related project objectives.

Jonna Mazet, DVM, MPVM, PhD, One Health Institute, School of Veterinary Medicine, **UCD** program director responsible for project oversight. Mazet will facilitate collaborative relationships, study design, and interpretation of findings.

Elizabeth VanWormer, DVM, PhD, One Health Institute, **UCD** project manager responsible for coordination of teams and project objectives across US institutions and in Tanzania. VanWormer will facilitate project implementation and epidemiologic analyses.



Rudovick Kazwala, BVM, PhD, Faculty of Veterinary Medicine, **SUA**, Morogoro, Tanzania Professor responsible for SUA-related laboratory and field activities as part of the HALI Project in Tanzania. Kazwala will facilitate capacity building of Tanzanian laboratories and scientists.
Joseph Paschal Mugasa, MS, PhD, Laboratory director at **IHI** Bagamoyo Research site responsible for input and oversight of laboratory activities related to biosafety and security. Mugasa will also faciliate capacity building of Tanzanian laboratories and scientists.

Progress evaluation: The MT will monitor project activities to achieve the following benchmarks: 1) obtain US and Tanzanian protocol approval, characterize field sites, and identify junior scientists in Year 1; 2) perform field sampling and laboratory diagnostic activities in Years 1-3 and initiate data analysis in year 2; and 3) prepare recommendations to reduce zoonotic viral transmission potential to local and global communities and prepare at least 2 scientific publications in Year 3.

D. RELEVANCE.

The proposed work will improve fundamental understanding of filoviruses and other emerging virus epidemiology and add tangible data on these agents to the DTRA knowledge base. It will provide a platform for engaging and networking with professionals working in emerging infectious diseases (EIDs) in both the human and animal sectors and will increase the capacity for rapid and accurate local detection and mitigation of threats to humans and animals with positive economic, health, and other security implications.
Ebola and Marburg viruses, as well as certain other viruses known to circulate in bats are NIAID Category A Biodefense Priority Pathogens and US DHHS Select Agents. While these viruses are considered research priorities, little is understood about their natural history and transmission cycle, as well as their replication in their reservoir host species, which are believed to be African bat species. Bats, as well as their natural interaction with NHPs, humans, and other intermediary species are also poorly understood. Thus, it is paramount to better understand the circulating viruses in bat populations in Tanzania and elsewhere, as well as to understand the interaction that humans and other species have with bats in that region. Through the proposed research, we will engage emerging scientific leaders in Tanzania and will closely collaborate on the proposed research, the results of which may directly increase global public health security by allowing us to better understand the distribution, prevalence, and high risk behaviors associated with filoviruses and other emerging viruses of pandemic potential. The proposed research targets Thrust Area 6 and advances C-WMD science by building local and global understanding of pathogens that pose the greatest threat as biological weapons. Weapons and terrorism in Tanzania are a concern due to past and recent political events in the East African sub-region.
Investigating zoonotic viruses in bats, NHPs, and people in Udzungwa Mountain forests strengthens local capacity to conduct surveillance for pathogens that severely threaten public health and global security. Understanding the natural ecology of emerging zoonotic viruses will facilitate control strategies to reduce human exposure and disease spread, a globally valuable outcome. In addition to enhancing in-country pathogen detection capability, the proposed research will build understanding of risk factors for transmission among bats, NHPs, and humans. Targeting surveillance and control strategies to high-risk human-wildlife interfaces for disease emergence protects people in the US homeland and abroad by limiting the risk posed by pathogen spillover. Understanding viral transmission

events at human-wildlife interfaces will help public health officials and researchers to distinguish between a naturally occurring spillover

event such as MERS-CoV verses an intentional release. Increasing knowledge of naturally- occurring viruses could be inappropriately handled or developed into weapons of mass destruction will also help to safeguard Tanzanian and global public health.

The proposed work will also extend the reach of the Cooperative Biologic Engagement Program (CBEP) and will advance partnerships that University of California, Davis and Metabiota have with institutions in Tanzania that are hubs for research excellence in East Africa. The institutional partnerships will have particular benefits given the active USAID and NIH- funded research programs that UCD can leverage in the region and will enhance the potential for collaborative One Health research that is a proven model within this internationally experienced and respected research team. These features have the potential to radically improve sustainability and absorbability of these investments for long-term impact.

III. CREDENTIALS.

Our consortium is comprised of a group of highly qualified experts from across academia, industry, and government backgrounds, all of whom have successfully implemented large-scale USG and internationally funded programs abroad. First funded by CBEP in mid- 2010, Metabiota has demonstrated high-quality research collaborations in some of the world's most austere settings. This work has resulted in 6 CBEP-funded high-impact publications, including the description of a novel virus associated with viral hemorrhagic fever syndrome in the Democratic Republic of the Congo (DRC). Metabiota supported the response to 6 outbreaks (suspected viral hemorrhagic fever, polio, and yellow fever) and has facilitated shipment of samples back to US DoD laboratories for the further development and testing of diagnostics and countermeasures. Metabiota, as a member of the WHO GOARN, was considered an invaluable resource during these events, setting the stage for future engagements globally, and, in this regard, is a long-time collaborator with US military labs overseas. Our successes in working with CBEP have been sustained by involving multiple international and regional networks, such as the African Field Epidemiology Network (AFENET), the WHO Especially Dangerous Pathogens Laboratory Network (WHO-EDPLN), and existing research and public health laboratory networks. We also have experience facilitating the establishment of regional networks as demonstrated through our assistance in the creation of the Central African Military Health Alliance (CAMHA), which Metabiota continues to serve as integrating contractor. Metabiota actively engages local, regional, and international partners in project implementation.

The UCD team is comprised of a highly qualified and integrated set of infectious disease faculty and researchers who specialize in the epidemiology and surveillance of zoonotic diseases that may be transmitted between animals and humans. Based within the One Health Institute at UCD, the multidisciplinary team has extensive experience in core CBEP topics, including infectious disease research, grant writing, mentoring, and training. For example, the UCD team manages an implementing consortium for and scientifically leads the USAID's Emerging Pandemic Threats Program PREDICT project, a $75 million multi-institutional, trans- disciplinary project in 20 developing countries that aims to enable global surveillance for zoonotic diseases emerging from wildlife using geospatial modeling, genomics, molecular virology, epidemiology, and targeted field studies at hot zoonotic disease transmission interfaces. In just over three years since it's implications, PREDICT has discovered over 200 novel viruses, trained over 1500 collaborators from developing nations, and published over 28 manuscripts in the peer-reviewed literature.

Sokoine University of Agriculture (SUA) is the premier veterinary school for Tanzania, and Ifakara Health Institute is a leader in public health research in the country. Since 2006, SUA has been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania as a partnership with UCD through our HALI project. In 2009, HALI became the Tanzanian institutional home of the PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans. Ifakara Health Institute (IHI) has an extensive history of human infectious disease research in Tanzania and has collaborated with SUA on diverse health projects.

Key personnel

(b)(6) **PhD, MPH,** will serve as PI for this effort as the Metabiota Vice President of Research and Development, and is a Technical Advisor to the WHO. As VP of R&D, (b)(6) (b)(6) oversees the implementation of disease surveillance and specialized research globally and has over 10 years experience living and working in Africa and with DoD.

Jonna A.K. Mazet, DVM, MPVM, PhD will serve as Co-PI and lead for the UCD. Professor Mazet currently leads a global network to build capacity within more than 20 countries to develop surveillance and complete the necessary research to halt pandemics. As a professor in the School of Veterinary Medicine, Mazet provides service to government agencies faced with emerging infectious disease challenges, including USAID and U.S. Department of Agriculture.

Woutrina Miller, DVM, MPVM, PhD will serve as a SME for infectious zoonotic diseases. Dr. Miller is a veterinarian and Adjunct Associate Professor in the School of Veterinary Medicine at UCD. She is an infectious disease molecular biologist with extensive experience working on zoonotic diseases that can be transmitted from animals to humans and currently has active research in Tanzania that involves both the animal and human health sectors.

Elizabeth VanWormer, DVM, PhD, One Health Institute, UCD will serve as a project scientist and implementation manager. Dr. VanWormer is an epidemiologist currently living in Tanzania and facilitating the HALI Project that would house the proposed research. She has in-depth experience conducting wildlife and zoonotic disease research and managing multi-disciplinary international teams in Tanzania, implementing federal grants/contracts, and integrating technical activities with stakeholders from government ministries to communities.

Rudovick Kazwala, BVM, PhD will serve as a Co-PI and lead for the Tanzania team. He is a Professor of Public Health and Epidemiology at SUA as well as Chairman of the Tanzania Veterinary Medical Association. Professor Kazwala is on the IHR Roster of Experts for veterinary issues involving zoonoses and currently leads viral disease research for the PREDICT project in Tanzania. As a founding PI of the HALI Project with UCD, Professor Kazwala is well established with all the partner organizations involved in this DTRA research proposal.

Honorati Masanja, MS, PhD will serve as the Ifakara Health Institute lead in his role as Chief of Research Operations at IHI. Dr. Masanja is an epidemiologist skilled in data management and biostatistics who leads numerous collaborative studies in Tanzania and is funded by international organizations such as the WHO and CDC.

Joseph Paschal Mugasa, MS, PhD will serve as a SME for viral zoonoses and lead for the IHI laboratory team. Dr. Mugasa is currently the laboratory director at the IHI Bagamoyo research site and the head of biomedical research at IHI. Dr. Mugasa has extensive experience working with international teams on molecular investigations of human and animal pathogens.

Tanzania Wildlife Research Institute (TAWIRI) specialist, either Robert Fyumagwa, DVM, PhD or his designee. The TAWIRI representative (TBN in conjunction with Dr. Fyumagwa and TAWIRI Director of Research, Dr. Julius Keyyu) will serve as SME for wildlife disease surveillance and lead for the TAWIRI Team. Dr. Fyumagwa is currently the Center Director for TAWIRI's Serengeti Wildlife Research Centre and is a collaborator with our collaborative TZ- US led PREDICT project in Tanzania. Dr. Fyumagwa has extensive experience working with international teams on wildlife and zoonotic disease research, including NHPs.

IV. WORK TO BE PERFORMED.

A. GENERAL

We will investigate the epidemiology of filoviruses and other zoonotic viruses in bat, NHP, and human populations sharing a mosaic of protected forests and bordering lands in southern Tanzania. By examining viruses circulating in wildlife and human hosts in this biodiverse environment, we will increase the understanding of pathogen emergence risk and zoonotic disease transmission while building local capacity to diagnose, conduct surveillance for, and control pathogens of pandemic and biosecurity concerns. To characterize potentially zoonotic viruses in bat and primate hosts, samples will be collected from these animals from identified sites with differing bat and primate community composition and likelihood of human contact (based on distance to nearest villages and reported human forest use). Primates and bats captured at field sites will be sampled twice yearly to reflect seasonal differences (wet vs. dry season) in viral shedding. Saliva samples from discarded seeds and fruits at bat feeding roosts
[17] will also be collected, as these sites offer an environmental focus of potential virus exposure for primates and other animals. Remote-triggered digital field cameras will be used to monitor other taxa visiting bat feeding roosts to assess the potential for inter-taxa viral transmission. All samples will be transported securely under project supervision in locked containers from field sites to the labs at SUA and IHI for secured storage and testing.
To investigate human exposure to filoviruses and other zoonotic viruses, we will collaborate with health clinics near Udzungwa forests to sample individuals presenting with non-malarial febrile illness. By collecting blood, oropharyngeal swabs, and fecal samples along with survey data on forest use and wildlife contact, we will be able to examine risk factors for wildlife origin virus exposure. Humans will be sampled seasonally in parallel with wildlife to capture differences in wet and dry periods. In addition to the prospectively collected human samples, we will evaluate archived human samples from sick individuals living near forests or likely to have had high contact with wildlife. Testing wildlife and human specimens with the efficient viral family PCR screening approach developed by PREDICT to detect emerging viral threats, we will capture critical information about viruses circulating in sympatric bat, NHP, and human populations while developing essential local laboratory capacity to detect priority pathogens. Sequencing and phylogenetic mapping will be used to determine the genetic similarity of viruses. Statistical models will be used to

evaluate demographic, seasonal, and ecological risk factors for viral family or individual virus exposure. Spatial analyses will be performed to identify hotspots of pathogen transmission for targeting control of spillover from wildlife to human populations.

B. SUMMARY.

Year #1

Task 1: Management team meetings (monthly)
Task 2: Administrative startup and maintenance (Quarters 1-3)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training, trainee identification, and mentorship (Quarters 1-4)
Task 5: Field site assessment and preparation (Quarters 1-2)
Task 6: Human sample archive assessment (Quarters 1-4)
Task 7: Active human surveillance (Quarters 3-4)
Task 8: Active wildlife surveillance (Quarters 2-4)
Task 9: Environmental characterization and sampling (Quarters 2-4)
Task 10: Establishment of sample repository/metadata records, accession numbers (Quarters 1-4) Task 11: Viral diagnostics (Quarters 3-4)

Year #2

Task 1: Management team meetings (monthly)
Task 2: Administrative maintenance (Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and trainee mentorship (Quarters 1-4)
Tasks 5 & 6: Not applicable for Year 2
Task 7: Active human surveillance (Quarters 1-4)
Task 8: Active wildlife surveillance (Quarters 1-4)
Task 9: Environmental characterization (Quarters 1-4)
Task 10: Sample repository maintenance (Quarters 1-4)
Task 11: Viral diagnostics (Quarters1-4)
Task 12: Molecular characterization of viruses (Quarters 3-4) Task 13: Data analysis/modeling (Quarters 1-4)

Year #3

Task 1: Management team meetings
(monthly)
Task 2: Administrative maintenance
(Quarters 1-4)
Task 3: Data management (Quarters 1-4)
Task 4: Staff training and student mentorship (Quarters 1-
2)
Tasks 5 & 6: Not applicable for Year 3
Task 7: Active human surveillance (Quarters 1-
2)
Task 8: Active wildlife surveillance (Quarters 1-
2)
Task 9: Environmental characterization
(Quarters 1-2)
Task 10: Sample repository maintenance (Quarters 1-
4)
Task 11: Viral diagnostics (Quarters 1-3)
Task 12: Molecular characterization of viruses (Quarters 1-
4)
Task 13: Data analysis/modeling (Quarters 1-4)
Task 14: Data interpretation, development of stakeholder communications, local distribution of findings, and manuscript preparation (Quarters 1-4)

C. DETAILED TASKS.

i. Task 1: Monthly Management Team (MT) Meetings (Years 1-3)

The project MT will meet once per month using Skype or a similar internet-based international communication tool. Project logistics and progress will be assessed, and action items for the coming month will be identified. A wri record of meetings will be maintained for reference. *Personnel involved:* Fair, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* At least 12 MT meetings logged per project year. *Deliverable* MT meeting minutes will be archived and progress on identified action items highlighted in the annual report.

ii. Task 2: Administrative startup and maintenance (Years 1-3)

Subtask 2-a: Obtain appropriate US and Tanzania research approval (Years 1-3)

The MT will obtain ethical clearance for human surveys, human prospective specimen collection, and human specimen archive use through the University of California, Davis IRB and the Tanzania National Institute of Medical Research (NIMR). Research permission for wildlife sampling in Udzungwa Mountain forests will be obtained from the UCD Animal Care and Use Committee and the Tanzania Wildlife Research Institute (TAWIRI). TAWIRI approval includes permission to conduct research on lands within and surrounding national parks and forest reserves. Following TAWIRI and NIMR approval, general research and residence permits will be obtained from the Tanzania Committee on Science and Technology (COSTECH) and Tanzanian Ministry of Home Affairs (Immigration). The MT has extensive experience with UCD and Tanzania permitting system requirements and timelines, which will allow permits to be acquired smoothly. Permits will be renewedannually.

Subtask 2-b: Develop study protocols, survey instruments, and data collection forms (Year 1) Working with the MT, junior scientists will generate study field and lab protocols and surveys for human risk factors, as well as specimen management forms, diagnostic results logs, and forms for collecting information on animal demographics and environmental characteristics of field sites. General and Tanzania-specific protocols on wildlife handling and capture, safe specimen collection, specimen storage and transport, personal safety and biosecurity, and cold chain maintenance have already been established through the PREDICT viral surveillance program and will be adapted for use here.
Subtask 2-c: Procure supplies for field surveillance and laboratory diagnostics (Years 1-3) Working with the MT, staff will order field and laboratory supplies and equipment necessary for human and animal sampling and testing. As part of the PREDICT program, relationships with scientific supply vendors (VWR, Fisher, African Biosystems, etc.) have already been established for efficiently purchasing and acquiring supplies. To maintain a steady supply, materials will be assessed and reordered as needed on a quarterly basis.
Subtask 2-d: Strengthen local stakeholder collaborations - Regional and District Veterinary Officers, Wildlife Officers, Forest Officers, Executive Officers; Udzungwa Mountains Park Staff and Researchers; Village Government Leaders and Health Clinic Officers – (Years 1-3)
Through HALI project wildlife sampling activities and previous zoonotic disease investigations, strong relationships have already been established with relevant veterinary, wildlife, and forest officers, as well as district executive directors. In a PREDICT-funded Udzungwa pilot surveillance program, we are in the process of currently building relationships with Udzungwa Mountains Park Staff and village government leaders. The MT members and junior scientists will work to strengthen the existing relationships and to create collaborations with village health clinic officers by providing quarterly updates on research progress, as well as annual trainings on wildlife and human sampling for relevant partners.
Subtask 2-e: Complete quarterly financial reports; manage logistics of staff and lab/field office operation (Years 1-3)
The project logistics manager will complete quarterly financial reports in collaboration with the Tanzanian research institutions (SUA and IHI). Junior scientists and MT members will jointly manage staff logistics and office operation.
Subtask 2-f: Complete quarterly reports on project activities for funders and project partners in Tanzania and the United States (Years 1-3)

The MT and junior scientists will provide quarterly email updates to project partners to share preliminary research results and progress on project timelines. In accordance with Tanzanian policy, all viral diagnostic results will initially be shared with the Tanzania Ministry of Health, Ministry of Livestock and Fisheries Development, and Ministry of Wildlife and Tourism, with whom we have existing relationships. Following approval for release by Tanzanian ministries, results will be provided to other project partners. This reporting system is desirable for in- country and foreign partners.
Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Research permits approved each year, protocols and data collection forms developed, supply inventories updated quarterly, financial and project activity reports generated quarterly. *Deliverables:* Documentation of research permit and ethical clearance approval, stakeholder collaboration section in annual report, list of approved protocols and data collection forms

included as appendix in annual report, quarterly reports included as appendix in annual report.

iii. Task 3: Data management

Subtask 3-a: Database creation

Following development of field and lab data forms, the junior scientists and MT will create separate secure electronic databases to store wildlife, environmental, and human data.

Subtask 3-b: Data entry and cleaning

Within 2 weeks of field data collection, junior scientists will enter and check wildlife, environmental, and human data in the project databases. A MT member will review entered data for accuracy. Human data forms with information identifying individual study subjects will be stored in a locked cabinet at the project office and destroyed 12 months after study completion.

Personnel involved: Fair, Mazet, VanWormer, Kazwala, Mugasa. *Metrics of Success:* Databases developed in Year 1, project data entered and assessed within 2 weeks of field collection. *Deliverables:* Database section included in annual report.

iv. Task 4: Staff and stakeholder training and junior scientist mentorship

Subtask 4-a: Identify and hire junior scientists (postdoc, PhD, and master students; Year 1)

In order to build sustainable capacity and long-term research networks, one US-based postdoctoral scholar and one post-DVM PhD student and at least one Tanzanian master student (SUA) and one postdoctoral fellow (IHI) will be recruited for the research project.

Subtask 4-b: Conduct annual and quarterly trainings (Years 1-3)

PREDICT staff members with extensive field experience in wildlife capture and sampling, viral specimen collection, cold chain management, and personal and laboratory biosafety will train the junior scientists, field staff, and local stakeholders including veterinary and human health partners and district wildlife officers on these topics. Veterinarians and ecologists from UMNP, Tanzania National Parks Association (TANAPA), and TAWIRI will be invited to participate in animal-based trainings to build national wildlife surveillance capacity and biosecurity awareness. MT members from IHI will train health clinic staff and junior scientists on human data and specimen collection and storage. Laboratory experts from UCD, SUA, and IHI will provide training on PCR-based viral family diagnostics, cloning, sequencing, and phylogenetic analyses. *Personnel involved:* Fair, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Quarterly training events conducted each year, at least two postdoctoral scientists and graduate students mentored each year. *Deliverables:* Training documents compiled for annual report, trainee progress reports and trainer evaluations included as an appendix to annual report.

v. Task 5: Field site assessment and preparation

Subtask 5-a: Human health clinic assessment

We will identify health clinics that treat patients, including those with febrile illnesses, from areas near or adjacent to the wildlife sampling sites. MT members will assess clinic willingness to participate in a research study on zoonotic viral diseases involving collecting human blood, oropharyngeal swab samples, and fecal specimens. After identifying four

clinics from different geographic locations representative of the study area, we will recruit one health officer or nurse as a research partner from each clinic to participate in human sample collection. We have experience in these recruitments through our ongoing NIH-supported research in the region.

Subtask 5-b: Wildlife sampling site assessment

Prior to the first season of animal specimen collection, the forest reserve network will be assessed to identify 4 field sites for seasonal bat and NHP sampling for the duration of the project. Two sites will be identified in forests with low NHP diversity (2-3 species present). The remaining sites will be in forests with higher NHP diversity (4-6 species present). Bat diversity will be assessed at the time of capture using audio data recorders. All sites will be chosen in forests used by neighboring human communities for bushmeat hunting, sacred site visitation, and/or resource extraction, such as medicinal plant gathering. Field site vegetation and forest cover will be characterized visually and using available remote sensing/GIS data. *Personnel involved:* Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Number of patients enrolled annually; number of staff trained; laboratory capacity; elevation, latitude/longitude, and proximity to forest characterized for each human health clinic. Vegetation and forest cover, climate, elevation, latitude/longitude, known wildlife species composition, human use, and proximity to human communities will be characterized for each wildlife sampling site. *Deliverables:* Clinic and field site characterization in annual report.

vi. Task 6: Human sample archive assessment

Archived frozen human whole blood samples stored at IHI research facilities due to previously completed in-depth investigations of zoonotic and human diseases in Tanzania will be selected for study inclusion based upon where subjects lived and any known risk factors for wildlife contact (bushmeat hunting, medicinal plant gathering, other forest resource extraction, or agricultural conflict with primates). If risk factor information for previously collected human samples is too sparse or sample quality is questionable, human sampling emphasis will be placed more heavily on prospective specimen collection. *Personnel involved:* Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* List of potential archive samples generated, risk factor information assessed for human sample archives. *Deliverables:* Human sample archive assessment and use section in annual report.

vii. Task 7: Active human surveillance

Subtask 7-a: Patient recruitment

Adult and child patients presenting to participating health clinics with a fever will be offered a rapid diagnostic test for malaria. Patients testing negative by rapid test will be asked to join the study and formally consented following standardized, approved Tanzanian consent procedures.

Participating patients will be interviewed about their contact with forests and wildlife before specimen collection. *Sample size*: 50 patients will be recruited each season at each health clinic. Subtask 7-b: Forest risk factor survey

Consenting patients with a non-malarial febrile illness will be interviewed by a trained nurse at the health clinic regarding their use of forest products or habitats and contact with wildlife

species, especially bats and NHP, in or near forests. Data will be disaggregated from individually identifying information prior to data analysis to protect patient confidentiality. However, patient recruitment and contact information will be maintained in locked facilities to contact individuals regarding the results of diagnostic testing.

Subtask 7-c: Sample collection

Whole blood, oropharyngeal swabs (2), and approximately 400mg of feces will be collected from patients by a trained nurse. Oropharyngeal swabs and feces will be divided and stored in lysis buffer and VTM. All samples will be stored in liquid nitrogen at the health clinic (in provided dewars). Clinics will also be provided standard government issue malaria rapid diagnostic tests to rule out malaria as a cause of febrile illness, and human sampling supplies to collect oral swabs and feces. Following each season (wet and dry) of sampling, specimens will be transferred to IHI BSL-3 laboratory for storage in -80C freezers and diagnostic testing. *Personnel involved:* Fair, Mazet, Miller, VanWormer, Masanja, Mugasa. *Metrics of Success:* Risk factor surveys and samples collected for 400 human patients annually. *Deliverables:* Active human surveillance section in annual report, at least 1 publication prepared.

viii. Task 8: Active wildlife surveillance

To detect potential differences in seasonal viral shedding, bats and NHP will be sampled twice yearly, during December-March (wet season) and June-September (dry season), which also correspond to different phases in bat reproduction cycles that might affect viral shedding.

Subtask 8-a: Bat capture and sampling

Capture: Megachiropterans (fruit bats) and microchiropterans (small, predominantly insectivorous bats) at targeted sites will be captured in synthetic mist nets placed near caves, tree roosts, or forest flyways. Following surveillance to determine habitual bat foraging departure and return times, nets will be set after bats leave roosts in the evening. Nets will be monitored continuously when bats begin to return in the early morning. Captured bats will be removed from nets by trained field staff within 30 minutes of capture to minimize stress, and placed in a closed cotton bag until processing. *Sample size:* 60 bats per site per season

Sampling: Under manual restraint, blood will be collected from the brachial (fruit bats) or radial (small bats) vein. For bats weighing <60g, blood may be diluted with phosphate buffered saline to increase sample volume as previously described [38]. Oropharyngeal swabs (2) and rectal swabs (2) will be stored in lysis buffer and viral transport media (one of each type of swab in each medium). Demographic data (species, age class, sex, and pregnancy/lactation status), digital photos, and morphometric measurements will be collected during processing. Bats will additionally be marked with individually identified lipped rings on wings (microchiropterans) or thumb rings (megachiropterans) prior to release at the site of capture. Bat markings will be used to identify recaptured bats in subsequent seasons as well as capture of previously sampled bats at novel sites. Satellite telemetry collars will be placed on 1-2 adult fruit bats per sampled site (4-8 collars in total) to remotely follow movement and migration patterns over the study period. Sera will be stored in empty cryovials and blood clots in lysis buffer following centrifugation of whole blood samples. Specimens will be stored in a locked liquid nitrogen dry shipper in thefield to preserve viral RNA prior to transport to the SUA lab and longer-term storage at -80C. During animal

handling, staff will wear appropriate PPE to prevent zoonotic viral transmission including N95 respirators, goggles, gloves, and tyvek suits (Figure 2).
Bat identification: Visual appearance and morphometric measurements will be used to determine the genus and species of easily differentiated megachiropterans such as straw-colored fruit bats (*Eidolon helvum*). Project MT members with experience trapping and identifying mega and microchiropterans in Tanzania will train junior scientists and staff. However, due to the difficulty of differentiating some species of fruit bats and many microchiropterans, wing tissue punch biopsy samples for genetic testing will be aseptically collected from each sampled bat. Biopsies will be stored in 95% ethanol at room temperature. Host DNA will be extracted, amplified, and sequenced to confirm the precise genus and species of any bat testing positive for target viruses.

Figure 2. Tanzania field team members prepare to safely collect samples from a captured fruit bat (held in the cotton bag) in an urban setting [Dar es Salaam, Tanzania, April, 2013]. Established PREDICT protocols for biosafety, animal capture and sampling, cold chain specimen storage and transport, and viral disinfection will be adapted to the proposed wildlife sampling activities in the Udzungwa Mountain forests.



Subtask 8-b: Non-human primate (NHP) sampling
Non-invasive sampling: Known NHP troops at designated field sites will be tracked to collect fresh fecal specimens. Iringa red colobus monkeys (*Procolobus gordonorum*) and Sykes' monkeys (*Cercopithecus mitis*) will be sampled at each site.
These species will be targeted to create comparable data among the sites, as these monkeys are found in almost all forests in the study area. Red colobus are predominantly arboreal, while Sykes' monkeys use all strata of the forest [28]. Additionally, people living near the forest reserves hunt both species [32,34]. Local guides familiar with the animals' habitat use and behavior will be employed to assist in locating and collecting samples from target troops. Following observation of defecation by identified individuals of known primate species, field team members will collect approximately 200mg of feces for storage in lysis buffer and 200mg for storage in VTM. When observable, sex and age class of the primate will be recorded. Discarded foods from primates actively foraging will be swabbed with sterile, polyester swabs to collect a non-invasive saliva sample. Swabbing primate bite marks in

discarded food items has been shown to be an effective route of obtaining saliva samples [39]. One swab will be stored in lysis buffer, and the other in VTM. Following sample collection, all specimens will be immediately placed in a portable liquid nitrogen dry shipper in the field to preserve viral RNA. If necessary, dental ropes for saliva collection may also be used, as they have been shown to be effective in our field sites in Asia. *Sample size: 30 animals per species per site per season*
NHP identification: The seven diurnal primate species found in Udzungwa Mountains National Park and/or neighboring forest reserves are easily distinguished based on their size, body shape, coloration, and predominant forest use (arboreal vs. terrestrial) [28]. Field team members will be trained to accurately identify each of the resident diurnal primate species.
Personnel involved: Fair, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). *Metrics of Success:* Samples collected from at least 480 bats and 240 NHPs annually, satellite transmitters on at least 1 bat from each study site. *Deliverables:* Wildlife surveillance section in annual report, at least 1 publication.

ix. Task 9: Environmental characterization and sampling

Subtask 9-a: Indirect sampling at bat feeding roosts
Working with local guides, bat feeding roosts will be identified in or near wildlife sampling sites. Discarded seeds and fruits will be assessed at dawn and swabbed with sterile, synthetic swabs to collect bat saliva. Thirty specimens will be collected seasonally per site and stored in lysis buffer in a locked field dry shipper. Specimens will then be stored at -80C prior to diagnostic testing.
Subtask 9-b: Camera trapping at bat feeding roosts
Two remote-triggered, waterproof, infrared field cameras will be set and left in the field for one to two weeks seasonally at each bat feeding roost to assess the potential for other wildlife taxa to contact food items discarded by bats. Images of visiting wildlife will be used to target additional wildlife sampling at field sites.
Personnel involved: Fair, Mazet, VanWormer, Kazwala, TAWIRI Collaborator (TBN). Metrics of Success: At least 240 swab samples will be collected annually from discarded foods, at least 8 weeks of total annual camera trapping. *Deliverables:* Environmental sampling section in annual report, select camera trap images in annual report index.

x. Task 10: Establishment of sample repository/metadata information data sheets and accession numbers

A human and wildlife sample repository will be created at the IHI BSL-3 laboratory in Bagamoyo. Standardized metadata will be recorded for each sample, and accession numbers assigned for future access. Samples will be stored in secure freezers and/or liquid nitrogen Dewar's in secure facilities with limited access to project personnel and other authorized personnel. Sample repository and security will be established according to the BMBL approved safety guidelines as well as international security guidelines.
Personnel involved: Fair, Mazet, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Sample repository and data sheets established in Year 1 and assessed quarterly for accurate entry of all new specimens. *Deliverables:* Sample repository section in annual report.

xi. Task 11: Viral diagnostics

During the inception of the project it was realized that the logistics and practical difficulties of physically capturing a large number of wildlife and enrolling large numbers of human patients was the key challenge for the VISHA team. Due to this, after animal capture or patient presented at clinic a strategy was put in place to obtain the best set of biological specimens possible while the animal was "in-hand" or the patient remained at the clinic. Since the start of the VISHA project, work in a related virus discovery project (PREDICT) led by UC Davis and funded by USAID has revealed that the most likely target-rich specimens from wildlife for novel virus discovery are the oral-pharyngeal and rectal swabs (PMID: 28630747). These specimen types appear to greatly exceed whole blood, serum, or others for detection of viruses. This data is not overly surprising, given that it is likely that the wildlife sampled during the VISHA project would be potential reservoir hosts who actively shed virus particles into the environment likely without high viremias or other pathologic consequences.

Following lab storage in locked -80C freezers, RNA extraction and viral family level diagnostic testing will be performed on deactivated specimens to identify potentially zoonotic viruses from the following viral families: filoviruses, henipaviruses, coronaviruses, bunyaviruses, flaviviruses, and rhabdoviruses. RNA extraction will be performed with Qiagen RNA extraction kits using our established PREDICT protocols for blood, oropharyngeal swabs, and feces in a class II biosafety cabinet or BSL-3 facility. Beta actin PCR analyses of cDNA products will be used to confirm successful RNA extraction. Viral family level primers will be used in established conventional PCR reactions to amplify viral RNA and synthetic positive controls will be employed. Suspect positive samples will be confirmed through cloning and sequencing.

Subtask 11-a: Human specimen viral testing

Each human study participant presented at a health clinic acutely ill, and as such were more likely to be within the expected viremic period, thus priority was given for testing of whole blood by consensus family level RT-PCR techniques. The remaining clinical specimens (e.g. oropharyngeal swabs and feces) will stored safely and securely so that if a novel viral pathogen was detected, additional diagnostic specimens would be available for confirmatory testing and to determine the diversity and distribution of pathogen genomic material in alternative specimen types/matrices.

Trained personnel at the IHI BSL-3 laboratory in Bagamoyo, Tanzania, will conduct RNA extraction, cDNA production, Beta actin PCR, and viral family level PCR diagnostics for archived and prospectively collected human samples as above. During the original proposal, serologic testing of humans was not proposed as a defined specific aim.



However, during discussions regarding the challenges of human RVF serology with Dr. Stuart Nichol, Chief of the Viral Special Pathogens Branch (VSPB), Centers for Disease Control and Prevention in Atlanta, GA, an offer was made to help to validate the ID-Vet ELISA against the VPSB gold-standard human IgG ELISA, and to expand our surveillance for VISHA to include other serologic testing. Dr. Nichol offered to test approximately 750 specimens from the VISHA project.

Given the likelihood of relatively high seroprevalence to RVF in the study area, it is presumed that enough high and low-titer antibody specimens will exist in our study population to determine the limit of detection (LOD) and other assay parameters of the ID-Vet kit versus the VSPB gold-standard assay, and for VISHA, to assess a variety of different exposures to viral hemorrhagic fevers (VHFs) through this enhanced additional serologic testing and screening that would be allowable under the VISHA IRB consent approvals. The VISHA informed consent documents state that the samples collected and information will be kept for 15 years and can be used to perform analysis related to evaluation of other zoonoses that can cause febrile illness with the appropriate ethical approval as required.

Both the proposed RVF and other VHF serologic testing would be provided in-kind by CDC, with the VISHA project paying for shipping and the cost of the required ID-VET kits for the validation assessment. These funds will be drawn from existing project line-items dedicated to shipments for lab result confirmation and testing reagents. The diagnostic testing by CDC will serve multiple purposes including the timely assistance in completion of our proposed DTRA project-related activities, provide a viable alternative for human RVF serological testing (if the ID-Vet assay performs as expected against the gold-standard assay), and insights into other potential VHF exposure risks in the study area.

Dr. Nichol also indicated that VSPB would, in the future, be willing to transfer the CDC RVF IgG and IgM assays to our Tanzanian counterpart organizations as part of an overall capacity gain for our teams in-country.

Subtask 11-b: Wildlife specimen viral family testing

Based on the findings mentioned above in the PREDICT project, it was determined that initial priority would be given to oral/rectal swabs from animals for consensus virus family RT-PCR diagnostic testing over blood. However, blood samples will be collected and stored safely and securely so that if a novel viral pathogen was detected, additional diagnostic specimens would be available for confirmatory testing and to determine the diversity and distribution of pathogen genomic material in alternative specimen types/matrices.

RNA extraction from deactivated wildlife samples and cDNA production will be conducted at the Sokoine University of Agriculture (SUA) Emerging Infectious Disease Molecular Diagnostic Laboratory in Morogoro, Tanzania, as above. As capacity is built at the SUA diagnostic
laboratory for viral family level PCR protocols, testing will be completed for all possible viral families on-site. In addition, an aliquot of the cDNA products will be reserved for shipment to IHI for viral family screening if timelines for testing cannot be met at SUA. An additional aliquot will be reserved in case shipment to the University of California, Davis (UCD) One Health Institute molecular diagnostic laboratory is necessary for assessment of capacity building; quality control screening as SUA and IHI gain experience with the viral family level protocols; and to augment capacity if both SUA and IHI become overloaded by sample submission numbers. Comparative screening at UCD will be used to help refine laboratory protocols at SUA and IHI to ensure high-level in-country viral diagnostic

capacity. Lab technicians at SUA have experience extracting viral RNA from diverse wildlife specimens. Duplicate wildlife specimens will be stored in VTM in a secured BSL-3 laboratory at IHI for transfer to more biosecure facilities if further diagnostic work is indicated.
Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* At least 500 specimens screened yearly (screening capacity and activity is expected to increase substantially following year 1 trainings). *Deliverables:* Viral diagnostics section in annual report.

xii. Task 12: Molecular characterization of viruses

For any suspect positive sample (wildlife or human), confirmatory cloning of PCR products will initially be performed at the in-country laboratories with the UCD One Health Institute molecular diagnostic lab providing back-up support for sequencing and for additional testing in case DTRA-specific timelines for research completion are not being met or if our team is not able to efficiently obtain results that will be used to refine field sampling approaches. Cloning procedures will also be introduced to IHI to increase in-country diagnostic capacity, should equipment and maintenance be available. SUA and IHI currently lack the physical infrastructure for viral sequencing. Initial samples will be sequenced at UCD and through the locally sustainable option of sending samples to Korea for economically efficient ($7) outsourced sequencing (ILRI also an option if economically feasible), as is practiced in much of the world. Following viral sample sequencing, Bayesian and maximum likelihood phylogenetic analyses will be used to determine the genetic similarity of viruses from bats, primates, and humans.
Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Mugasa. *Metrics of Success:* All suspect positive specimens will be characterized within 3 months of initial diagnostic testing results. *Deliverables:* Molecular characterization section in annual report, at least 1 publication.

xiii. Task 13: Data analysis/modeling

All statistical modeling and spatial analyses will be jointly conducted by Tanzania and US-based researchers. Tanzanian masters students, the IHI post-doctoral scientist, and additional research partners from SUA, IHI, and TAWIRI will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries. Collaborative model building by US and Tanzanian researchers will enhance local relevance and the capacity for epidemiologic data analysis in Tanzania. Jointly developed models and software code will serve as a resource for future wildlife and human surveillance data analysis by SUA, IHI, and TAWIRI. Data sharing between partner institutions will also ensure that the most current and accurate risk factor, geospatial, and animal and human population data are integrated into the analyses.
Subtask 13-a: Statistical risk factor modeling
Prevalence of exposure for each viral family will be estimated in bats, NHP, and people at characterized field sites, and mixed effects logistic regression models will be used to evaluate demographic, seasonal, and ecological risk factors for exposure in humans and wildlife. Mixed effects models will use site of capture (wildlife) or health clinic as the cluster variable for animal and human models, respectively, to account for unmeasured correlation among individuals. Environmental risk factors will be characterized during field site assessments

and using GIS data in QGIS. All statistical analyses will be performed in R statistical software.

Subtask 13-b: Spatial analyses

Spatial analyses for clusters of viral exposure will be performed to identify hotspots of pathogen transmission as targets for controlling spillover from wildlife to human populations. GPS locations collected during fieldwork will be used for bats and NHP. Human locations will be geocoded based on village of primary residence. Geographical clustering of viral exposure (each identified viral family and all viral families combined) will be evaluated among bats, NHPs, and humans using a Bernoulli model elliptical scanning window in SatScan v. 9.0 [40,41]. Tanzanian masters students will be trained in open source analysis software, as access to these programs is more sustainable than access to proprietary statistical software in developing countries.

Personnel involved: Fair, Mazet, Miller,VanWormer, Kazwala, Masanja, Mugasa, TAWIRI Collaborator (TBN). *Metrics of Success:* Statistical risk factor models and spatial models developed to characterize risk factors for and potential geographic hotspots of zoonotic viral transmission. *Deliverables:* Data analysis and modeling section in annual report and likely publication depending on results.

xiv. Task 14: Data interpretation, development of stakeholder communications, and local distribution of findings

Data analyzed above will be used to develop reports for DTRA and the Tanzanian government. In addition, informational materials will be developed in consultation with these agencies and participating stakeholders to provide community education on disease transmission risks and to influence behavior change. These materials may include household-targeted materials, posters, and animated educational videos distributable to mobile devices. At least two peer-reviewed manuscripts are expected in total from the proposed research project.

Personnel involved: Fair, Mazet, Miller, VanWormer, Kazwala, Masanja, Mugasa. *Metrics of Success:* Final report of data analysis and results delivered to all international and local stakeholders, locally appropriate outreach materials developed and distributed for community outreach. *Deliverables:* Data analysis and results section in annual report, at least 2 publications in total following data interpretation. Outreach materials included as appendix in annual report.

V. PERFORMANCE SCHEDULE.

Project Timeline	**Year 1** Oct2013-Sep2014				**Year 2** Oct2014-Sep2015				**Year 3** Oct2015-Sep2016			
Task: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings												
2: Administrative startup and maintenance												
3: Data management												
4: Training & mentorship												
5: Field site assessment & prep												

6: Human sample archive assessment												
7: Active human surveillance												
8: Active wildlife surveillance												
9: Environmental characterization												
10: Sample repository management												
11: Viral diagnostics												
12: Molecular viral characterization												
13: Data analysis/ modeling												
14: Data interpretation, distribution of findings												

VI. REFERENCES

1. Taylor L, Latham S, Woolhouse M (2001) Risk factors for human disease emergence. Philosophical Transactions of the Royal Society of London B 356: 983-989.
2. Amman BR, Carroll SA, Reed ZD, Sealy TK, Balinandi S, et al. (2012) Seasonal pulses of Marburg virus circulation in juvenile *Rousettus aegyptiacus* bats coincide with periods of increased risk of human infection. PLoS Pathogens 8: e1002877.
3. Leroy EM, Epelboin A, Pourrut X, Gonzalez J-P, Muyembe-Tamfum J-J, et al. (2009) Human Ebola outbreak resulting from direct exposure to fruit bats in Luebo, Democratic Republic of Congo, 2007. Vector-borne and Zoonotic Diseases 9: 723-728.
4. Albarino CG, Shoemaker T, Khristova ML, Wamala JF, Muyembe JJ, et al. (2013) Genomic analysis of filoviruses associated with four viral hemorrhagic fever outbreaks in Uganda and the Democratic Republic of the Congo in 2012. Virology: *in press*.
5. Leroy EM, Kumulungui B, Pourrut X, Rouquet P, Hassanin A, et al. (2005) Fruit bats as reservoirs of Ebola virus. Nature 438: 575-576.
6. Calisher CH, Holmes KV, Dominguez SR, Shountz T, Cryan P (2008) Bats prove to be rich reservoirs for emerging diseases. Microbe 3: 521-528.
7. Luis AD, Hayman DTS, O'Shea TJ, Cryan PM, Gilbert AT, et al. (2013) A comparison of bats and rodents as reservoirs of zoonotic viruses: are bats special? Proceedings of the Royal Society B 280: *in press*.
8. Hayman DTS, Bowen RA, Cryan PM, McCracken GF, O'Shea TJ, et al. (2013) Ecology of zoonotic infectious diseases in bats: current knowledge and future directions. Zoonoses and Public Health 60: 2-21.
9. Quan P-L, Firth C, Conte JM, Williams SH, Zambrana-Torrelio CM, et al. (2013) Bats are a major natural reservoir for hepaciviruses and pegiviruses. PNAS 110: 8194-8199.
10. Hayman DTS, Emmerich P, Yu M, Wang L-F, Suu-Ire R, et al. (2010) Long-term

survival of an urban fruit bat seropositive for Ebola and Lagos bat viruses. PLoS one 5: e11978.

11. Hayman DTS, Yu M, Crameri G, Wang L-F, Suu-Ire R, et al. (2012) Ebola virus antibodies in fruit bats, Ghana, West Africa. Emerging Infectious Diseases 18: 1207-1209.
12. Wolfe ND, Heneine W, Carr JK, Garcia AD, Shanmugam V, et al. (2005) Emergence of unique primate T-lymphotropic viruses among central African bushmeat hunters. PNAS 102: 7994-7999.
13. Pourrut X, Kumulungui B, Wittmann T, Moussavou G, Delicat A, et al. (2005) The natural history of Ebola virus in Africa. Microbes and Infection 7: 1005-1014.
14. Gomez JM, Nunn CL, Verdu M (2013) Centrality in primate-parasite networks reveals the potential for the transmission of emerging infectious diseases to humans. PNAS: *in press*.
15. Heeney JL, Dalgeish AG, Weiss RA (2006) Origins of HIV and the evolution of resistance to AIDS. Science 313: 462-466.
16. Rouquet P, Froment J-M, Bermejo M, Kilbourn A, Karesh W, et al. (2005) Wild animal mortality monitoring and human ebola outbreaks, Gabon and Republic of Congo, 2001- 2003. Emerging Infectious Diseases 11: 283-290.
17. Seltzer CE, Ndangalasi HJ, Cordeiro NJ (2013) Seed dispersal in the dark- shedding light on the role of fruit bats in Africa. Biotropica: *in press*.
18. Bausch DG, Nichol ST, Muyembe-Tamfum JJ, Borchert M, Rollin PE, et al. (2006) Marburg hemorrhagic fever associated with multiple genetic lineages of virus. New England Journal of Medicine 355: 909-919.
19. Towner JS, Amman BR, Sealy TK, Carroll SAR, Comer JA, et al. (2009) Isolation of genetically diverse Marburg viruses from Egyptian fruit bats. PLoS Pathogens 5: e1000536.
20. Khan AS, Sanchez A, Pflieger AK (1998) Filoviral haemorrhagic fevers. British Medical Bulletin 54: 675-692.
21. Amblard J, Obiang P, Edzang S, Prehaud C, Bouloy M, et al. (1997) Identification of the Ebola virus in Gabon in 1994. The Lancet 349: 181-182.
22. Muyembe-Tamfum JJ, Kipasa M, Kiyungu C, Colebunders R (1999) Ebola outbreak in Kikwit, Democratic Republic of Congo: Discovery and control measures. Journal of Infectious Diseases 179: S259-S262.
23. Harchut K, Standley C, Dobson A, Klaassen B, Rambaud-Althaus C, et al. (2013) Over- diagnosis of malaria by microscopy in Kilombero Valley, Southern Tanzania: evaluation of the utility and cost-effectiveness of rapid diagnostic tests. Malaria Journal 12: 159.
24. Reyburn H, Mbatia R, Drakeley C, Carneiro I, Mwakasungula E, et al. (2004) Overdiagnosis of malaria in patients with severe febrile illness in Tanzania: a prospective study. BMJ 329: 1212-1218.
25. Mittermeier RA, Gil PR, Hoffman M, Pilgrim J, Brooks T, et al. (2004) Hotspots revisited: Earth's biologically richest and most endangered terrestrial ecosystems.
26. Burgess N, Butynski T, Cordeiro N, Doggart N, Fjeldsa J, et al. (2007) The biological importance of the Eastern Arc Mountains of Tanzania and Kenya.

Biological Conservation 134: 209-231.
27. Marshall AR, Jorgensbye HI, Rovero F, Platts PJ, White PC, et al. (2010) The species-area relationship and confounding variables in a threatened monkey community. American Journal of Primatology 72: 325-336.
28. Rovero F, Marshall AR, Jones T, Perkin A (2009) The primates of the Udzungwa Mountains: diversity, ecology and conservation. Journal of Anthropological Sciences 87: 93-126.
29. Trentin L, Rovero F (2011) Results of an inventory of bats in the Uzungwa Scarp Forest Reserve, Tanzania. Journal of East African Natural History 100: 45-57.
30. Stanley WT, Nikundiwe AM, Mturi FA, Kihaule PM, Moehlman PD (2005) Small mammals collected in the Udzungwa Mountains National Park, Tanzania. Journal of East African Natural History 94: 203-212.
31. Kitula RA (2007) Use of medicinal plants for human health in Udzungwa Mountains Forests: a case study of New Dabaga Ulongambi Forest Reserve, Tanzania. Journal of Ethnobiology and Ethnomedicine 3: 7.
32. Nielsen MR (2006) Importance, cause and effect of bushmeat hunting in the Udzungwa Mountains, Tanzania: Implications for community based wildlife management. Biological Conservation 128: 509-516.
33. Topp-Jorgensen E, Nielsen MR, Marshall A, Pedersen U (2009) Mammalian density in response to different levels of bushmeat hunting in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 2: 70-87.
34. Rovero F, Mtui AS, Kitegile AS, Nielsen MR (2012) Hunting or habitat degradation? Decline of primate populations in Udzungwa Mountains, Tanzania: An analysis of threats. Biological Conservation 146: 89-96.
35. Marshall AR, Topp-Jorgensen JE, Brink H, Fanning E (2005) Monkey abundance and social structure in two high-elevation forest reserves in the Udzungwa Mountains of Tanzania. International Journal of Primatology 26: 127-145.
36. Marshall AR (2007) Disturbance in the Udzungwas: responses of monkeys and trees to forest degradation. York, UK: University of York. 151 p.
37. Topp-Jorgensen JE, Marshall AR, Brink H, Pedersen UB (2008) Quantifying the response of tree hyraxes (*Dendrohyrax validus*) to human disturbance in the Udzungwa Mountains, Tanzania. Tropical Conservation Science 1: 63-74.
38. Smith CS, De Jong CE, Field HE (2010) Sampling small quantities of blood from microbats. Acta Chiropterologica 12: 255-258.
39. Smiley T, Spelman L, Lukasik-Braum M, Mukherjee J, Kaufman G, et al. (2010) Noninvasive saliva collection techniques for free-ranging Mountain gorillas and captive Eastern gorillas. Journal of Zoo and Wildlife Medicine 41: 201-209.
40. Kulldorff M, Nagarwalla N (1995) Spatial disease clusters: detection and inference. Statistics in Medicine 14: 799-810.
41. Kulldorff M, Huang L, Pickle L, Duczmal L (2006) An elliptic spatial scan statistic. Statistics in Medicine 25: 3929-3943.

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Exhibit A Statement of Work	22	10-APR-2018
Exhibit B	Terms & Conditions	39	

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit B	Terms & Conditions	39	
Attachment 1	Revised SOW dated 2 May 18		02-MAY-2018

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 5

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00001	14-Apr-2016	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4CO 8725 JOHN J. KINGMAN RD. FT. BELVOIR VA 22060-6201	HDTRA1	See Item 6	

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
METABIOTA, INC. FOIA (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
IAW T&C Number 10

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this modification is to provide incremental funding in the amount of $857,523.00 and update the Funding Profile Clause 252.232-900. All other terms and conditions remain unchanged.

PR#HDTRA152030303

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
		(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL (b)(6) EMAIL (b)(6)
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)
		16C. DATE SIGNED 14-Apr-2016

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000103 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000103					$0.00
	Year Two Funding Info Only				
	FOIA (b)(4)				
	FY14 Ebola Funds				
	FOB: Destination				
				NET AMT	$0.00
	ACRN AC				$857,523.00
	CIN: HDTRA1412303000103				

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000103:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $857,523.00 from $870,729.00 to $1,728,252.00.

SUBCLIN 000103:
Funding on SUBCLIN 000103 is initiated as follows:

ACRN: AC

CIN: HDTRA1412303000103

Acctng Data: 044315 097 0134 000 N 20142016 D 34HQ 0901515BR-KD-BP 1416-0134-34HQ-EBOCT DTRA 410

Increase: $857,523.00

Total: $857,523.00

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addres

b. Grantee Business Office:
Name: FOIA (b)(6)
Title:
Phone:
E-mail:

c. Grantee Principal Investigator (PI):
Name: FOIA (b)(6)
Title:
Phone:
E-mail:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:
Name: (b)(6)
Defense Threat Reduction Agency/J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
telephone (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total obligated amount under this Grant is $1,728,252.00 for work performed during the period beginning with Grant award and continuing through Year 2. Additional incremental funding planned, but not obligated, is:
Year 3 $792,585.00
The Government's liability is limited to the amount obligated

The following have been deleted:

252.232-7007 Limitation Of Government's Obligation APR 2014

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	30-Mar-2017	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA STREET SUITE 200 SAN FRANCISCO CA 94104-2104		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
	X	10B. DATED (SEE ITEM 13) 05-Aug-2014
CODE 56SP4	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor [X] is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN:23202

The purpose of this modification is to update the grant administration office and provide Year 3 funding in the amount of $792,595.00 to subCLIN 000105, ACRN AD, in support of CLIN 0001.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL (b)(6) EMAIL (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 30-Mar-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The standard size code 1,000 has been added.
The NAICS code 541711 has been added.

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000101
The FOB Destination has been deleted.

SUBCLIN 000102
The FOB Destination has been deleted.

SUBCLIN 000103
The FOB Destination has been deleted.

SUBCLIN 000104 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000104					$0.00

Year 3 funding
FOIA (b)(6)
Funding in the amount of $792,585.00.

NET AMT	$0.00
ACRN AD	$792,585.00

CIN: J3CTB23203000104

SECTION E - INSPECTION AND ACCEPTANCE

The Acceptance/Inspection Schedule for SUBCLIN 000101 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY

N/A	N/A	N/A	N/A

The Acceptance/Inspection Schedule for SUBCLIN 000102 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The Acceptance/Inspection Schedule for SUBCLIN 000103 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The following Acceptance/Inspection Schedule was added for SUBCLIN 000104:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $792,585.00 from $1,728,252.00 to $2,520,837.00.

SUBCLIN 000104:
Funding on SUBCLIN 000104 is initiated as follows:

ACRN: AD

CIN: J3CTB23203000104

Acctng Data: 044315 097 0134 000 N 20172019 D 34HQ 0901515BR_KD_BP2_OT 1719_0134_34HQ_SCNCT DTRA 410

Increase: $792,585.00

Total: $792,585.00

The following have been added by reference:

252.204-0002

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total obligated amount under this Grant is $2,520,837.00 for work performed during the period beginning with Grant award and continuing through Year 3. Additional incremental funding planned, but not obligated, is:
$0.00
The Government's liability is limited to the amount obligated

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00004	25-Aug-2017	HDTRA1412303	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		9A. AMENDMENT OF SOLICITATION NO.
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA STREET SUITE 200 SAN FRANCISCO CA 94104-2104		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0052
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 05-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

Modification Control Number: (b)(4)

RQN: HDTRA1723202B

The purpose of this adminstrative modification is to correct the grant administrative office by changing it to DCMA Stockton. This modification will also correct Box 14 on Modification P00003 by clarifiying that the no-cost extension will be changed from August 5, 2016-August 4, 2017 to August 5, 2016-June 4, 2018 and to update the funding profile clause.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 23-Aug-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'administered by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4CO
8725 JOHN J. KINGMAN RD.
FT. BELVOIR VA 22060-6201
to
DCMA STOCKTON
3247 WEST MARCH LANE, STE 300
STOCKTON CA 95219

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total obligated amount under this Grant is $2,520,837.00 for work performed during the period beginning with Grant award and continuing through June 04, 2018. Additional incremental funding planned, but not obligated, is:

$0.00

The Government's liability is limited to the amount obligated

(End of Summary of Changes)

REQUEST FOR ADVANCE OR REIMBURSEMENT

(See instructions on back)

OMB APPROVAL NO. 0348-0004

PAGE 1 OF 2 PAGES

1. TYPE OF PAYMENT REQUESTED — a. "X" one or both boxes: [ ] ADVANCE [x] REIMBURSEMENT; b. "X" the applicable box: [x] FINAL [ ] PARTIAL

2. BASIS OF REQUEST: [ ] CASH [x] ACCRUAL

3. FEDERAL SPONSORING AGENCY AND ORGANIZATION ELEMENT TO WHICH THIS REPORT IS SUBMITTED: **Defense Threat Reduction Agency/ J3CTB**

4. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER ASSIGNED BY FEDERAL AGENCY: **HDTRA1-14-1-0052**

5. PARTIAL PAYMENT REQUEST NUMBER FOR THIS REQUEST:

6. EMPLOYER IDENTIFICATION NUMBER: FOIA (b)(6)

7. RECIPIENT'S ACCOUNT NUMBER OR IDENTIFYING NUMBER:

8. PERIOD COVERED BY THIS REQUEST — FROM (month, day, year): **04/01/2018** TO (month, day, year): **06/4/2018**

9. RECIPIENT ORGANIZATION

Name: **Metabiota, Inc**

Number and Street: **425 California Street, Ste 1200**

City, State and ZIP Code: **San Francisco, CA 94104**

10. PAYEE *(Where check is to be sent is different than item 9)*

Name:

Number and Street:

City, State and ZIP Code:

11. COMPUTATION OF AMOUNT OF REIMBURSEMENTS/ADVANCES REQUESTED

PROGRAMS/FUNCTIONS/ACTIVITIES ▶		(a) Zoonotic Viral Sharing in S.T. (TZ6)	(b)	(c)	TOTAL
a. Total program outlays to date *(As of date)*		$ 730,809.73	$	$	$ 730,809.73
b. *Less:* Cumulative program income		0.00			0.00
c. Net program outlays *(Line a minus line b)*		730,809.73	0.00	0.00	730,809.73
d. Estimated net cash outlays for advance period		0.00			0.00
e. Total *(Sum of lines c & d)*		730,809.73	0.00	0.00	730,809.73
f. Non-Federal share of amount on line e		0.00	0.00	0.00	0.00
g. Federal share of amount on line e		730,809.73			730,809.73
h. Federal payments previously requested		694,005.59			694,005.59
i. Federal share now requested *(Line g minus line h)*		36,804.14	0.00	0.00	36,804.14
j. Advances required by month, when requested by Federal grantor agency for use in making prescheduled advances	1st month				
	2nd month				
	3rd month				

12. ALTERNATE COMPUTATION FOR ADVANCES ONLY

a. Estimated Federal cash outlays that will be made during period covered by the advance	$
b. *Less:* Estimated balance of Federal cash on hand as of beginning of advance period	
c. Amount requested *(Line a minus line b)*	$ 0.00

13.	CERTIFICATION		
I certify that to the best of my knowledge and belief the data on the reverse are correct and that all outlays were made in accordance with the grant conditions or other agreement and that payment is due and has not been previously requested.	SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL FOIA (b)(6) TYPED OR PRINTED NAME AND TITLE FOIA (b)(6)	DATE REQUEST SUBMITTED **7/17/2018** TELEPHONE (AREA CODE, NUMBER, EXTENSION) FOIA (b)(6)	

This space for agency use

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0004), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET, SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

INSTRUCTIONS

Please type or print legibly. Items 1, 3, 5, 9, 10, 11c, 11e, 11f, 11g, 11i, 12 and 13 are self-explanatory; specific instructions for other items are as follows:

Item	*Entry*
2	Indicate whether request is prepared on cash or accrued expenditure basis. All requests for advances shall be prepared on a cash basis.
4	Enter the Federal grant number, or other identifying number assigned by the Federal sponsoring agency. If the advance or reimbursement is for more than one grant or other agreement, insert N/A; then, show the aggregate amounts. On a separate sheet, list each grant or agreement number and the Federal share of outlays made against the grant or agreement.
6	Enter the employer identification number assigned by the U.S. Internal Revenue Service, or the FICE (institution) code if requested by the Federal agency.
7	This space is reserved for an account number or other identifying number that may be assigned by the recipient.
8	Enter the month, day, and year for the beginning and ending of the period covered in this request. If the request is for an advance or for both an advance and reimbursement, show the period that the advance will cover. If the request is for reimbursement, show the period for which the reimbursement is requested.
Note:	The Federal sponsoring agencies have the option of requiring recipients to complete items 11 or 12, but not both. Item 12 should be used when only a minimum amount of information is needed to make an advance and outlay information contained in item 11 can be obtained in a timely manner from other reports.
11	The purpose of the vertical columns (a), (b), and (c), is to provide space for separate cost breakdowns when a project has been planned and budgeted by program, function, or activity.

Item	*Entry*
	If additional columns are needed, use as many additional forms as needed and indicate page number in space provided in upper right; however, the summary totals of all programs, functions, or activities should be shown in the "total" column on the first page.
11a	Enter in "as of date," the month, day, and year of the ending of the accounting period to which this amount applies. Enter program outlays to date (net of refunds, rebates, and discounts), in the appropriate columns. For requests prepared on a cash basis, outlays are the sum of actual cash disbursements for goods and services, the amount of indirect expenses charged, the value of in-kind contributions applied, and the amount of cash advances and payments made to subcontractors and subrecipients. For requests prepared on an accrued expenditure basis, outlays are the sum of the actual cash disbursements, the amount of indirect expenses incurred, and the net increase (or decrease) in the amounts owed by the recipient for goods and other property received and for services performed by employees, contracts, subgrantees and other payees.
11b	Enter the cumulative cash income received to date, if requests are prepared on a cash basis. For requests prepared on an accrued expenditure basis, enter the cumulative income earned to date. Under either basis, enter only the amount applicable to program income that was required to be used for the project or program by the terms of the grant or other
11d	Only when making requests for advance payments, enter the total estimated amount of cash outlays that will be made during the period covered by the advance.
13	Complete the certification before submitting this request.

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page of pages
Defense Threat Reduction Agency/J3CTB	HDTRA1-14-1-0052	1 1

3. Recipient Organization (Name and complete address including Zip code)

Metabiota, Inc., 425 California Street, San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(6)		☑ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☑ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 8/4/2014	To: 6/4/2018	12/31/2017

10. **Transactions**	Cumulative
(Use lines a-c for single or multiple grant reporting)	
Federal Cash (To report multiple grants, also use FFR Attachment):	
a. Cash Receipts	$2,392,441.58
b. Cash Disbursements	$2,407,854.31
c. Cash on Hand (line a minus b)	-$15,412.73
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$2,520,837.00
e. Federal share of expenditures	$2,407,854.31
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$2,407,854.31
h. Unobligated balance of Federal funds (line d minus g)	$112,982.69
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
	d. Email Address
	FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	1/29/2018
	14. Agency use only:

Standard Form 425 - Revised 6/28/2010
OMB Approval Number: 0348-0061
Expiration Date: 10/31/2011

Paperwork Burden Statement

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page 1 of 1 pages
Defense Threat Reduction Agency/J3CTB	HDTRA1-14-1-0052	

3. Recipient Organization (Name and complete address including Zip code)
Metabiota, Inc., 425 California Street, Suite 1200, San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(6)		☐ Quarterly ☐ Semi-Annual ☐ Annual ☑ Final	☐ Cash ☑ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 8/4/2014	To: 6/4/2018	6/4/2018

10. **Transactions**	Cumulative
(Use lines a-c for single or multiple grant reporting)	
Federal Cash (To report multiple grants, also use FFR Attachment):	
a. Cash Receipts	$2,407,854.31
b. Cash Disbursements	$2,459,061.73
c. Cash on Hand (line a minus b)	-$51,207.42
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$2,520,837.00
e. Federal share of expenditures	$2,459,061.73
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$2,459,061.73
h. Unobligated balance of Federal funds (line d minus g)	$61,775.27
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
	d. Email Address: FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	7/17/2018
	14. Agency use only:

Standard Form 425 - Revised 6/28/2010
OMB Approval Number: 0348-0061
Expiration Date: 10/31/2011

Paperwork Burden Statement

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

DEFENSE THREAT REDUCTION AGENCY (DTRA)
GENERAL TERMS AND CONDITIONS FOR GRANT AWARDS TO FOR-PROFIT ORGANIZATIONS

WIDE AREA WORKFLOW VERSION

TABLE OF CONTENTS

1. Acceptance of Grant
2. Recipient Responsibilities
3. Order of Precedence
4. Administration and Cost Principles
5. Standards for Financial Management Systems
6. Modification of the Grant
7. Prior Approvals
8. Unobligated Balances
9. Payments
10. Funding Increments and/or Options
11. Cost Sharing or Matching
12. Allowable Costs
13. Program Income
14. Interest Earned
15. Debt Collection
16. Audits
17. Subawards
18. Procurement Standards
19. Title to Real Property and Equipment
20. Intangible Property
21. Patent Rights
22. Technical Reporting Requirements
23. Financial Reporting Requirements
24. After-the-Award Requirements
25. Delegation of Administration Duties
26. Claims, Disputes and Appeals
27. Termination and Enforcement
28. Security
29. Representations and Assurances
30. Research Involving Recombinant DNA Molecules
31. Retention and Access to Records
32. Certification
33. Data Collection
34. Site Visits
35. Publications and Acknowledgement of Sponsorship
36. Fee and Profit
37. Combating Trafficking in Persons
38. Central Contractor Registration and Universal Identifier Requirements
39. Reporting Subawards and Executive Compensation

1. **Acceptance of Grant.** The recipient is not required to countersign the Grant document; however, the recipient agrees to the conditions specified in the Research Grant and the Articles contained herein unless notice of disagreement is furnished to the Grants Officer within fifteen (15) calendar days after the date of the Grants Officer's signature. In case of disagreement, the recipient shall not assess the Grant any costs of the research unless and until such disagreement(s) is resolved.

2. **Recipient Responsibilities.**

a. The recipient will bear primary responsibility for the conduct of the research and will exercise judgment towards attaining the stated research objectives within the limits of the Grant's Terms and Conditions.

b. The Principal Investigator(s) (PI) specified in the Grant award will be continuously responsible for the conduct of the research project and will be closely involved with the research effort. The PI, operating within the policies of the recipient, is in the best position to determine the means by which the research may be conducted most effectively.

c. The recipient is the responsible authority, without recourse to DTRA regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into in support of an award or other agreement.

d. Recipients are responsible for monitoring each project, program, subaward, function or activity supporting the award. Recipients shall monitor subawards to ensure subrecipients have met the audit requirements specified in Department of Defense (DoD) Grant and Assistance Regulations (DoDGARs) §34.16, if applicable.

3. **Order of Precedence.** This Grant is subject to the laws and regulations of the United States. Any inconsistency or conflict in the terms and conditions specified in this Grant shall be resolved according to the following order of precedence:

a. The Federal statute authorizing this award, or any other Federal statutes directly affecting performance of this Grant.

b. DoD 3210.6-R, DoDGARs and Part 34, "Administrative Requirements for Grants and Agreements with For-Profit Organizations," as appropriate and Appendix A thereto.

c. Other terms and conditions contained within the Grant and any attachments.

d. These General Terms and Conditions.

4. **Administration and Cost Principles.** The following documents and attachments, effective the earlier of (i) the start date of this Grantor (ii) the date on which the recipient incurs costs to be assessed against the Grant, are incorporated by reference as part of this Grant:

a. DoD 3210.6-R, DoDGARs and Part 34, "Administrative Requirements for Grants and Agreements with For-Profit Organizations," as appropriate and

Appendix A thereto. DoDGARs is derived from 32 CFR Parts 21-37 and Part 1125. (DoDGARs may be accessed online at http://www.dtic.mil/whs/directives/corres/html/321006r.htm.)

b. Subpart 31.2 of the Federal Acquisition Regulation (FAR) (48 CFR Subpart 31). (FAR may be accessed online at http://farsite.hill.af.mil/vffara.htm.)

c. Subpart 231.2 of the DoD FAR Supplement (DFARS) (48 CFR Subpart 231). (DFARS may be accessed online at http://farsite.hill.af.mil/VFDFARA.HTM.)

5. Standards for Financial Management Systems. In accordance with DoDGARs Part 34, For-Profit organizations will use their existing financial management system established for doing business in the commercial marketplace, to the extent that the systems comply with Generally Accepted Accounting Principles and the minimum standards contained in DoDGARs §34.11, §34.16, and §34.17.

6. Modification of the Grant. The only method by which this Grant may be modified is by a formal, written modification signed by the Grants Officer. No other communications, whether oral or in writing, are valid.

7. Prior Approvals.

a. In accordance with DoDGARs §34.15 for For-Profit organizations, prior approval of the following deviations from budget and program plans is required:

(1) Change in the scope or the objective of the project or program (even if there is no associated budget revision requiring prior written approval). (Approval via modification of the Grant.)

(2) A change in a key person specified in the application or award document. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(3) The absence for more than three months, or a 25 percent reduction in time devoted to the project, by the approved project director or principal investigator. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(4) Request for a no-cost extension, must be submitted in writing to the Grants Officer and must be received at least thirty (30) calendar days prior to the end of the current performance period. (Approval via modification of the Grant.)

(5) Any request for additional funding. (Approval via modification of the Grant.)

(6) The inclusion of any additional costs that require prior approval in accordance with applicable cost principles for Federal funds and recipients' cost share or match, in §34.17 and §34.13, respectively. (Approval via written notification

from the Grants Officer or modification of the Grant, depending on the circumstances.)

(7) Any subaward, transfer or contracting out of substantive program performance under an award, unless described in the application and funded in the approved awards. This provision does not apply to the purchase of supplies, material, or general support services, except that procurement of equipment or other capital items of property always is subject to the Grants Officer's prior approval under §34.21(a), if it is to be purchased with Federal funds, or §34.13(a)(7), if it is to be used as cost sharing or matching. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(8) The transfer of funds among direct cost categories, functions and activities for awards in which the Federal share of the project exceeds $100,000 and the cumulative amount of such transfers exceeds or is expected to exceed 10 percent of the total budget as last approved by the DoD Component. No DoD Component shall permit a transfer that would cause any Federal appropriation or part thereof to be used for purposes other than those consistent with the original intent of the appropriation. (Approval via written notification from the Grants Officer.)

(9) The inclusion of pre-award costs. All such costs are incurred at the recipient's risk (i.e., DTRA is under no obligation to reimburse such costs if for any reason the recipient does not receive an award, or if the award is less than anticipated and inadequate to cover such costs). (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(10) The purchase of real property or equipment not previously approved as part of the grant award. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

b. In accordance with DoDGARs §34.21(a), recipients may purchase real property or equipment in whole or in part with Federal funds under an award only with the prior approval of the Grants Officer. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

c. Prior approval is not required to transfer amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa. Note: If directed in the DoD Appropriations Act for the funding obligated under this grant, the indirect costs of awards funded with Basic Research funding must be a certain percentage or less of the total award value. Revised budgets may be required.

d. Within 30 calendar days from the date of receipt of the recipient's request for budget revisions, the Grants Officer shall review the request and notify the recipient whether the budget revisions have been approved. If the revision is still under consideration at the end of 30 calendar days, the Grants Officer shall inform the recipient in writing of the date when the recipient may expect the decision.

8. Unobligated Balances. In the absence of any specific notice to the contrary, the recipient is authorized to carry forward unobligated balances to subsequent funding periods of this Grant agreement.

9. Payments. 2 CFR 215.22 governs the Federal awarding agency's and recipient's responsibilities concerning payments, with the following clarifications:

a. See **Financial Reporting Requirements** under Article 23 of this document. If these financial reporting requirements are not met, payment cannot be disbursed.

b. Payments will be made in advance, subject to the conditions described in 2 CFR 215.22(b),

> "Recipients are to be paid in advance, provided they maintain or demonstrate the willingness to maintain:
> (1) Written procedures that minimize the time elapsing between the transfer of funds and disbursement by the recipient, and
> (2) Financial management systems that meet the standards for fund control and accountability as established in §215.21. Cash advances to a recipient organization shall be limited to the minimum amounts needed and be timed to be in accordance with the actual, immediate cash requirements of the recipient organization in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to the actual disbursements by the recipient organization for direct program or project costs and the proportionate share of any allowable indirect costs."

c. All payments shall be made by electronic funds transfers (EFT) to the bank account registered in the Central Contractor Registration (CCR). The Grantee agrees to maintain its registration in CCR including information necessary to facilitate payment via EFT. Should a change in registry or other incident necessitate the payment to an account other than that maintained in CCR, it is the Grantee's responsibility to notify the Grants Officer and obtain a modification to this Grant reflecting the change. The Government shall not be held responsible for any misdirection or loss of payment which occurs as the result of a Grantee's failure to maintain correct/current EFT information within its CCR registration. Refer to Article 38 for further information on CCR.

d. Recipients shall submit requests for payment using Wide Area Workflow (WAWF) at https://wawf.eb.mil/. Any request for advance payments must be approved by the Administrative Grants Office shown in Block 6 of the award. The request shall be submitted to the Administrative Office identified in Block 6 of the Research Grant by entering the following routing codes:

I. Pay Office DoDAAC: See Block 12 (Code) on the first page of the Grant.
II. Invoice Type: Grant and Cooperative Agreement Voucher.
III. Issue By DoDAAC: See Block 5 (Code) on the first page of the Grant.
IV. Admin DoDAAC: See Block 6 (Code) on the first page of the Grant.

V. Grant Approver: Same as Admin DoDAAC (Leave Ext. blank).

e. Payments will be made by the Defense Finance and Accounting Service (DFAS) office specified in the Research Grant (Block 12).

10. Funding Increments and/or Options. The recipient is advised that the Grantor's obligation to provide funding for increments and/or options included in the Grant is contingent upon satisfactory performance in the judgment of the DTRA Scientific Officer/Technical Monitor and the availability of funds. Other factors will be considered before options will be exercised (for example: expenditure rate and current programmatic objectives). Accordingly, no legal liability on the part of the Grantor exists unless or until funds are made available to the Grantor and notice of such availability is confirmed in writing to the recipient. Refer to the Funding Profile in Section G of the Grant for additional incremental funding planned, but not currently obligated for the Grant.

a. Funding Increments – In no event is the Government obligated to reimburse the recipient for expenditures in excess of the total funds allotted by the Government to this agreement. Recipients should note that low expenditure rates reported on payment requests may be cause for deferral of future increments. The Government anticipates unilateral modifications for funding increments.

b. Options – If the agreement contains Option(s), the Government reserves the right to exercise the Option(s) unilaterally.

11. Cost Sharing or Matching. Unless specified otherwise in other terms and conditions of the Grant, cost sharing or matching, if any, is included in accordance with DoDGARs §34.13.

12. Allowable Costs. Allowability of costs is in accordance with DoDGARs §34.17.

13. Program Income.

a. All program income earned during the project period (except proceeds from the sale of real and personal property and license fees and royalties received as a result of copyrights, patents, patent applications, trademarks, or inventions produced under the Grant) shall be deducted from the total project's allowable costs in determining the net allowable costs on which the Federal share of costs will be based (see DoDGARs §34.14). Proceeds from the sale of property that is acquired, rather than fabricated, under an award are not program income and shall be handled in accordance with the requirements of the Property Standards (see DoDGARs §34.20 through 34.25).

b. For awards that support research, DoDGARs §34.14(d)(1) shall apply automatically unless the terms and conditions specify another alternative or the recipient is subject to special award conditions, as indicated in DoDGARs §34.4.

14. Interest Earned. Interest earned will be subject to guidelines as specified in DoDGARs §34.12(b)(2)(iv). Interest earned shall be remitted annually to the Administrative Office annotated in Block 6 of the Grant Document, in the form of a check made payable to the U.S. Treasury.

15. Debt Collection. The establishment of debts owed by recipients of grants and transferring them to payment offices for collection shall be dealt with in accordance with DoDGARs §34.63.

16. Audits. Recipients are to periodically have independent, financial and compliance audits subject to DoDGARs §34.16.

17. Subawards. Recipients shall flow down requirements to subawards in accordance with DoDGARs §34.1(b)(2) and DoDGARs Appendix A to Part 34. Refer to Article 39 for reporting requirements for subawards.

18. Procurement Standards. Recipients shall comply with the standards set forth in DoDGARs §34.30 and 34.31 and applicable Federal statutes and Executive Orders when expending Federal funds for supplies, equipment, real property, and expendable property. Upon request, recipients shall make available for DTRA's pre-award review, procurement documents such as requests for proposals or invitations for bids, independent cost estimates, etc. in accordance with DoDGARs §34.31(b).

19. Title to Real Property and Equipment. Unless specified otherwise in other terms and conditions of the Grant, title to real property or equipment purchased in whole or in part with Federal funds shall vest in the recipient upon acquisition subject to the conditions that the recipient:

a. Use the real property or equipment for the authorized purposes of the project until funding for the project ceases, or until the property is no longer needed for the purposes of the project;

b. Not encumber the property without approval of the Grants Officer;

c. Use and dispose of the property in accordance with DoDGARs §34.21(d) and (e); and

d. Manage, use and dispose of property in accordance with DoDGARs §34.21 through §34.24.

20. Intangible Property. Rights in technical data and computer software under this Grant shall be in accordance with DoDGARs §34.25(b). DTRA does not waive any rights set forth in DoDGARs §34.25(b)(2).

a. Patents. Grants and cooperative agreements with:

(1) Small business concerns shall comply with 35 U.S.C. Chapter 18, as implemented by 37 CFR Part 401, which applies to inventions made under grants and cooperative agreements with small business concerns for research and development. 37 CFR 401.14 provides a standard clause that is required in such grants and cooperative agreements in most cases, 37 CFR 401.3 specifies when the clause shall be included, and 37 CFR 401.5 specifies how the clause may be modified and tailored.

(2) For-profit organizations other than small business concerns shall comply with 35 U.S.C. 210(c) and Executive Order 12591 (3 CFR, 1987 Comp., p. 220) (which codifies a Presidential Memorandum on Government Patent Policy, dated February 18, 1983).

(a) The Executive order states that, as a matter of policy, grants and cooperative agreements should grant to all for-profit organizations, regardless of size, title to patents made in whole or in part with Federal funds, in exchange for royalty-free use by or on behalf of the Government (i.e., it extends the applicability of 35 U.S.C. Chapter 18, to the extent permitted by law, to for-profit organizations other than small business concerns).

(b) 35 U.S.C. 210(c) states that 35 U.S.C. Chapter 18 is not intended to limit agencies' authority to agree to the disposition of rights in inventions in accordance with the Presidential memorandum codified by the Executive order. It also states that such grants and cooperative agreements shall provide for Government license rights required by 35 U.S.C. 202(c)(4) and march-in rights required by 35 U.S.C. 203.

b. Copyright, data and software rights. Requirements concerning data and software rights are as follows:

(1) The recipient may copyright any work that is subject to copyright and was developed under an award. DoD Components reserve a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.

(2) Unless waived by the DoD Component making the award, the Federal Government has the right to:

(a) Obtain, reproduce, publish or otherwise use for Federal Government purposes the data first produced under an award.

(b) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

21. <u>Patent Rights</u>.

For-Profit organizations other than small business concerns shall comply with 35 U.S.C. 210(c) and Executive Order 12591 (3 CFR, 1987 Comp., p. 220), which codifies a Presidential Memorandum on Government Patent Policy, dated February 18, 1983 (see DoDGARs §34.25(a)). All awardees shall comply with the following, in accordance with 37 CFR §401.14. Note: "Contractor" equals "Grantee", "Subcontractor" equals "Subawardee", and "Subcontract" equals "Subaward".

a. Definitions

(1) *Invention* means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 *et seq.*).

(2) *Subject invention* means any invention of the *contractor* conceived or first actually reduced to practice in the performance of work under this *contract,* provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of *contract* performance.

(3) *Practical Application* means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.

(4) *Made* when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) *Small Business Firm* means a small business concern as defined at section 2 of Pub. L. 85 536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3 8 and 13 CFR 121.3 12, respectively, will be used.

(6) *Nonprofit Organization* means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

b. Allocation of Principal Rights

The *Contractor* may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the *Contractor* retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

c. Invention Disclosure, Election of Title and Filing of Patent Application by *Contractor*

(1) The *contractor* will disclose each subject invention to the *Federal Agency* within two months after the inventor discloses it in writing to *contractor*

personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the *contract* under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the *agency,* the *Contractor* will promptly notify the *agency* of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the *contractor.*

(2) The *Contractor* will elect in writing whether or not to retain title to any such invention by notifying the *Federal agency* within two years of disclosure to the *Federal agency.* However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the *agency* to a date that is no more than 60 days prior to the end of the statutory period.

(3) The *contractor* will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The *contractor* will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure, election, and filing under subparagraphs (1), (2), and (3) may, at the discretion of the *agency,* be granted.

d. Conditions When the Government May Obtain Title

The *contractor* will convey to the *Federal agency,* upon written request, title to any subject invention—

(1) If the *contractor* fails to disclose or elect title to the subject invention within the times specified in (c), above, or elects not to retain title; provided that the *agency* may only request title within 60 days after learning of the failure of the *contractor* to disclose or elect within the specified times.

(2) In those countries in which the *contractor* fails to file patent applications within the times specified in (c) above; provided, however, that if the *contractor* has filed a patent application in a country after the times specified in (c) above,

but prior to its receipt of the written request of the *Federal agency*, the *contractor* shall continue to retain title in that country.

(3) In any country in which the *contractor* decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

e. Minimum Rights to *Contractor* and Protection of the *Contractor* Right to File

(1) The *contractor* will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the *contractor* fails to disclose the invention within the times specified in (c), above. The *contractor's* license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the *contractor* is a party and includes the right to grant sublicenses of the same scope to the extent the *contractor* was legally obligated to do so at the time the *contract* was awarded. The license is transferable only with the approval of the *Federal agency* except when transferred to the successor of that party of the *contractor's* business to which the invention pertains.

(2) The *contractor's* domestic license may be revoked or modified by the *funding Federal agency* to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and *agency* licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the *contractor* has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the *funding Federal agency* to the extent the *contractor,* its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the *funding Federal agency* will furnish the *contractor* a written notice of its intention to revoke or modify the license, and the *contractor* will be allowed thirty days (or such other time as may be authorized by the *funding Federal agency* for good cause shown by the *contractor*) after the notice to show cause why the license should not be revoked or modified. The *contractor* has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and *agency* regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

f. *Contractor* Action to Protect the Government's Interest

(1) The *contractor* agrees to execute or to have executed and promptly deliver to the *Federal agency* all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the

contractor elects to retain title, and (ii) convey title to the *Federal agency* when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

(2) The *contractor* agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the *contractor* each subject invention made under *contract* in order that the *contractor* can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1), above. The *contractor* shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The *contractor* will notify the *Federal agency* of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

(4) The *contractor* agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the *contract*) awarded by (identify the Federal agency). The government has certain rights in the invention."

g. Subcontracts

(1) The *contractor* will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the *contractor* in this clause, and the *contractor* will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The *contractor* will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by (*cite section of agency implementing regulations or FAR*).

(3) In the case of subcontracts, at any tier, when the prime award with the Federal agency was a contract (but not a grant or cooperative agreement), the *agency,* subcontractor, and the contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to the matters covered by the clause; provided,

however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (j) of this clause.

h. Reporting on Utilization of Subject Inventions

The *Contractor* agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the *contractor* or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as the *agency* may reasonably specify. The *contractor* also agrees to provide additional reports as may be requested by the *agency* in connection with any march-in proceeding undertaken by the *agency* in accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the *agency* agrees it will not disclose such information to persons outside the government without permission of the *contractor* .

i. Preference for United States Industry

Notwithstanding any other provision of this clause, the *contractor* agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the *Federal agency* upon a showing by the *contractor* or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j. March-in Rights

The *contractor* agrees that with respect to any subject invention in which it has acquired title, the *Federal agency* has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the *agency* to require the *contractor,* an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the *contractor,* assignee, or exclusive licensee refuses such a request the *Federal agency* has the right to grant such a license itself if the *Federal agency* determines that:

(1) Such action is necessary because the *contractor* or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the *contractor,* assignee or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the *contractor,* assignee or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

k. Special Provisions for *Contracts* with Nonprofit Organizations

If the *contractor* is a nonprofit organization, it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of the *Federal agency,* except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the *contractor;*

(2) The *contractor* will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) The balance of any royalties or income earned by the *contractor* with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and

(4) It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the *contractor* determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the *contractor* is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the *contractor.* However, the *contractor* agrees that the Secretary may review the *contractor's* licensing program and decisions regarding small business applicants, and the *contractor* will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the *contractor* could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4).

l. Communication

All DTRA-related disclosures, confirmatory licenses to the government, patent applications, and other communications should be submitted in accordance with Article 21m. Questions should be submitted to basicresearch@dtra.mil.

m. Invention Reporting

37 CFR Part 401 invention reporting requirements are summarized in below table. Unless otherwise indicated in the "Submission to DTRA" column below, the grantee is required to upload the following types of invention information using iEdison. iEdison (https://s-edison.info.nih.gov/iEdison/), is a single web interface for government grantees to report details of inventions and patents. If the grantee organization is not already an iEdison registrant, then registration with iEdison is required prior to submission of the below invention reports. The grant shall not be closed out until all invention reporting requirements are met.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Invention Report: The grantee must submit a report of any "subject" invention. The report must identify inventor(s), federal agency(ies), grant number(s), and date of any public disclosure. Date of submission establishes time frames for all future actions. Must be complete in technical detail. The report should be directed to the lead agency.	Within 2 months of inventor's initial report to the grantee/contractor organization.	There is no single format for disclosing the invention to the government. The communication should include: the title of the invention, date of any public disclosure, names of all inventors, source(s) of federal funding (i.e. grant number), a written description of the invention in technical detail. The invention disclosure should be signed by the inventor(s): at the very least signed by a grantee institutional official.	401.14(a)(2) 401.14(c)(1)	Submit electronically by uploading either a PDF, TIFF, or text file through iEdison.
Rights to Inventions on Subcontracts: Subcontractors retain rights to their subject inventions.	Same reporting responsibilities, obligations and time frames as prime grantee organization.	Prime grantee organization cannot require ownership of subcontractor's subject invention(s).	401.14(g)(1) 401.14(g)(2)	Invention disclosure, confirmatory license, and proof of gov't support clause shall be submitted electronically through iEdison.
Election of Title to Invention: Grantee organization must notify the federal agency sponsor that it will retain ownership of invention and take steps to commercialize the invention.	Within 2 years of reporting the invention to the lead federal agency sponsor. (If disclosed publicly, this period is decreased.)		401.14(b) 401.14(c)(2) 401.14(f)(1)	Submit electronically through iEdison.
Confirmatory license: The grantee organization must provide a nonexclusive, nontransferable, irrevocable, paid-up license for the government to practice or have the invention practiced on its behalf throughout the world.	Commensurate with report of any initial patent filing, unless the invention is being licensed as an unpatented biological material or research tool.		401.14(f)(1)	Submit electronically by uploading either a PDF or TIFF file through iEdison.
Nonelection of Title to Invention: Grantee organization must notify the federal sponsor that it will not retain ownership of an invention.	Within 2 years of reporting to federal agency sponsor.	Effectively a waiver to the government. After further review the federal agency sponsor may elect title on behalf of the government. Title does not actually vest with the	401.14(c)(2) 401.14(d)	Submit electronically through iEdison.

	(If disclosed publicly, this period is decreased.)	government until government elects to retain title.		
Assignment of Invention Rights to the Inventor: The inventor may request assignment of invention rights. Agencies support requests of this type to variously. In all cases, documentation is required when a grantee organization waives rights to the invention and the inventor(s) wishes to retain the invention rights.	At the time the grantee organization elects not to pursue title and the inventor requests rights in the invention.	First, the grantee organization must elect not to retain rights in the invention. Second, the inventor must request the assignment of rights, agree to all terms associated with invention reporting as detailed in 37 CFR 401, and must pursue commercialization of the invention through patent filing or licensing as a research tool. Specific procedures for any agency should be determined prior to initiating the request.	401.14(k)(1) non-profits	This status shall be indicated using iEdison; Submission of all other issues (such as outstanding required documents) should be resolved prior to proceeding further. Submission of the required documents will be done electronically by uploading either a PDF, TIFF, or text file through iEdison.
Initial Patent Application: The grantee must inform the government of the initial patent application that related to any subject invention. The patent application must include a government support clause.	Within 1 year after election of title, unless there is an extension.	Time frame may vary if invention becomes public. The term initial patent application means a nonprovisional U.S. national application for patent as defined in 37 CFR 1.9(a)(3). The notification must include the patent application number and filing date assigned by the USPTO. A copy of the full application is not required.	401.14(c)(3) 401.2(n)	All filing data shall be submitted via iEdison. Evidence of inclusion of government support clause shall be submitted electronically as either a PDF or TIFF file through iEdison.
Assignment to Third Party: Documentation necessary when a grantee/contractor wishes to assign invention rights to third party. If the grantee/contractor is a non-profit, the government must approve the assignment. For profit or small business grantee/contractors do not need to seek approval. If the rights are assigned, new rights holder assumes the same reporting responsibilities as the grantee/contractor organization.		If assignment approved, third party must pursue commercialization of the invention through patent filing or licensing of the invention as a research tool. Specific procedures to request third party assignment may vary between agencies. Consult DTRA prior to initiating request.	401.14(k) for non-profits. Note the distinction between small businesses and non-profit organizations.	Documentation shall be submitted electronically as either a PDF or TIFF file through iEdison.
Issued Patent: Grantee must provide federal	At the time of issue.	Patent must include government support	401.5(f)(2)	All issued patent

agency sponsor with patent issue date, number, title of patent, and evidence of government support clause.		clause.	401.14(f)(4)	information shall be provided using iEdison. Evidence of inclusion of government support clause will be provided electronically as a PDF or TIFF file through iEdison.
Request for Extension of Time: An extension of up to two years may be requested for election of title, or one year for filing a patent application.	Prior to any statutory bar.	Extension of 2 years for title election and one year for patent application are preapproved for funded inventions. Additional extensions need written approval from the federal agency sponsor.	401.14(c)(4)	Request electronically using iEdison.
Discontinuance of Patent Application, Payment of Maintenance Fees, or Defense in a Reexamination or Opposition proceeding on a Patent: Grantee must notify federal agency sponsor of changes in patent status.	At any time in the process, but prior to established deadlines.	Relevant information and documents (e.g., patent application or patent) must be provided such that a determination to protect government interests can be made. The federal agency sponsor has the option to pursue the patent application or the patent if not being properly pursued or maintained. Any change in status must be reported at least 30 days prior to pending PTO office actions.	401.14(f)(3) 401.6	Indication shall be made via iEdison.
Annual Utilization Report: DTRA requires utilization reporting for all subject inventions that have had title elected or are licensed without a patent. Report includes stage of development, date of first commercial sale or use, number and type of licenses, gross income, licensing to small business, status of U.S. manufacturing and identification of any FDA-approved product names.	Annually	DTRA requires invention utilization reports on a 12 month reporting cycle beginning in the month of grantee choosing and continuing throughout duration of patent. Information requirements defined in iEdison. Note: this reporting requirement, if applicable, extends beyond the grant period.	401.14(h)	Submit electronically using iEdison.
Annual Summary Report of Inventions: Summarize all previously reported subject inventions under this grant.	Annually	Invention reports shall be filed annually due no later than 1 July of each year. Grants effective after 31 January will not require a report until 1 July of the following year. The recipient shall use DD Form 882, Report	401.5(f)(3)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to:

		of Inventions and Subcontracts, to file invention reports. If no inventions occurred during the annual reporting period a negative report must be submitted. As directed by DTRA, either email Form DD882 to basicresearch@dtra.mil (file size must be less than 10MB), or upload to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal. File should be named by the Grant number and 'Invention Report' (e.g. HDTRA1-12-1-9999 Invention Report). The Grant shall not be closed out until all invention reporting requirements are met.		-DTRA Grants Officer 8725 John J. Kingman Rd. MSC 6201 (#2730B) Ft. Belvoir VA 22060-6201 -Administrative Office identified in the Grant -As directed by DTRA, email or portal.
Final Invention Statement and Certification: Report all subject inventions derived or reduced to practice during the performance of the grant.	Due with the Final Technical Report within 90 days after the project ends.	Invention reports shall be filed at the end of the Grant's PoP. If no inventions occurred during the lifetime of the award, a negative report must be submitted. As directed by DTRA, either email Form DD882 to basicresearch@dtra.mil (file size must be less than 10MB), or upload to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal. File should be named by the Grant number and 'Invention Report' (e.g. HDTRA1-12-1-9999 Invention Report). The Grant shall not be closed out until all invention reporting requirements are met.	401.5(f)(1)	No iEdison submission allowed Submit DD Form 882, Report of Inventions and Subcontracts to: -DTRA Grants Officer 8725 John J. Kingman Rd. MSC 6201 (#2730B) Ft Belvoir VA 22060-6201 -Administrative Office identified in the Grant -As directed by DTRA, email or portal.

22. Technical Reporting Requirements. Except under rare cases, performance reports are required annually.

a. **ANNUAL REPORTS:** Annual Reports are due no later than 1 July of each year. Grants effective after 31 January will not require a progress report until 1 July of the following year.

At the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), Annual Reports must be submitted electronically as follows:

- Email the Annual Report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Annual Report', e.g. HDTRA1-12-1-9999 Annual Report.

OR

- Upload the Annual Report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Annual Report', e.g. HDTRA1-12-1-9999 Annual Report.

- Provide a copy of the report to the Administrative Office identified in the Research Grant.

The Annual Report is *not* a cumulative report. The first Annual Report shall only include actions that occurred from the Period of Performance start date up to submission of the first Annual Report. Each subsequent report shall only include actions that occurred during the 12-month period following the previous year's Annual Report.

The Annual Report shall contain the following items:

(1) Cover Sheet: As a minimum, the cover sheet should include the following information: PI's name, Institution's name and address, and Grant number.

(2) Objectives: List the objectives of the research effort or the statement of work. This may be omitted if there has been no change. State new or revised objectives if they have changed and the reason why.

(3) Status of effort: A brief statement of progress towards achieving the research objectives. (Limit to 200 words).

(4) Accomplishments/New Findings: Describe research highlights, their significance to the field, their relationship to the original goals, their relevance to the DTRA mission, and their potential application(s) to DTRA and civilian technology challenges.

(5) Personnel Supported: List professional personnel (Faculty, Post-Docs, Graduate Students, etc.) supported by and/or associated with the research effort.

(6) Publications: List peer-reviewed publications and theses submitted and/or accepted during the 12-month period starting the previous 1 October (or since start date for new grants). Include full reference information, such as authors, journal, volume, page numbers, etc. or for conference proceedings, name, date and location of the conference, and proceedings publication information.

(7) Interactions/Transitions:

(a) Participation/presentations at meetings, conferences, seminars, etc.

(b) Consultative and advisory functions to other laboratories and agencies and other DoD laboratories. Provide factual information about the subject matter, institutions, locations, dates, and name(s) of principal individuals involved.

(c) Transitions. Describe cases where knowledge resulting from your effort is used, or will be used, in a technology application. Transitions can be to entities in DoD, other federal agencies, or industry. Briefly list the enabling research, the laboratory or company, and an individual in that organization who made use of your research.

(8) New discoveries, inventions, or patent disclosures.

(9) Honors/Awards: List honors, degrees, and awards received during the Grant period. List lifetime achievement honors such as Nobel prize, honorary doctorates, and society fellowships prior to this effort.

(10) Courses taught: List class name, curriculum level and dates of any counter WMD classes taught by the PI or Co-PI.

(11) To assist in compiling all of this information, a summary table (in MSExcel format) has been created that can be downloaded from the DTRA Basic and Fundamental Research Community Portal (https://www.dtrasubmission.net/portal/Forms.aspx). The table should be embedded into the Annual Report with any necessary narrative. The fields contained in the table include, but are not limited to: number of PIs, number of students supported, total number of peer reviewed publications, Hirsch Index, etc.

(12) At the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), the Quad Chart should be submitted electronically as follows:

- Email an updated Quad Chart to basicresearch@dtra.mil (file size must be less than 10MB),

OR

- Upload an updated Quad Chart as a separate file to the DTRA Basic and Fundamental Research Community Portal (www.dtrasubmission.net/portal). The file name should be the Grant number and 'Quad Chart', e.g. HDTRA1-12-1-9999 Quad Chart.

A quad chart template is available in the Document & Template Library on the DTRA Basic and Fundamental Research Community Portal (www.dtrasubmission.net/portal).

b. **ANNUAL TECHNICAL REVIEW:** At least one representative (preferably the PI) for each award is expected to attend and present at the annual technical program review meeting, unless otherwise exempted by DTRA in writing. For planning purposes the review will be for five days and will be held in Northern Virginia, typically during the summer months. DTRA encourages collaborators and graduate students to attend the Annual Technical Review.

c. **FINAL TECHNICAL REPORTS:** A comprehensive final technical report is required: the draft document is required forty-five (45) days prior to the end of the Period of Performance and the final document is required ninety (90) days after the expiration or termination of the award. The report should be structured substantially as follows:

(1) The purpose of the final report is to document and to transition the results of the effort into the DTRA and DoD applied research community. The final report will always be sent to the Defense Technical Information Center (DTIC) and unclassified reports may be made available to the public through the National Technical Information Service (NTIS).

(2) Content: The final report is more than an extension of previous annual reports. The final report shall be a comprehensive technical summary of the significant work accomplished. The final report, where it is not readily accessible in published form should, where applicable:

(a) Clearly describe and illustrate the experimental equipment, setup, and procedures;

(b) Characterize and tabulate collected/computed data in an appendix;

(c) Sufficiently describe computational codes so they can be reproduced. Include a listing of the code in an appendix if possible and appropriate; and

(d) When the research effort culminates in the production of one or more student theses or dissertations, in these cases, the most significant advancements and conclusions (equations, figures, relationships, etc.) should be included in an executive summary. The theses or dissertations

should be attached as appendices only if they are not readily available. If they are, clearly reference them and how they can be obtained. Also include in the executive summary, cumulative lists of people involved in, and publications stemming from, the research effort. Do not include copies of already submitted or published articles in the final report.

(3) Standard Form (SF) 298: SF-298, Report Documentation Page, must be used. Item 13 of the SF-298 should contain a 100 to 200 word abstract summarizing technical progress during the reporting period. The SF-298 may be found on the Internet at: http://contacts.gsa.gov/webforms.nsf/0/B82C70E2B4C7843185256A2C005F72E0/$file/SF298_e.pdf

(4) Format: Cover and title page. The report style should be third person singular using past tense. Jargon, special symbols or notations, subscripts, mathematical symbols or foreign alphabet letters are not permitted. All of the report pages should be prepared for acquisition and distribution by DTIC. All of the report pages should be of good quality for copying purposes. No pages should be missing.

The format and standard required by your institution for the preparation of theses and dissertations shall be used for the final report. In the absence of any institutional standards, you may wish to refer to the American National Standards Institute (ANSI) document Z39.18-1987, "Scientific and Technical Reports: Organization, Preparation, and Production," for guidance. The report may be obtained from:

American National Standards Institute Incorporated
1430 Broadway
New York NY 10018

(5) Report Classification: It is anticipated that all final technical reports will be unclassified and that distribution will not be limited. However, for final technical reports that require a limited distribution as deemed necessary by DTRA, a Distribution List will be provided with the comments on the draft final technical report. The Distribution List should be formatted to match the rest of the report, placed at the end of the report, and added to the Table of Contents. The number of pages in the Distribution List should be added to the total page count and included in the total number of pages cited in Block 15 of the SF-298.

(6) Report Submission: The draft of the final technical report will be due not later than forty-five (45) days prior to the end of the period of performance.

At the direction of DTRA (instructions to be provided to the awardee in advance of the end of the PoP), the draft of the final technical report (including a draft SF-298) must be submitted electronically as follows:

- Email the draft of the final technical report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Draft Final Report', e.g. HDTRA1-12-1-9999 Draft Final Report.

OR

- Upload the draft of the final technical report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Draft Final Report', e.g. HDTRA1-12-1-9999 Draft Final Report.

- Provide a copy of the report to the Administrative Office identified in the Research Grant.

- Within thirty (30) days this draft will be reviewed by DTRA and comments will be provided to the Grantee. The Grantee shall incorporate the requested changes. Final Technical Reports are due ninety (90) days after the expiration or termination of the award. The final submission should be made in accordance with the draft final report submission instructions.Provide a copy of the report to the Administrative Office identified in the Research Grant.

23. Financial Reporting Requirements.

a. Federal Financial Report, SF-425. This report is due quarterly, no later than 30 days after the end of the reporting period. Reporting periods are as follows: 1 January – 31 March, 1 April 30 June, 1 July 30 September, and 1 October 31 December, respectfully. Final reports shall be submitted no later than 30 days after the project or grant period end date.

The SF-425 form and instructions can be found on the Internet at: http://www.whitehouse.gov/omb/grants_forms/

b. All financial reports shall be submitted to the Administration Office identified in Block 6 of the Research Grant. In addition, at the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), the Financial Report must be submitted electronically as follows:

- Email the Financial Report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Financial Report', e.g. HDTRA1-12-1-9999 Financial Report.

OR

- Upload the Financial Report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Financial Report', e.g. HDTRA1-12-1-9999 Financial Report.

24. After-the-Award Requirements. Closeout, subsequent adjustments, continuing responsibilities, and collection of amounts due are subject to requirements found in DoDGARs §34.61 through 34.63.

25. Delegation of Administration Duties. Certain grant administration duties have been delegated to the Administration Office identified in Block 6 of the Research Grant. These duties are as follows:

a. Provisionally approve all Grant and Cooperative Agreement Vouchers.

b. Perform all property administration services except the approval of recipient's requests to purchase equipment with grant funds. Such approvals must be granted by the DTRA Grants Officer.

c. Perform all plant clearance functions.

d. Approve requests for Registration for Scientific and Technical Information Services (DD Form 1540).

e. Obtain all financial report(s) (see Article 23 of this document).

f. Execute administrative closeout procedures, which include the following:

(1) Obtain the final Report of Inventions and Subcontracts (DD Form 882).

(2) Obtain final payment request, if any.

(3) Obtain final property report and dispose of purchased property and government furnished equipment (GFE) in accordance with the DoDGARs Part 22, Subpart G.

(4) Perform a review of final incurred costs and assist the Grants Officer in resolving exceptions, if any, resulting from questioned costs.

(5) Assure that all refunds due the Government are received by the Grantor.

NOTE: This term and condition is **not applicable** to instrumentation and equipment grant awards.

26. Claims, Disputes and Appeals. Claims, disputes, and appeals shall be processed in accordance with the procedures provided in DoDGARs §22.815.

27. Termination and Enforcement. Recipients shall be subject to the termination and enforcement conditions found in DoDGARs §34.51 and §34.52.

28. Security. As a general rule, PI's will not need access to classified security information in the conduct of research supported under this Grant. Should it appear that access to such information is desirable, the recipient shall advise the Grantor and request clearance for the investigator. Should information be developed during the course of work under this Grant that, in the judgment of the PI or the recipient, should be classified, the Grants Officer shall be notified immediately.

29. Representations and Assurances. By accepting funds under this Grant, the recipient assures that it will comply with applicable provisions of the following national policies:

a. Nondiscrimination: By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following, national policies prohibiting discrimination:

(1) On the basis of race, color, or national origin, in Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, et seq.), as implemented by DoD regulations at 32 CFR Part 195.

(2) On the basis of sex or blindness, in Title IX of the Education Amendments of 1972 (20 U.S.C. 1681, et seq.), as implemented by DoD regulations at 32 CFR Part 196.

(3) On the basis of age, in the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.), as implemented by Department of Health and Human Services regulations at 45 CFR Part 90.

(4) On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as implemented by Department of Justice regulations at 28 CFR Part 41 and DoD regulations at 32 CFR Part 56.

b. Live Organisms: By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

(1) For human subjects:

(a) The Common Federal Policy for the Protection of Human Subjects, codified by the Department of Health and Human Services at 45 CFR Part 46 and implemented by the Department of Defense at 32 CFR Part 219.

(b) The recipient shall adhere to DTRA local clause 252.223-9002. The full text of this clause is as follows:

252.223-9002 PROTECTION OF HUMAN SUBJECTS (AUG 2010)

All research under this grant involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C. 980, and DoDD 3216.02, as well as other applicable federal and state regulations. Grantees must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. 980). DTRA Directive 3216.01 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research.

The DTRA directive requires that research using human subjects may not begin or continue until the Defense Threat Reduction Agency's Research Oversight Board (ROB) has reviewed and approved the proposed protocol. Grantees and subcontractors are required to submit a valid federal assurance for their organization (institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA ROB for its review through the Grants Officer's representative (if assigned) or the Grants Officer. The ROB review is separate from, and in addition to, local IRB review.

Written approval to begin research or subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA ROB, through the Grants Officer. A copy of this approval shall be maintained by both the Grantee and the government. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA ROB for review and approval. Examples of modifications/amendments to the protocol include but are not limited to:

1) a change of the PI
2) changes in duration or intensity of exposure to some stimulus or agent

3) changes in the information requested of volunteers, or changes to the use of specimens or data collected
4) changes in perceived or measured risks or benefits to volunteers that require changes to the study

Research pursuant to such modifications or amendments shall not be initiated without IRB and ROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s).

Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. ROB review and approval is required annually. The Grantee or subcontractor must provide documentation of continued IRB review of protocols for ROB review and approval in accordance with these Terms and Conditions. Research must not continue without renewed ROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s).

Non-compliance with any provision of this clause may result in withholding of payments under the grant pursuant to the grant's payments clause(s) and/or grant termination pursuant to the grant's termination clause(s). The government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the ROB.

(2) For animals:

(a) The recipient shall adhere to:

(1) Requirements for animal acquisition, transport, care, handling, and use in 9 CFR Parts 1-4, Department of Agriculture rules implementing the Laboratory Animal Welfare Act of 1966 (7 U.S.C. 2131-2156) and 9 CFR Subchapter A, Parts 1 through 4).

(2) Rules of the Departments of Interior (50 CFR Parts 10-24) and Commerce (50 CFR Parts 217-227) implementing laws and conventions on the taking, possession, transport, purchase, sale, export, or import of wildlife and plants, including the: Endangered Species Act of 1973 (16 U.S.C. 1531-1543); Marine Mammal Protection Act (16 U.S.C. 1361-1384); Lacey Act (18 U.S.C. 42); and Convention on International Trade in Endangered Species of Wild Fauna and Flora.

(3) DTRA local clause 252.235-9001. The full text of this clause is as follows:

252.235-9001 PROHIBITION OF USE OF LABORATORY ANIMALS (JULY 2010) (DTRA)

The grant recipient shall obtain approval from the US Army Medical Research and Material Command (MRMC), Animal Care and Use Review Office (ACURO) prior to conducting research on live nonhuman vertebrates. Studies involving non-human primates, dogs, cats, or marine mammals will require a site visit by an ACURO laboratory animal veterinarian as a condition of approval. DoD may also conduct site visits involving research on other animals when deemed appropriate. The animal research facility is responsible for notifying the DoD sponsor if Association for the Assessment and Accreditation of Laboratory Animal Care accreditation is lost or the facility is under USDA inspection. DoD also has the right to a site inspection under these circumstances.

The grant recipient (including subcontractors) is expressly forbidden to use laboratory animals in any manner whatsoever without the express written approval of MRMC ACURO.

The grant recipient shall complete the ACURO Animal Use Appendix for Research Involving Animals found at the following web site: https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro_AnimalAppendix. Submit the completed ACURO appendix, contact information, the DTRA grant number and a copy of the grant for processing to the email address listed at the ACURO website. Once ACURO approves the effort, the grant recipient will receive written approval to begin animal use from the US Army MRMC ACURO by separate email. The grant recipient shall promptly provide a copy of the approval to the Grants Officer and Grants Officer representative. After approval, changes or protocol amendments must be submitted to and approved by ACURO before implementation.

The grant recipient, or subcontractors as appropriate, shall submit the most recent U.S. Department of Agriculture Animal Care Inspection Report annually in accordance with the CDRL.

Non-compliance with any provision of this clause may result in the termination of the grant.

c. Debarment and Suspension: The recipient agrees to comply with the requirements regarding debarment and suspension in Subpart C of the OMB guidance in 2 CFR Part 180, as implemented by the DoD in 2 CFR Part 1125. The recipient also agrees to

communicate the requirement to comply with Subpart C to persons at the next lower tier with whom the recipient enters into transactions that are "covered transactions" under Subpart B of 2 CFR Part 180 and the DoD implementation in 2 CFR Part 1125.

d. Environmental Standards: By signing this agreement or accepting funds under this agreement, the recipient assures that it will:

(1) Comply with applicable provisions of the Clean Air Act (42 U.S.C. 7401, et. seq.) and Clean Water Act (33 U.S.C.1251, et. seq.), as implemented by Executive Order 11738 [3 CFR, 1971-1975 Comp., p. 799] and Environmental Protection Agency (EPA) rules at Subpart J of 40 CFR Part 32.

(2) Identify to the awarding agency any impact this award may have on the quality of the human environment, and provide help the agency may need to comply with the National Environmental Policy Act (NEPA, at 42 U.S.C. 4321, et. seq.) and to prepare Environmental Impact Statements or other required environmental documentation. In such cases, the recipient agrees to take no action that will have an adverse environmental impact (e.g., physical disturbance of a site such as breaking of ground) until the agency provides written notification of compliance with the environmental impact analysis process.

e. Drug-Free Workplace: The recipient agrees to comply with the requirements regarding drug-free workplace requirements in Subpart B (or Subpart C, if the recipient is an individual) of 32 CFR Part 26, which implements Sections 5151-5160 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701, et seq.).

f. Officials Not to Benefit: No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit arising from it, in accordance with 41 U.S.C. 22.

g. Preference for U.S. Flag Carriers: Travel supported by U.S. Government funds under this agreement shall use U.S.-flag air carriers (air carriers holding certificates under 49 U.S.C. 41102) for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) and the interpretative guidelines issued by the Comptroller General of the United States in the March 31, 1981, amendment to Comptroller General Decision B138942.

h. Cargo Preference: The recipient agrees that it will comply with the Cargo Preference Act of 1954 (46 U.S.C.1241), as implemented by Department of Transportation regulations at 46 CFR 381.7, which require that at least 50 percent of equipment, materials or commodities procured or otherwise obtained with U.S. Government funds under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned U.S.-flag commercial vessels, if available.

30. Research Involving Recombinant DNA Molecules. Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses containing recombinant

DNA molecules agrees by acceptance of this award to comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules," amended 29 September 2009 (74 FR48275), or such later revision of those guidelines as may be published in the Federal Register.

31. Retention and Access to Records. Retention and access to records pertinent to this award are subject to the requirements of DoDGARs §34.42.

32. Certification. By accepting funds under this agreement, the recipient is providing the Certification at Appendix A to 32 CFR Part 28 regarding lobbying.

33. Data Collection. Data collection activities, if any, performed under this Grant are the responsibility of the recipient. Awarding agency support of the project does not constitute approval of the survey design, questionnaire content, or data collection procedures. The recipient shall not represent to respondents that such data are being collected for or in association with the awarding agency without the specific written approval of the cognizant awarding agency official. However, this requirement is not intended to preclude mention of the awarding agency support of the project in response to an inquiry or acknowledgment of such support in any publication of this data.

34. Site Visits. The Government, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and to provide such technical assistance as may be required. The recipient shall provide, and shall require its subrecipients and subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the government representatives in the performance of site visits. All site visits and evaluations shall be performed in a manner that does not unduly interfere with or delay the work.

35. Publications and Acknowledgement of Sponsorship.

a. Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. A courtesy copy of each accepted publication shall be uploaded directly into the web-based reporting system previously described herein

b. The recipient agrees that in the release of information relating to the grant, such release shall include the following statement, "The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred." For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

c. When issuing statements, press releases, requests for proposals, bid solicitations, and other documents describing projects or programs funded in whole or in part with federal money, all recipients receiving federal funds, shall clearly state: (i) the percentage of

total costs of the program or project which will be financed with federal money, and (ii) the dollar amount of federal funds for the project or program.

36. Fee and Profit. This agreement does not provide for the payment of fee or profit to the recipient.

37. Combating Trafficking in Persons. The recipient agrees to comply with the trafficking in persons requirement in Section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)).

a. Provisions applicable to a recipient that is a private entity.

(1) You as the recipient, your employees, subrecipients under this award, and subrecipients' employees may not

(a) Engage in severe forms of trafficking in persons during the period of time that the award is in effect;

(b) Procure a commercial sex act during the period of time that the award is in effect; or

(c) Use forced labor in the performance of the award or subawards under the award.

(2) We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a subrecipient that is a private entity—

(a) Is determined to have violated a prohibition in paragraph a.(1) of this award term; or

(b) Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a.(1) of this award term through conduct that is either—

(1) Associated with performance under this award; or

(2) Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR Part 376.

b. Provision applicable to a recipient other than a private entity. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity—

(1) Is determined to have violated an applicable prohibition in paragraph a.(1) of this award term; or

(2) Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.(1) of this award term through conduct that is either

(a) Associated with performance under this award; or

(b) Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR Part 376.

c. Provisions applicable to any recipient.

(1) You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.(1) of this award term.

(2) Our right to terminate unilaterally that is described in paragraph a.(2) or b. of this Article:

(a) Implements Section 106(g) of the TVPA, as amended (22 U.S.C. 7104(g)), and

(b) Is in addition to all other remedies for noncompliance that are available to us under this award.

(3) You must include the requirements of paragraph a.(1) of this award term in any subaward you make to a private entity.

d. Definitions. For purposes of this award term:

(1) "Employee" means either:

(a) An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or

(b) Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

(2) "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for

labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

(3) "Private entity":

(a) Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.

(b) Includes:

(1) A non-profit organization, including any non-profit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).

(2) A for-profit organization.

(4) "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at Section 103 of the TVPA, as amended (22 U.S.C. 7102).

38. Central Contractor Registration and Universal Identifier Requirements.

a. Requirement for Central Contractor Registration (CCR)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

b. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

(1) Must notify potential subrecipients that no entity (see definition in paragraph c of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.

(2) May not make a subaward to an entity unless the entity has provided its DUNS number to you.

c. Definitions

For purposes of this award term:

(1) Central Contractor Registration (CCR) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at http://www.ccr.gov).

(2) Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866 705 5711) or the Internet (currently at http://fedgov.dnb.com/webform).

(3) Entity, as it is used in this award term, means all of the following, as defined at 2 CFR Part 25, Subpart C:

(a) A Governmental organization, which is a State, local government, or Indian Tribe;

(b) A foreign public entity;

(c) A domestic or foreign nonprofit organization;

(d) A domestic or foreign for-profit organization; and

(e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

(4) Subaward:

(a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

(b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A 133, "Audits of States, Local Governments, and Non-Profit Organizations").

(c) A subaward may be provided through any legal agreement, including an agreement that you consider a contract.

(5) Subrecipient means an entity that:

(a) Receives a subaward from you under this award; and

(b) Is accountable to you for the use of the Federal funds provided by the subaward.

39. Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

(1) Applicability. Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates $25,000 or more in Federal funds that does not include Recovery funds (as defined in Section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111–5) for a subaward to an entity (see definitions in paragraph e. of this award term).

(2) Where and when to report.

(a) You must report each obligating action described in paragraph a.(1) of this award term to http://www.fsrs.gov.

(b) For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

(3) What to report. You must report the information about each obligating action that the submission instructions posted at http://www.fsrs.gov specify.

b. Reporting Total Compensation of Recipient Executives.

(1) Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if

(a) the total Federal funding authorized to date under this award is $25,000 or more;

(b) in the preceding fiscal year, you received—

(1) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(2) $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(c) The public does not have access to information about the compensation of the executives through periodic reports filed under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d))

or Section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.)

(2) Where and when to report. You must report executive total compensation described in paragraph b.(1) of this award term:

(a) As part of your registration profile at http://www.ccr.gov.

(b) By the end of the month following the month in which this award is made, and annually thereafter.

c. Reporting of Total Compensation of Subrecipient Executives.

(1) Applicability and what to report. Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if

(a) in the subrecipient's preceding fiscal year, the subrecipient received

(1) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(2) $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or Section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.)

(2) Where and when to report. You must report subrecipient executive total compensation described in paragraph c.(1) of this award term:

(a) To the recipient.

(b) By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during

the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. Exemptions.

If, in the previous tax year, you had gross income, from all sources, under S300,000, you are exempt from the requirements to report:

(1) Subawards,

and

(2) The total compensation of the five most highly compensated executives of any subrecipient.

e. Definitions. For purposes of this award term:

(1) Entity means all of the following, as defined in 2 CFR Part 25:

(a) A Governmental organization, which is a State, local government, or Indian tribe;

(b) A foreign public entity;

(c) A domestic or foreign nonprofit organization;

(d) A domestic or foreign for-profit organization;

(e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

(2) Executive means officers, managing partners, or any other employees in management positions.

(3) Subaward:

(a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

(b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __ .210 of the attachment to OMB Circular A 133, "Audits of States, Local Governments, and Non-Profit Organizations").

(c) A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

(4) Subrecipient means an entity that:

(a) Receives a subaward from you (the recipient) under this award; and

(b) Is accountable to you for the use of the Federal funds provided by the subaward.

(5) Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

(a) Salary and bonus.

(b) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

(c) Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(d) Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

(e) Above-market earnings on deferred compensation which is not tax-qualified.

(f) Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds $10,000.

From: FOIA (b)(6)
To: (b)(6) FOIA (b)(6)
Cc: (b)(6)
DTRA J3-7 (US); (b)(6) ; "ONR_BOSTON@NAVY.MIL";
DTRA Ft Belvoir J4-8 Mailbox BFKF SPS Contracts; (b)(6)
(b)(6)
Subject: [Non-DoD Source] RE: Distribution HDTRA1-15-1-0053 P0002//HDTRA1523203//Metabiota
Date: Friday, March 31, 2017 8:58:10 AM

Dear (b)(6)
We confirm receipt of your email and attachment.

FOIA (b)(6)

Metabiota, Inc.
FOIA (b)(6)
metabiota.com

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

-----Original Message-----
From: (b)(6)
Sent: Friday, March 31, 2017 8:51 AM
To: FOIA (b)(6)
Cc: (b)(6)
(b)(6)
(b)(6) 'ONR_BOSTON@NAVY.MIL' <ONR_BOSTON@NAVY.MIL>;
DTRA Ft Belvoir J4-8 Mailbox BFKF SPS Contracts <dtra.belvoir.j4-8.mbx.bfkf-sps-contracts@mail.mil>; (b)(6)
(b)(6)
Subject: Distribution HDTRA1-15-1-0053 P0002//HDTRA1523203//Metabiota

Good morning,

Please respond to this e-mail to let me know you received it and the attachment(s).

Please see the attached modification to provide incremental funding in the amount of $930,866.00. The purpose of this modification can be found in block 14 of the attached modification. If you received this email in error, please reply immediately so we can correct the distribution.

V/R,

(b)(6)

Defense Threat Reduction Agency (DTRA)
J4COC Contract Specialist
(b)(6)

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page of pages
Defense Threat Reduction Agency HDTRA1	HDTRA1-14-1-0053	1 of 1

3. Recipient Organization (Name and complete address including Zip code)

Metabiota, Inc. 1 Sutter Street, Suite 600 San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(6)	Cage Code 56SP4	☒ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☒ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 08-07-2014	To: 8/7/2015	12/31/2014

10. **Transactions**	Cumulative
(Use lines a-c for single or combined multiple grant reporting)	
Federal Cash (To report multiple grants separately, also use FFR Attachment):	
a. Cash Receipts	$4,339.11
b. Cash Disbursements	$11,513.88
c. Cash on Hand (line a minus b)	-$7,174.77
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$932,060.00
e. Federal share of expenditures	$11,513.88
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$11,513.88
h. Unobligated balance of Federal funds (line d minus g)	$920,546.12
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal share of program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
	d. Email Address
	FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	e. Date Report Submitted (Month, Day, Year): January 31, 2015
	14. Agency use only:

Standard Form 425 - Revised 10/11/2011
OMB Approval Number: 0348-0061
Expiration Date: 2/28/2015

Paperwork Burden Statement

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

Project Title: A One Health Response to Rift Valley Fever and Brucellosis Surveillance in Tanzania

Document Date: Revised April 10, 2018

Objectives: Rift Valley fever virus (RVFV) is a mosquito-borne pathogen of livestock and humans that causes widespread and devastating outbreaks of severe disease throughout Africa [2]. Outbreaks can involve tens to hundreds of thousands of human cases and millions of livestock cases. The severity of the disease varies by species, but in sheep and cattle "abortion storms" as well as high neonatal (~70%) and adult mortality (20–30%) are features. Human cases are generally self-limiting, but severe complications are associated with case fatalities of 10–20% [13]. While lying at the heart of the RVFV belt in eastern Africa, little is known in the United Republic of Tanzania (URT) about the role of the environment on endemic virus activity during the inter-epidemic period, vector composition, wildlife maintenance hosts, and virus diversity. Livestock are a key ecological link as high viremias in animals lead to spillover of RVFV into mosquitoes likely to feed on humans, and close contact with infected animal tissues or aborted fetal materials are significant risk factors for human infections [12] [7].

Brucella bacteria are also important zoonotic pathogens globally, known to cause disease in humans and animals, and are relevant for biological warfare as a category B biological agent [33]. Clinical signs of brucellosis in humans include intermittent fever, malaise, anorexia, and joint pain that may persist for weeks or months. Because of the fairly unspecific symptoms that can be confused with other common diseases, such as malaria, brucellosis in humans is under-diagnosed among febrile patients in URT [22]. In animals, clinical symptoms include infertility and abortions, and during acute infection, large amounts of bacteria are shed in the uterine fluids, aborted fetuses, and milk. Chronically infected animals can develop hygromas, localized abscesses, and continue to shed the bacteria in the milk, providing human transmission routes.

The team hypothesizes that in URT, climatic conditions, such as high rainfall, and animal contact conditions, such as intense livestock density, are associated with increased endemic RVFV and *Brucella* exposure in sympatric livestock, wildlife, and humans. To test this hypothesis, two study areas with varied rainfall conditions and animal density parameters have been selected for surveillance and characterization of RVFV and *Brucella* disease dynamics in animals, humans, and arthropod vectors. Contributing to the Thrust Area 6 goals, the proposed research will improve international collaborations to detect, characterize, and report disease outbreaks and will advance the capacity in URT to implement global health security initiatives.

Scope: This project will investigate the epidemiology of RVFV and *Brucella* in two study regions of URT while enhancing the network of professionals prepared to address ongoing select agent emerging needs. The project is designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization and modeling efforts. Genomic analyses will enhance capabilities in characterizing diversity, identifying wildlife reservoir maintenance hosts, and developing models that predict areas of pathogen maintenance, transmission, and diversity in this endemic region. The end goal is increased detection and response capacity to further human and animal health.

Performance Schedule

Project Timeline	Year 1 (Oct '13-Sept '14)				Year 2 (Oct '14-Sept '15)				Year 3 (Oct '15-Sept 16)			
Task #: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings	■	■	■	■	■	■	■	■	■	■	■	■
2: Administrative startup	■	■	■	■	■	■	■	■	■	■	■	■
Obtain research permits, Develop field protocols, HH questionnaires, SOP's for sample transport, storage, preservation, hire field staff and students	■	■	■									
Develop lab protocols	■	■	■	■	■							
Seek collaboration with game scouts, clinics, livestock officers	■	■	■	■								
Database development	■	■	■	■								
3: Training of field staff, lab staff and students		■	■	■	■	■	■	■	■	■	■	■
4: Field site characterization	■	■	■	■	■	■	■	■				
5: Public health surveillance		■	■	■	■	■	■	■	■	■	■	■
Establish collaborations with officials		■	■	■	■	■	■	■	■	■	■	■
6: Sentinel livestock surveillance												
Survey administration and livestock testing for prevalence study												
Sentinel herd surveillance												
7: Syndromic livestock surveillance												
Training of livestock officers in PPE, sampling												
Receive and test samples												
8: Wildlife surveillance		■	■	■	■	■	■	■	■	■		
Game scout training		■	■									
Wildlife sampling			■	■	■	■	■	■	■	■		
9: Vector surveillance	■	■	■	■	■	■	■	■	■	■		
Identify sampling sites	■	■										
Vector sampling and blood meal analysis			■	■	■	■	■	■	■	■		

10: Genomic characterization of RVFV and *Brucella* isolates from livestock, wildlife, and vectors												
11: Data analysis												
Preliminary analysis												
Final analysis and model development												
Reporting												
Annual report due												
Final report due												
Manuscript preparation												

Research Objectives:

1) Consult and coordinate with local partner institutions in Tanzania for characterization of field sites with historical RVFV and *Brucella* activity that represent diverse climactic and animal density variables.
2) Conduct surveillance of sentinel livestock herds (longitudinally) and conspecific wildlife (opportunistically) for pathogen transmission activity by real-time molecular diagnostic assays and/or seroconversion indicating periods of increased pathogen transmission, for comparison with disease patterns in local human populations.
3) Characterize RVFV and *Brucella* isolates from mosquito, animal, and human cases using phylogenetic analyses of genomic diversity.
4) Identify potential cryptic wildlife reservoir maintenance hosts by detection of seroconversion or molecular fingerprinting of blood meals from mosquito vectors.

Develop models that predict areas of increased pathogen maintenance, transmission, and genomic diversity in URT to target locales of increased risk that may be critical for public health intervention strategies and targeted surveillance.

Background: Rift Valley fever and brucellosis are well suited for transdisciplinary One Health approaches to study the genomic diversity and epidemiology at interfaces involving the mosquito vector (for RVFV), domesticated livestock, wildlife, and humans. Mosquitoes are primarily responsible for maintaining RVFV in nature, and the virus has been isolated from over 30 species of mosquitoes from 10 genera (primarily *Aedes, Culex, Anopheles*) [8]. In eastern and southern Africa, RVFV ecology can be divided into two distinct but overlapping cycles of continuous low-level endemic activity and periodic epizootics/epidemics. The linkage of RVFV epizootics/epidemic to heavy rainfall and high numbers of mosquitoes has been observed [9], and it is now recognized that the development of epizootic/epidemic transmission is dependent on large-scale weather events that lead to increases in ground-water saturation and eventual flooding over parts of eastern and southern Africa [10].

Regular outbreaks of RVF have occurred in 10-20 year cycles in East Africa. These large classic RVF outbreaks have typically occurred following the initiation of epizootics in Kenya/Somalia

as heavy rains shifted towards the south and east. During the most recent 2006-2007 outbreak, human case fatality among confirmed cases reached 47% and seroprevalence studies indicated that RVFV transmission occurred in 52% (n=21) of the country regions, with the majority of these regions reporting both livestock and humans infections [16]. Surveillance of RVFV activity in inter-epidemic periods has been limited, with studies indicating human seroprevalences from 4% in the northeast region up to 29% in the southern region [17]. Wildlife can also be infected with brucellosis, with spillover and spill-back between wildlife and livestock a concern at wildlife-livestock interface areas as are present in our study sites.

Due to the devastating nature of RVFV outbreaks, much effort has been devoted to understanding the factors allowing for epizootic/epidemic transmission of RVFV. However, less is known regarding factors that influence long-term maintenance of the virus in enzootic areas that experience constant low-level RVFV or during inter-epizootic time periods. Enzootic areas are typically wetter semi-tropical locations that allow for continuous virus transmission under favorable microclimate conditions. For example, within a small 20km region of the Central African Republic, complete genome sequence data obtained from virus specimens collected over a period of 5 years (1969 to 1974) indicated a near 10 times higher level of virus diversity than that observed during the typically monophyletic large-scale outbreaks that occur in semi-arid east African regions [24]. The higher viral diversity observed elsewhere may be supported by low-level transmission of RVFV between mosquito vectors and potential cryptic wildlife maintenance hosts, and our team is uniquely positioned to address such questions in URT.

Two study regions, the southern border of the Greater Ruaha Ecosystem in URT and the Kilombero River Valley, are typical, intense wildlife, livestock and human interface areas, where there is high concern for disease transmission among populations. Both areas were considered critical hotspots in the 2007 Rift Valley Fever outbreak, and brucellosis is known to be endemic in the region. The Ruaha ecosystem is one of Africa's largest protected areas and has an extraordinary diversity of plants and animals. There are two rainy seasons; from November – February and from March – April, with annual mean precipitation of 500-800 mm. The area adjacent to the southern border of the ecosystem is predominantly populated by pastoralists, agro-pastoralists and subsistence agriculturalists in the villages, and the livestock population is substantial. The main water source in this area is the Great Ruaha River that since 1993 has experienced a severe reduction in flow due to agricultural water diversion upstream [30]. The seasonal water scarcity in the dry season has increasingly forced wildlife, livestock and humans closer together, increasing the potential for pathogen exposure and evolution.

Tasks/Scientific Goals: Project activities involve coordinating with other organizations actively involved in RVFV and *Brucella* research projects, including the key research partners Sokoine University of Agricutlure (SUA), Ifakara Health Institute (IHI), the National Institute for Medical Research (NIMR)) and Tanzania Wildlife Research Institute (TAWIRI). The tasks below are designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization paired with modeling efforts. We expect that genomic analyses will position us to characterize diversity, identify wildlife reservoir maintenance hosts, and develop models that predict high risk areas of pathogen maintenance, transmission, and diversity in this endemic region.

Year 1

1. The team shall conduct management team meetings at times and places specified in the grant schedule (monthly).
2. Project administration (Begin in 1st quarter)
   2.1. The team shall develop and update research protocols and data collection forms.
   2.2. The team shall obtain and maintain protocol and research permit approval.
   2.3. The team shall organize field logistics, hire and maintain additional field staff.
   2.4. The team shall seek and support collaboration with health clinics, livestock officers, hunting companies and game scouts.
   2.5. The team shall begin database development based on data collection forms, and perform database maintenance as needed for quality control purposes.
   2.6. The team shall identify, enroll, support, and mentor Tanzanian postdoctoral scientist/masters students.
3. Training (Begin 2nd quarter)
   3.1. The team shall identify field and laboratory training needs.
   3.2. The team shall conduct field, clinic and laboratory staff training including blinded controls as part of quality assurance plan.
   3.3. The team shall develop networked and secured database tailored for project needs.
4. Field site characterization (1st and 2nd quarter)
   4.1. The team shall conduct systematic site characterization of current climactic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero site study regions.
   4.2. The team shall analyze distribution of key risk factors.
5. Public health surveillance (Begin 2nd quarter): The team shall establish collaborations with public health officials and local URT health centers to facilitate comparative studies of Rift Valley Fever (RVF) and *Brucella* in humans with the proposed animal and vectors studies.
   5.1. The team shall conduct a review of health clinic records to determine the prevalence of febrile disease, non-malarial febrile disease, RVF diagnosis, and brucellosis diagnosis.
   5.2. The team shall work closely with health centers in the study region to improve diagnosis of RVF and brucellosis by providing education and laboratory testing support, with improved data feeding into the epidemiology data analysis and modeling.
   5.3. RVF diagnostic kit evaluation in humans: During this project's conception stage in 2011, a validated human testing kit to detect anti-Rift Valley fever virus (RVFV) IgG antibodies in an ELISA format was available from Biological Diagnostics Supply Limited (BDSL). Unfortunately, the National Institute for Communicable Diseases (NICD) Special Pathogens Unit in Sandringham, South Africa ceased production of the inactivated RVFV NP-antigen required for kit production. This led to an initial shortage, and then complete lack of kit inventory by the time that the team was ready to commence human serologic testing. Our teams have been making good progress in testing livestock animals with the commercially available competitive ELISA (ID-Vet multispecies ELISA catalogue #RIFTC-4P or 10P: https://www.id-vet.com/produit/id-screen-rift-valley-fever-competition-multi-species/). This kit is designed to detect anti-RVFV IgG/IgM without the requirement for a species specific secondary antibody. Thus, in principle this kit could be utilized for human use. However, it is not validated for human diagnostic purposes and is labelled for animal use only. The CDC Viral Special Pathogens Branch (VSPB) has offered to help to validate the ID-Vet ELISA against the VPSB gold-standard human IgG ELISA. VSPB will test approximately 750

specimens from the R&B project. The R&B project will fund shipping and reagent costs from existing project line-items dedicated to shipments for lab result confirmation and testing reagents. The diagnostic testing by CDC will serve multiple purposes including the timely assistance in completion of our proposed DTRA project-related activities and providing a viable alternative for human RVF serological testing (if the ID-Vet assay performs as expected against the gold-standard assay).

6. Sentinel livestock surveillance (Begin 3rd quarter)
   6.1. The team shall conduct an initial cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
   6.2. The team shall administer risk factor surveys to the study households.
   6.3. The team shall enroll 10 sentinel herds per study region for biannual longitudinal surveillance or as needed to meet study objectives.
   6.4. The team shall conduct longitudinal surveillance testing.
7. Syndromic livestock surveillance (Begin 3rd quarter)
   7.1. The team shall conduct village outreach to raise awareness of abortion and the reporting chain to document cases as part of the proposed research.
   7.2. The team shall begin monitoring abortion incidence.
   7.3. The team shall follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.
8. Wildlife surveillance (Begin 2nd quarter)

8.1. The team shall coordinate with TAWIRI and Tanzania National Parks (TANAPA) for opportunistic wildlife surveillance.
8.2. The team shall collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies.
8.3. The team shall collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.

9. Vector surveillance (Begin 3rd quarter)
   9.1. The team shall conduct transects for systematic vector collection near households in the two study regions.
   9.2. The team shall characterize collected vectors and preserve for RVFV screening.
   9.3. The team shall perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs.
10. Genomic characterization (Begin 4th quarter)
   10.1. The team shall perform genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates.
   10.2. The team shall perform genetic characterization of *Brucella* isolates from animals and humans in the study region to identify shared species.
11. Data analysis and report preparation (Begin 4th quarter)
   11.1. The team shall perform preliminary database validation.
   11.2. The team shall conduct preliminary data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, and scoping studies to inform the predictive model development.
   11.3. The team shall prepare progress reports for internal and external purposes.

Year 2

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
3. Training (ongoing from Year 1)
4. Field site characterization (ongoing from Year 1)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (ongoing from Year 1)
   6.1. The team shall complete the cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
7. Syndromic livestock surveillance (ongoing from Year 1)
8. Wildlife surveillance (ongoing from Year 1)
9. Vector surveillance (ongoing from Year 1)
10. Genomic characterization (ongoing from Year 1)
11. Data analysis and report preparation (ongoing from Year 1)
   11.1. The team shall perform preliminary modeling analyses.
   11.2. The team shall prepare progress reports.

Year 3

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
   2.1. The team shall renew protocol and research permit approvals,

3. Training (ongoing from Year 1)
   3.1. The team shall conduct training sessions on data analysis, scientific writing, and outreach approaches for project staff and students.
4. Field site characterization (complete)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (complete 2nd quarter)
7. Syndromic livestock surveillance (complete 2nd quarter)
8. Wildlife surveillance (complete 2nd quarter)
9. Vector surveillance (complete 2nd quarter)
10. Genomic characterization (complete 3rd quarter)
11. Data analysis and report preparation (ongoing from Year 1)
    11.1. The team shall perform predictive model development and validation.
    11.2. The team shall prepare final reports.

DEFENSE THREAT REDUCTION AGENCY (DTRA)
GENERAL TERMS AND CONDITIONS FOR GRANT AWARDS TO FOR-PROFIT ORGANIZATIONS

WIDE AREA WORKFLOW VERSION

TABLE OF CONTENTS

1. Acceptance of Grant
2. Recipient Responsibilities
3. Order of Precedence
4. Administration and Cost Principles
5. Standards for Financial Management Systems
6. Modification of the Grant
7. Prior Approvals
8. Unobligated Balances
9. Payments
10. Funding Increments and/or Options
11. Cost Sharing or Matching
12. Allowable Costs
13. Program Income
14. Interest Earned
15. Debt Collection
16. Audits
17. Subawards
18. Procurement Standards
19. Title to Real Property and Equipment
20. Intangible Property
21. Patent Rights
22. Technical Reporting Requirements
23. Financial Reporting Requirements
24. After-the-Award Requirements
25. Delegation of Administration Duties
26. Claims, Disputes and Appeals
27. Termination and Enforcement
28. Security
29. Representations and Assurances
30. Research Involving Recombinant DNA Molecules
31. Retention and Access to Records
32. Certification
33. Data Collection
34. Site Visits
35. Publications and Acknowledgement of Sponsorship
36. Fee and Profit
37. Combating Trafficking in Persons
38. Central Contractor Registration and Universal Identifier Requirements
39. Reporting Subawards and Executive Compensation

1. **Acceptance of Grant.** The recipient is not required to countersign the Grant document; however, the recipient agrees to the conditions specified in the Research Grant and the Articles contained herein unless notice of disagreement is furnished to the Grants Officer within fifteen (15) calendar days after the date of the Grants Officer's signature. In case of disagreement, the recipient shall not assess the Grant any costs of the research unless and until such disagreement(s) is resolved.

2. **Recipient Responsibilities.**

a. The recipient will bear primary responsibility for the conduct of the research and will exercise judgment towards attaining the stated research objectives within the limits of the Grant's Terms and Conditions.

b. The Principal Investigator(s) (PI) specified in the Grant award will be continuously responsible for the conduct of the research project and will be closely involved with the research effort. The PI, operating within the policies of the recipient, is in the best position to determine the means by which the research may be conducted most effectively.

c. The recipient is the responsible authority, without recourse to DTRA regarding the settlement and satisfaction of all contractual and administrative issues arising out of procurements entered into in support of an award or other agreement.

d. Recipients are responsible for monitoring each project, program, subaward, function or activity supporting the award. Recipients shall monitor subawards to ensure subrecipients have met the audit requirements specified in Department of Defense (DoD) Grant and Assistance Regulations (DoDGARs) §34.16, if applicable.

3. **Order of Precedence.** This Grant is subject to the laws and regulations of the United States. Any inconsistency or conflict in the terms and conditions specified in this Grant shall be resolved according to the following order of precedence:

a. The Federal statute authorizing this award, or any other Federal statutes directly affecting performance of this Grant.

b. DoD 3210.6-R, DoDGARs and Part 34, "Administrative Requirements for Grants and Agreements with For-Profit Organizations," as appropriate and Appendix A thereto.

c. Other terms and conditions contained within the Grant and any attachments.

d. These General Terms and Conditions.

4. **Administration and Cost Principles.** The following documents and attachments, effective the earlier of (i) the start date of this Grantor (ii) the date on which the recipient incurs costs to be assessed against the Grant, are incorporated by reference as part of this Grant:

a. DoD 3210.6-R, DoDGARs and Part 34, "Administrative Requirements for Grants and Agreements with For-Profit Organizations," as appropriate and

Appendix A thereto. DoDGARs is derived from 32 CFR Parts 21-37 and Part 1125. (DoDGARs may be accessed online at http://www.dtic.mil/whs/directives/corres/html/321006r.htm.)

b. Subpart 31.2 of the Federal Acquisition Regulation (FAR) (48 CFR Subpart 31). (FAR may be accessed online at http://farsite.hill.af.mil/vffara.htm.)

c. Subpart 231.2 of the DoD FAR Supplement (DFARS) (48 CFR Subpart 231). (DFARS may be accessed online at http://farsite.hill.af.mil/VFDFARA.HTM.)

5. Standards for Financial Management Systems. In accordance with DoDGARs Part 34, For-Profit organizations will use their existing financial management system established for doing business in the commercial marketplace, to the extent that the systems comply with Generally Accepted Accounting Principles and the minimum standards contained in DoDGARs §34.11, §34.16, and §34.17.

6. Modification of the Grant. The only method by which this Grant may be modified is by a formal, written modification signed by the Grants Officer. No other communications, whether oral or in writing, are valid.

7. Prior Approvals.

a. In accordance with DoDGARs §34.15 for For-Profit organizations, prior approval of the following deviations from budget and program plans is required:

(1) Change in the scope or the objective of the project or program (even if there is no associated budget revision requiring prior written approval). (Approval via modification of the Grant.)

(2) A change in a key person specified in the application or award document. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(3) The absence for more than three months, or a 25 percent reduction in time devoted to the project, by the approved project director or principal investigator. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(4) Request for a no-cost extension, must be submitted in writing to the Grants Officer and must be received at least thirty (30) calendar days prior to the end of the current performance period. (Approval via modification of the Grant.)

(5) Any request for additional funding. (Approval via modification of the Grant.)

(6) The inclusion of any additional costs that require prior approval in accordance with applicable cost principles for Federal funds and recipients' cost share or match, in §34.17 and §34.13, respectively. (Approval via written notification

from the Grants Officer or modification of the Grant, depending on the circumstances.)

(7) Any subaward, transfer or contracting out of substantive program performance under an award, unless described in the application and funded in the approved awards. This provision does not apply to the purchase of supplies, material, or general support services, except that procurement of equipment or other capital items of property always is subject to the Grants Officer's prior approval under §34.21(a), if it is to be purchased with Federal funds, or §34.13(a)(7), if it is to be used as cost sharing or matching. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(8) The transfer of funds among direct cost categories, functions and activities for awards in which the Federal share of the project exceeds $100,000 and the cumulative amount of such transfers exceeds or is expected to exceed 10 percent of the total budget as last approved by the DoD Component. No DoD Component shall permit a transfer that would cause any Federal appropriation or part thereof to be used for purposes other than those consistent with the original intent of the appropriation. (Approval via written notification from the Grants Officer.)

(9) The inclusion of pre-award costs. All such costs are incurred at the recipient's risk (i.e., DTRA is under no obligation to reimburse such costs if for any reason the recipient does not receive an award, or if the award is less than anticipated and inadequate to cover such costs). (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

(10) The purchase of real property or equipment not previously approved as part of the grant award. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

b. In accordance with DoDGARs §34.21(a), recipients may purchase real property or equipment in whole or in part with Federal funds under an award only with the prior approval of the Grants Officer. (Approval via written notification from the Grants Officer or modification of the Grant, depending on the circumstances.)

c. Prior approval is not required to transfer amounts budgeted for indirect costs to absorb increases in direct costs, or vice versa. Note: If directed in the DoD Appropriations Act for the funding obligated under this grant, the indirect costs of awards funded with Basic Research funding must be a certain percentage or less of the total award value. Revised budgets may be required.

d. Within 30 calendar days from the date of receipt of the recipient's request for budget revisions, the Grants Officer shall review the request and notify the recipient whether the budget revisions have been approved. If the revision is still under consideration at the end of 30 calendar days, the Grants Officer shall inform the recipient in writing of the date when the recipient may expect the decision.

8. Unobligated Balances. In the absence of any specific notice to the contrary, the recipient is authorized to carry forward unobligated balances to subsequent funding periods of this Grant agreement.

9. Payments. 2 CFR 215.22 governs the Federal awarding agency's and recipient's responsibilities concerning payments, with the following clarifications:

a. See **Financial Reporting Requirements** under Article 23 of this document. If these financial reporting requirements are not met, payment cannot be disbursed.

b. Payments will be made in advance, subject to the conditions described in 2 CFR 215.22(b),

> "Recipients are to be paid in advance, provided they maintain or demonstrate the willingness to maintain:
> (1) Written procedures that minimize the time elapsing between the transfer of funds and disbursement by the recipient, and
> (2) Financial management systems that meet the standards for fund control and accountability as established in §215.21. Cash advances to a recipient organization shall be limited to the minimum amounts needed and be timed to be in accordance with the actual, immediate cash requirements of the recipient organization in carrying out the purpose of the approved program or project. The timing and amount of cash advances shall be as close as is administratively feasible to the actual disbursements by the recipient organization for direct program or project costs and the proportionate share of any allowable indirect costs."

c. All payments shall be made by electronic funds transfers (EFT) to the bank account registered in the Central Contractor Registration (CCR). The Grantee agrees to maintain its registration in CCR including information necessary to facilitate payment via EFT. Should a change in registry or other incident necessitate the payment to an account other than that maintained in CCR, it is the Grantee's responsibility to notify the Grants Officer and obtain a modification to this Grant reflecting the change. The Government shall not be held responsible for any misdirection or loss of payment which occurs as the result of a Grantee's failure to maintain correct/current EFT information within its CCR registration. Refer to Article 38 for further information on CCR.

d. Recipients shall submit requests for payment using Wide Area Workflow (WAWF) at https://wawf.eb.mil/. Any request for advance payments must be approved by the Administrative Grants Office shown in Block 6 of the award. The request shall be submitted to the Administrative Office identified in Block 6 of the Research Grant by entering the following routing codes:

I. Pay Office DoDAAC: See Block 12 (Code) on the first page of the Grant.
II. Invoice Type: Grant and Cooperative Agreement Voucher.
III. Issue By DoDAAC: See Block 5 (Code) on the first page of the Grant.
IV. Admin DoDAAC: See Block 6 (Code) on the first page of the Grant.

V. Grant Approver: Same as Admin DoDAAC (Leave Ext. blank).

e. Payments will be made by the Defense Finance and Accounting Service (DFAS) office specified in the Research Grant (Block 12).

10. Funding Increments and/or Options. The recipient is advised that the Grantor's obligation to provide funding for increments and/or options included in the Grant is contingent upon satisfactory performance in the judgment of the DTRA Scientific Officer/Technical Monitor and the availability of funds. Other factors will be considered before options will be exercised (for example: expenditure rate and current programmatic objectives). Accordingly, no legal liability on the part of the Grantor exists unless or until funds are made available to the Grantor and notice of such availability is confirmed in writing to the recipient. Refer to the Funding Profile in Section G of the Grant for additional incremental funding planned, but not currently obligated for the Grant.

a. Funding Increments – In no event is the Government obligated to reimburse the recipient for expenditures in excess of the total funds allotted by the Government to this agreement. Recipients should note that low expenditure rates reported on payment requests may be cause for deferral of future increments. The Government anticipates unilateral modifications for funding increments.

b. Options – If the agreement contains Option(s), the Government reserves the right to exercise the Option(s) unilaterally.

11. Cost Sharing or Matching. Unless specified otherwise in other terms and conditions of the Grant, cost sharing or matching, if any, is included in accordance with DoDGARs §34.13.

12. Allowable Costs. Allowability of costs is in accordance with DoDGARs §34.17.

13. Program Income.

a. All program income earned during the project period (except proceeds from the sale of real and personal property and license fees and royalties received as a result of copyrights, patents, patent applications, trademarks, or inventions produced under the Grant) shall be deducted from the total project's allowable costs in determining the net allowable costs on which the Federal share of costs will be based (see DoDGARs §34.14). Proceeds from the sale of property that is acquired, rather than fabricated, under an award are not program income and shall be handled in accordance with the requirements of the Property Standards (see DoDGARs §34.20 through 34.25).

b. For awards that support research, DoDGARs §34.14(d)(1) shall apply automatically unless the terms and conditions specify another alternative or the recipient is subject to special award conditions, as indicated in DoDGARs §34.4.

14. Interest Earned. Interest earned will be subject to guidelines as specified in DoDGARs §34.12(b)(2)(iv). Interest earned shall be remitted annually to the Administrative Office annotated in Block 6 of the Grant Document, in the form of a check made payable to the U.S. Treasury.

15. Debt Collection. The establishment of debts owed by recipients of grants and transferring them to payment offices for collection shall be dealt with in accordance with DoDGARs §34.63.

16. Audits. Recipients are to periodically have independent, financial and compliance audits subject to DoDGARs §34.16.

17. Subawards. Recipients shall flow down requirements to subawards in accordance with DoDGARs §34.1(b)(2) and DoDGARs Appendix A to Part 34. Refer to Article 39 for reporting requirements for subawards.

18. Procurement Standards. Recipients shall comply with the standards set forth in DoDGARs §34.30 and 34.31 and applicable Federal statutes and Executive Orders when expending Federal funds for supplies, equipment, real property, and expendable property. Upon request, recipients shall make available for DTRA's pre-award review, procurement documents such as requests for proposals or invitations for bids, independent cost estimates, etc. in accordance with DoDGARs §34.31(b).

19. Title to Real Property and Equipment. Unless specified otherwise in other terms and conditions of the Grant, title to real property or equipment purchased in whole or in part with Federal funds shall vest in the recipient upon acquisition subject to the conditions that the recipient:

a. Use the real property or equipment for the authorized purposes of the project until funding for the project ceases, or until the property is no longer needed for the purposes of the project;

b. Not encumber the property without approval of the Grants Officer;

c. Use and dispose of the property in accordance with DoDGARs §34.21(d) and (e); and

d. Manage, use and dispose of property in accordance with DoDGARs §34.21 through §34.24.

20. Intangible Property. Rights in technical data and computer software under this Grant shall be in accordance with DoDGARs §34.25(b). DTRA does not waive any rights set forth in DoDGARs §34.25(b)(2).

a. Patents. Grants and cooperative agreements with:

(1) Small business concerns shall comply with 35 U.S.C. Chapter 18, as implemented by 37 CFR Part 401, which applies to inventions made under grants and cooperative agreements with small business concerns for research and development. 37 CFR 401.14 provides a standard clause that is required in such grants and cooperative agreements in most cases, 37 CFR 401.3 specifies when the clause shall be included, and 37 CFR 401.5 specifies how the clause may be modified and tailored.

(2) For-profit organizations other than small business concerns shall comply with 35 U.S.C. 210(c) and Executive Order 12591 (3 CFR, 1987 Comp., p. 220) (which codifies a Presidential Memorandum on Government Patent Policy, dated February 18, 1983).

(a) The Executive order states that, as a matter of policy, grants and cooperative agreements should grant to all for-profit organizations, regardless of size, title to patents made in whole or in part with Federal funds, in exchange for royalty-free use by or on behalf of the Government (i.e., it extends the applicability of 35 U.S.C. Chapter 18, to the extent permitted by law, to for-profit organizations other than small business concerns).

(b) 35 U.S.C. 210(c) states that 35 U.S.C. Chapter 18 is not intended to limit agencies' authority to agree to the disposition of rights in inventions in accordance with the Presidential memorandum codified by the Executive order. It also states that such grants and cooperative agreements shall provide for Government license rights required by 35 U.S.C. 202(c)(4) and march-in rights required by 35 U.S.C. 203.

b. Copyright, data and software rights. Requirements concerning data and software rights are as follows:

(1) The recipient may copyright any work that is subject to copyright and was developed under an award. DoD Components reserve a royalty-free, nonexclusive and irrevocable right to reproduce, publish, or otherwise use the work for Federal purposes, and to authorize others to do so.

(2) Unless waived by the DoD Component making the award, the Federal Government has the right to:

(a) Obtain, reproduce, publish or otherwise use for Federal Government purposes the data first produced under an award.

(b) Authorize others to receive, reproduce, publish, or otherwise use such data for Federal purposes.

21. <u>Patent Rights</u>.

For-Profit organizations other than small business concerns shall comply with 35 U.S.C. 210(c) and Executive Order 12591 (3 CFR, 1987 Comp., p. 220), which codifies a Presidential Memorandum on Government Patent Policy, dated February 18, 1983 (see DoDGARs §34.25(a)). All awardees shall comply with the following, in accordance with 37 CFR §401.14. Note: "Contractor" equals "Grantee", "Subcontractor" equals "Subawardee", and "Subcontract" equals "Subaward".

a. Definitions

(1) *Invention* means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code, or any novel variety of plant which is or may be protected under the Plant Variety Protection Act (7 U.S.C. 2321 *et seq.*).

(2) *Subject invention* means any invention of the *contractor* conceived or first actually reduced to practice in the performance of work under this *contract,* provided that in the case of a variety of plant, the date of determination (as defined in section 41(d) of the Plant Variety Protection Act, 7 U.S.C. 2401(d)) must also occur during the period of *contract* performance.

(3) *Practical Application* means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or government regulations, available to the public on reasonable terms.

(4) *Made* when used in relation to any invention means the conception or first actual reduction to practice of such invention.

(5) *Small Business Firm* means a small business concern as defined at section 2 of Pub. L. 85 536 (15 U.S.C. 632) and implementing regulations of the Administrator of the Small Business Administration. For the purpose of this clause, the size standards for small business concerns involved in government procurement and subcontracting at 13 CFR 121.3 8 and 13 CFR 121.3 12, respectively, will be used.

(6) *Nonprofit Organization* means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c) and exempt from taxation under section 501(a) of the Internal Revenue Code (25 U.S.C. 501(a)) or any nonprofit scientific or educational organization qualified under a state nonprofit organization statute.

b. Allocation of Principal Rights

The *Contractor* may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U.S.C. 203. With respect to any subject invention in which the *Contractor* retains title, the Federal government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the subject invention throughout the world.

c. Invention Disclosure, Election of Title and Filing of Patent Application by *Contractor*

(1) The *contractor* will disclose each subject invention to the *Federal Agency* within two months after the inventor discloses it in writing to *contractor*

personnel responsible for patent matters. The disclosure to the agency shall be in the form of a written report and shall identify the *contract* under which the invention was made and the inventor(s). It shall be sufficiently complete in technical detail to convey a clear understanding to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention. The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure. In addition, after disclosure to the *agency,* the *Contractor* will promptly notify the *agency* of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the *contractor.*

(2) The *Contractor* will elect in writing whether or not to retain title to any such invention by notifying the *Federal agency* within two years of disclosure to the *Federal agency.* However, in any case where publication, on sale or public use has initiated the one year statutory period wherein valid patent protection can still be obtained in the United States, the period for election of title may be shortened by the *agency* to a date that is no more than 60 days prior to the end of the statutory period.

(3) The *contractor* will file its initial patent application on a subject invention to which it elects to retain title within one year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use. The *contractor* will file patent applications in additional countries or international patent offices within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) Requests for extension of the time for disclosure, election, and filing under subparagraphs (1), (2), and (3) may, at the discretion of the *agency,* be granted.

d. Conditions When the Government May Obtain Title

The *contractor* will convey to the *Federal agency,* upon written request, title to any subject invention—

(1) If the *contractor* fails to disclose or elect title to the subject invention within the times specified in (c), above, or elects not to retain title; provided that the *agency* may only request title within 60 days after learning of the failure of the *contractor* to disclose or elect within the specified times.

(2) In those countries in which the *contractor* fails to file patent applications within the times specified in (c) above; provided, however, that if the *contractor* has filed a patent application in a country after the times specified in (c) above,

but prior to its receipt of the written request of the *Federal agency*, the *contractor* shall continue to retain title in that country.

(3) In any country in which the *contractor* decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

e. Minimum Rights to *Contractor* and Protection of the *Contractor* Right to File

(1) The *contractor* will retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, except if the *contractor* fails to disclose the invention within the times specified in (c), above. The *contractor's* license extends to its domestic subsidiary and affiliates, if any, within the corporate structure of which the *contractor* is a party and includes the right to grant sublicenses of the same scope to the extent the *contractor* was legally obligated to do so at the time the *contract* was awarded. The license is transferable only with the approval of the *Federal agency* except when transferred to the successor of that party of the *contractor's* business to which the invention pertains.

(2) The *contractor's* domestic license may be revoked or modified by the *funding Federal agency* to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions at 37 CFR part 404 and *agency* licensing regulations (if any). This license will not be revoked in that field of use or the geographical areas in which the *contractor* has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of the *funding Federal agency* to the extent the *contractor,* its licensees, or the domestic subsidiaries or affiliates have failed to achieve practical application in that foreign country.

(3) Before revocation or modification of the license, the *funding Federal agency* will furnish the *contractor* a written notice of its intention to revoke or modify the license, and the *contractor* will be allowed thirty days (or such other time as may be authorized by the *funding Federal agency* for good cause shown by the *contractor*) after the notice to show cause why the license should not be revoked or modified. The *contractor* has the right to appeal, in accordance with applicable regulations in 37 CFR part 404 and *agency* regulations (if any) concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of the license.

f. *Contractor* Action to Protect the Government's Interest

(1) The *contractor* agrees to execute or to have executed and promptly deliver to the *Federal agency* all instruments necessary to (i) establish or confirm the rights the Government has throughout the world in those subject inventions to which the

contractor elects to retain title, and (ii) convey title to the *Federal agency* when requested under paragraph (d) above and to enable the government to obtain patent protection throughout the world in that subject invention.

(2) The *contractor* agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the *contractor* each subject invention made under *contract* in order that the *contractor* can comply with the disclosure provisions of paragraph (c), above, and to execute all papers necessary to file patent applications on subject inventions and to establish the government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1), above. The *contractor* shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The *contractor* will notify the *Federal agency* of any decisions not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than thirty days before the expiration of the response period required by the relevant patent office.

(4) The *contractor* agrees to include, within the specification of any United States patent applications and any patent issuing thereon covering a subject invention, the following statement, "This invention was made with government support under (identify the *contract*) awarded by (identify the Federal agency). The government has certain rights in the invention."

g. Subcontracts

(1) The *contractor* will include this clause, suitably modified to identify the parties, in all subcontracts, regardless of tier, for experimental, developmental or research work to be performed by a small business firm or domestic nonprofit organization. The subcontractor will retain all rights provided for the *contractor* in this clause, and the *contractor* will not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(2) The *contractor* will include in all other subcontracts, regardless of tier, for experimental developmental or research work the patent rights clause required by (*cite section of agency implementing regulations or FAR*).

(3) In the case of subcontracts, at any tier, when the prime award with the Federal agency was a contract (but not a grant or cooperative agreement), the *agency,* subcontractor, and the contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the Federal agency with respect to the matters covered by the clause; provided,

however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection with proceedings under paragraph (j) of this clause.

h. Reporting on Utilization of Subject Inventions

The *Contractor* agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the *contractor* or its licensees or assignees. Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the contractor, and such other data and information as the *agency* may reasonably specify. The *contractor* also agrees to provide additional reports as may be requested by the *agency* in connection with any march-in proceeding undertaken by the *agency* in accordance with paragraph (j) of this clause. As required by 35 U.S.C. 202(c)(5), the *agency* agrees it will not disclose such information to persons outside the government without permission of the *contractor* .

i. Preference for United States Industry

Notwithstanding any other provision of this clause, the *contractor* agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject inventions in the United States unless such person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for such an agreement may be waived by the *Federal agency* upon a showing by the *contractor* or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances domestic manufacture is not commercially feasible.

j. March-in Rights

The *contractor* agrees that with respect to any subject invention in which it has acquired title, the *Federal agency* has the right in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the *agency* to require the *contractor,* an assignee or exclusive licensee of a subject invention to grant a nonexclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the *contractor,* assignee, or exclusive licensee refuses such a request the *Federal agency* has the right to grant such a license itself if the *Federal agency* determines that:

(1) Such action is necessary because the *contractor* or assignee has not taken, or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use.

(2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the *contractor,* assignee or their licensees;

(3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the *contractor,* assignee or licensees; or

(4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a licensee of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement.

k. Special Provisions for *Contracts* with Nonprofit Organizations

If the *contractor* is a nonprofit organization, it agrees that:

(1) Rights to a subject invention in the United States may not be assigned without the approval of the *Federal agency,* except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee will be subject to the same provisions as the *contractor;*

(2) The *contractor* will share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (when the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) The balance of any royalties or income earned by the *contractor* with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, will be utilized for the support of scientific research or education; and

(4) It will make efforts that are reasonable under the circumstances to attract licensees of subject invention that are small business firms and that it will give a preference to a small business firm when licensing a subject invention if the *contractor* determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms; provided, that the *contractor* is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the *contractor.* However, the *contractor* agrees that the Secretary may review the *contractor's* licensing program and decisions regarding small business applicants, and the *contractor* will negotiate changes to its licensing policies, procedures, or practices with the Secretary when the Secretary's review discloses that the *contractor* could take reasonable steps to implement more effectively the requirements of this paragraph (k)(4).

l. Communication

All DTRA-related disclosures, confirmatory licenses to the government, patent applications, and other communications should be submitted in accordance with Article 21m. Questions should be submitted to basicresearch@dtra.mil.

m. Invention Reporting

37 CFR Part 401 invention reporting requirements are summarized in below table. Unless otherwise indicated in the "Submission to DTRA" column below, the grantee is required to upload the following types of invention information using iEdison. iEdison (https://s-edison.info.nih.gov/iEdison/), is a single web interface for government grantees to report details of inventions and patents. If the grantee organization is not already an iEdison registrant, then registration with iEdison is required prior to submission of the below invention reports. The grant shall not be closed out until all invention reporting requirements are met.

Action	When	Discussion	37 CFR Reference	Submission to DTRA
Invention Report: The grantee must submit a report of any "subject" invention. The report must identify inventor(s), federal agency(ies), grant number(s), and date of any public disclosure. Date of submission establishes time frames for all future actions. Must be complete in technical detail. The report should be directed to the lead agency.	Within 2 months of inventor's initial report to the grantee/contractor organization.	There is no single format for disclosing the invention to the government. The communication should include: the title of the invention, date of any public disclosure, names of all inventors, source(s) of federal funding (i.e. grant number), a written description of the invention in technical detail. The invention disclosure should be signed by the inventor(s): at the very least signed by a grantee institutional official.	401.14(a)(2) 401.14(c)(1)	Submit electronically by uploading either a PDF, TIFF, or text file through iEdison.
Rights to Inventions on Subcontracts: Subcontractors retain rights to their subject inventions.	Same reporting responsibilities, obligations and time frames as prime grantee organization.	Prime grantee organization cannot require ownership of subcontractor's subject invention(s).	401.14(g)(1) 401.14(g)(2)	Invention disclosure, confirmatory license, and proof of gov't support clause shall be submitted electronically through iEdison.
Election of Title to Invention: Grantee organization must notify the federal agency sponsor that it will retain ownership of invention and take steps to commercialize the invention.	Within 2 years of reporting the invention to the lead federal agency sponsor. (If disclosed publicly, this period is decreased.)		401.14(b) 401.14(c)(2) 401.14(f)(1)	Submit electronically through iEdison.
Confirmatory license: The grantee organization must provide a nonexclusive, nontransferable, irrevocable, paid-up license for the government to practice or have the invention practiced on its behalf throughout the world.	Commensurate with report of any initial patent filing, unless the invention is being licensed as an unpatented biological material or research tool.		401.14(f)(1)	Submit electronically by uploading either a PDF or TIFF file through iEdison.
Nonelection of Title to Invention: Grantee organization must notify the federal sponsor that it will not retain ownership of an invention.	Within 2 years of reporting to federal agency sponsor.	Effectively a waiver to the government. After further review the federal agency sponsor may elect title on behalf of the government. Title does not actually vest with the	401.14(c)(2) 401.14(d)	Submit electronically through iEdison.

	(If disclosed publicly, this period is decreased.)	government until government elects to retain title.		
Assignment of Invention Rights to the Inventor: The inventor may request assignment of invention rights. Agencies support requests of this type to variously. In all cases, documentation is required when a grantee organization waives rights to the invention and the inventor(s) wishes to retain the invention rights.	At the time the grantee organization elects not to pursue title and the inventor requests rights in the invention.	First, the grantee organization must elect not to retain rights in the invention. Second, the inventor must request the assignment of rights, agree to all terms associated with invention reporting as detailed in 37 CFR 401, and must pursue commercialization of the invention through patent filing or licensing as a research tool. Specific procedures for any agency should be determined prior to initiating the request.	401.14(k)(1) non-profits	This status shall be indicated using iEdison; Submission of all other issues (such as outstanding required documents) should be resolved prior to proceeding further. Submission of the required documents will be done electronically by uploading either a PDF, TIFF, or text file through iEdison.
Initial Patent Application: The grantee must inform the government of the initial patent application that related to any subject invention. The patent application must include a government support clause.	Within 1 year after election of title, unless there is an extension.	Time frame may vary if invention becomes public. The term initial patent application means a nonprovisional U.S. national application for patent as defined in 37 CFR 1.9(a)(3). The notification must include the patent application number and filing date assigned by the USPTO. A copy of the full application is not required.	401.14(c)(3) 401.2(n)	All filing data shall be submitted via iEdison. Evidence of inclusion of government support clause shall be submitted electronically as either a PDF or TIFF file through iEdison.
Assignment to Third Party: Documentation necessary when a grantee/contractor wishes to assign invention rights to third party. If the grantee/contractor is a non-profit, the government must approve the assignment. For profit or small business grantee/contractors do not need to seek approval. If the rights are assigned, new rights holder assumes the same reporting responsibilities as the grantee/contractor organization.		If assignment approved, third party must pursue commercialization of the invention through patent filing or licensing of the invention as a research tool. Specific procedures to request third party assignment may vary between agencies. Consult DTRA prior to initiating request.	401.14(k) for non-profits. Note the distinction between small businesses and non-profit organizations.	Documentation shall be submitted electronically as either a PDF or TIFF file through iEdison.
Issued Patent: Grantee must provide federal	At the time of issue.	Patent must include government support	401.5(f)(2)	All issued patent

agency sponsor with patent issue date, number, title of patent, and evidence of government support clause.		clause.	401.14(f)(4)	information shall be provided using iEdison. Evidence of inclusion of government support clause will be provided electronically as a PDF or TIFF file through iEdison.
Request for Extension of Time: An extension of up to two years may be requested for election of title, or one year for filing a patent application.	Prior to any statutory bar.	Extension of 2 years for title election and one year for patent application are preapproved for funded inventions. Additional extensions need written approval from the federal agency sponsor.	401.14(c)(4)	Request electronically using iEdison.
Discontinuance of Patent Application, Payment of Maintenance Fees, or Defense in a Reexamination or Opposition proceeding on a Patent: Grantee must notify federal agency sponsor of changes in patent status.	At any time in the process, but prior to established deadlines.	Relevant information and documents (e.g., patent application or patent) must be provided such that a determination to protect government interests can be made. The federal agency sponsor has the option to pursue the patent application or the patent if not being properly pursued or maintained. Any change in status must be reported at least 30 days prior to pending PTO office actions.	401.14(f)(3) 401.6	Indication shall be made via iEdison.
Annual Utilization Report: DTRA requires utilization reporting for all subject inventions that have had title elected or are licensed without a patent. Report includes stage of development, date of first commercial sale or use, number and type of licenses, gross income, licensing to small business, status of U.S. manufacturing and identification of any FDA-approved product names.	Annually	DTRA requires invention utilization reports on a 12 month reporting cycle beginning in the month of grantee choosing and continuing throughout duration of patent. Information requirements defined in iEdison. Note: this reporting requirement, if applicable, extends beyond the grant period.	401.14(h)	Submit electronically using iEdison.
Annual Summary Report of Inventions: Summarize all previously reported subject inventions under this grant.	Annually	Invention reports shall be filed annually due no later than 1 July of each year. Grants effective after 31 January will not require a report until 1 July of the following year. The recipient shall use DD Form 882, Report	401.5(f)(3)	No iEdison submission allowed. Submit DD Form 882, Report of Inventions and Subcontracts to:

		of Inventions and Subcontracts, to file invention reports. If no inventions occurred during the annual reporting period a negative report must be submitted. As directed by DTRA, either email Form DD882 to basicresearch@dtra.mil (file size must be less than 10MB), or upload to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal. File should be named by the Grant number and 'Invention Report' (e.g. HDTRA1-12-1-9999 Invention Report). The Grant shall not be closed out until all invention reporting requirements are met.		-DTRA Grants Officer 8725 John J. Kingman Rd. MSC 6201 (#2730B) Ft. Belvoir VA 22060-6201 -Administrative Office identified in the Grant -As directed by DTRA, email or portal.
Final Invention Statement and Certification: Report all subject inventions derived or reduced to practice during the performance of the grant.	Due with the Final Technical Report within 90 days after the project ends.	Invention reports shall be filed at the end of the Grant's PoP. If no inventions occurred during the lifetime of the award, a negative report must be submitted. As directed by DTRA, either email Form DD882 to basicresearch@dtra.mil (file size must be less than 10MB), or upload to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal. File should be named by the Grant number and 'Invention Report' (e.g. HDTRA1-12-1-9999 Invention Report). The Grant shall not be closed out until all invention reporting requirements are met.	401.5(f)(1)	No iEdison submission allowed Submit DD Form 882, Report of Inventions and Subcontracts to: -DTRA Grants Officer 8725 John J. Kingman Rd. MSC 6201 (#2730B) Ft Belvoir VA 22060-6201 -Administrative Office identified in the Grant -As directed by DTRA, email or portal.

22. Technical Reporting Requirements. Except under rare cases, performance reports are required annually.

a. **ANNUAL REPORTS:** Annual Reports are due no later than 1 July of each year. Grants effective after 31 January will not require a progress report until 1 July of the following year.

At the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), Annual Reports must be submitted electronically as follows:

- Email the Annual Report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Annual Report', e.g. HDTRA1-12-1-9999 Annual Report.

OR

- Upload the Annual Report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Annual Report', e.g. HDTRA1-12-1-9999 Annual Report.

- Provide a copy of the report to the Administrative Office identified in the Research Grant.

The Annual Report is *not* a cumulative report. The first Annual Report shall only include actions that occurred from the Period of Performance start date up to submission of the first Annual Report. Each subsequent report shall only include actions that occurred during the 12-month period following the previous year's Annual Report.

The Annual Report shall contain the following items:

(1) Cover Sheet: As a minimum, the cover sheet should include the following information: PI's name, Institution's name and address, and Grant number.

(2) Objectives: List the objectives of the research effort or the statement of work. This may be omitted if there has been no change. State new or revised objectives if they have changed and the reason why.

(3) Status of effort: A brief statement of progress towards achieving the research objectives. (Limit to 200 words).

(4) Accomplishments/New Findings: Describe research highlights, their significance to the field, their relationship to the original goals, their relevance to the DTRA mission, and their potential application(s) to DTRA and civilian technology challenges.

(5) Personnel Supported: List professional personnel (Faculty, Post-Docs, Graduate Students, etc.) supported by and/or associated with the research effort.

(6) Publications: List peer-reviewed publications and theses submitted and/or accepted during the 12-month period starting the previous 1 October (or since start date for new grants). Include full reference information, such as authors, journal, volume, page numbers, etc. or for conference proceedings, name, date and location of the conference, and proceedings publication information.

(7) Interactions/Transitions:

(a) Participation/presentations at meetings, conferences, seminars, etc.

(b) Consultative and advisory functions to other laboratories and agencies and other DoD laboratories. Provide factual information about the subject matter, institutions, locations, dates, and name(s) of principal individuals involved.

(c) Transitions. Describe cases where knowledge resulting from your effort is used, or will be used, in a technology application. Transitions can be to entities in DoD, other federal agencies, or industry. Briefly list the enabling research, the laboratory or company, and an individual in that organization who made use of your research.

(8) New discoveries, inventions, or patent disclosures.

(9) Honors/Awards: List honors, degrees, and awards received during the Grant period. List lifetime achievement honors such as Nobel prize, honorary doctorates, and society fellowships prior to this effort.

(10) Courses taught: List class name, curriculum level and dates of any counter WMD classes taught by the PI or Co-PI.

(11) To assist in compiling all of this information, a summary table (in MSExcel format) has been created that can be downloaded from the DTRA Basic and Fundamental Research Community Portal (https://www.dtrasubmission.net/portal/Forms.aspx). The table should be embedded into the Annual Report with any necessary narrative. The fields contained in the table include, but are not limited to: number of PIs, number of students supported, total number of peer reviewed publications, Hirsch Index, etc.

(12) At the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), the Quad Chart should be submitted electronically as follows:

- Email an updated Quad Chart to basicresearch@dtra.mil (file size must be less than 10MB),

OR

- Upload an updated Quad Chart as a separate file to the DTRA Basic and Fundamental Research Community Portal (www.dtrasubmission.net/portal). The file name should be the Grant number and 'Quad Chart', e.g. HDTRA1-12-1-9999 Quad Chart.

A quad chart template is available in the Document & Template Library on the DTRA Basic and Fundamental Research Community Portal (www.dtrasubmission.net/portal).

b. **ANNUAL TECHNICAL REVIEW:** At least one representative (preferably the PI) for each award is expected to attend and present at the annual technical program review meeting, unless otherwise exempted by DTRA in writing. For planning purposes the review will be for five days and will be held in Northern Virginia, typically during the summer months. DTRA encourages collaborators and graduate students to attend the Annual Technical Review.

c. **FINAL TECHNICAL REPORTS:** A comprehensive final technical report is required: the draft document is required forty-five (45) days prior to the end of the Period of Performance and the final document is required ninety (90) days after the expiration or termination of the award. The report should be structured substantially as follows:

(1) The purpose of the final report is to document and to transition the results of the effort into the DTRA and DoD applied research community. The final report will always be sent to the Defense Technical Information Center (DTIC) and unclassified reports may be made available to the public through the National Technical Information Service (NTIS).

(2) Content: The final report is more than an extension of previous annual reports. The final report shall be a comprehensive technical summary of the significant work accomplished. The final report, where it is not readily accessible in published form should, where applicable:

(a) Clearly describe and illustrate the experimental equipment, setup, and procedures;

(b) Characterize and tabulate collected/computed data in an appendix;

(c) Sufficiently describe computational codes so they can be reproduced. Include a listing of the code in an appendix if possible and appropriate; and

(d) When the research effort culminates in the production of one or more student theses or dissertations, in these cases, the most significant advancements and conclusions (equations, figures, relationships, etc.) should be included in an executive summary. The theses or dissertations

should be attached as appendices only if they are not readily available. If they are, clearly reference them and how they can be obtained. Also include in the executive summary, cumulative lists of people involved in, and publications stemming from, the research effort. Do not include copies of already submitted or published articles in the final report.

(3) Standard Form (SF) 298: SF-298, Report Documentation Page, must be used. Item 13 of the SF-298 should contain a 100 to 200 word abstract summarizing technical progress during the reporting period. The SF-298 may be found on the Internet at: http://contacts.gsa.gov/webforms.nsf/0/B82C70E2B4C7843185256A2C005F72E0/$file/SF298_e.pdf

(4) Format: Cover and title page. The report style should be third person singular using past tense. Jargon, special symbols or notations, subscripts, mathematical symbols or foreign alphabet letters are not permitted. All of the report pages should be prepared for acquisition and distribution by DTIC. All of the report pages should be of good quality for copying purposes. No pages should be missing.

The format and standard required by your institution for the preparation of theses and dissertations shall be used for the final report. In the absence of any institutional standards, you may wish to refer to the American National Standards Institute (ANSI) document Z39.18-1987, "Scientific and Technical Reports: Organization, Preparation, and Production," for guidance. The report may be obtained from:

American National Standards Institute Incorporated
1430 Broadway
New York NY 10018

(5) Report Classification: It is anticipated that all final technical reports will be unclassified and that distribution will not be limited. However, for final technical reports that require a limited distribution as deemed necessary by DTRA, a Distribution List will be provided with the comments on the draft final technical report. The Distribution List should be formatted to match the rest of the report, placed at the end of the report, and added to the Table of Contents. The number of pages in the Distribution List should be added to the total page count and included in the total number of pages cited in Block 15 of the SF-298.

(6) Report Submission: The draft of the final technical report will be due not later than forty-five (45) days prior to the end of the period of performance.

At the direction of DTRA (instructions to be provided to the awardee in advance of the end of the PoP), the draft of the final technical report (including a draft SF-298) must be submitted electronically as follows:

- Email the draft of the final technical report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Draft Final Report', e.g. HDTRA1-12-1-9999 Draft Final Report.

OR

- Upload the draft of the final technical report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Draft Final Report', e.g. HDTRA1-12-1-9999 Draft Final Report.

- Provide a copy of the report to the Administrative Office identified in the Research Grant.

- Within thirty (30) days this draft will be reviewed by DTRA and comments will be provided to the Grantee. The Grantee shall incorporate the requested changes. Final Technical Reports are due ninety (90) days after the expiration or termination of the award. The final submission should be made in accordance with the draft final report submission instructions.Provide a copy of the report to the Administrative Office identified in the Research Grant.

23. Financial Reporting Requirements.

a. Federal Financial Report, SF-425. This report is due quarterly, no later than 30 days after the end of the reporting period. Reporting periods are as follows: 1 January – 31 March, 1 April 30 June, 1 July 30 September, and 1 October 31 December, respectfully. Final reports shall be submitted no later than 30 days after the project or grant period end date.

The SF-425 form and instructions can be found on the Internet at: http://www.whitehouse.gov/omb/grants_forms/

b. All financial reports shall be submitted to the Administration Office identified in Block 6 of the Research Grant. In addition, at the direction of DTRA (instructions to be provided to the awardee not later than 1 May of each year), the Financial Report must be submitted electronically as follows:

- Email the Financial Report to basicresearch@dtra.mil (file size must be less than 10MB). The file name should be the Grant number and 'Financial Report', e.g. HDTRA1-12-1-9999 Financial Report.

OR

- Upload the Financial Report to the DTRA Basic and Fundamental Research Community Portal, www.dtrasubmission.net/portal, (file size must be less than 10 MB). The file name should be the Grant number and 'Financial Report', e.g. HDTRA1-12-1-9999 Financial Report.

24. After-the-Award Requirements. Closeout, subsequent adjustments, continuing responsibilities, and collection of amounts due are subject to requirements found in DoDGARs §34.61 through 34.63.

25. Delegation of Administration Duties. Certain grant administration duties have been delegated to the Administration Office identified in Block 6 of the Research Grant. These duties are as follows:

a. Provisionally approve all Grant and Cooperative Agreement Vouchers.

b. Perform all property administration services except the approval of recipient's requests to purchase equipment with grant funds. Such approvals must be granted by the DTRA Grants Officer.

c. Perform all plant clearance functions.

d. Approve requests for Registration for Scientific and Technical Information Services (DD Form 1540).

e. Obtain all financial report(s) (see Article 23 of this document).

f. Execute administrative closeout procedures, which include the following:

(1) Obtain the final Report of Inventions and Subcontracts (DD Form 882).

(2) Obtain final payment request, if any.

(3) Obtain final property report and dispose of purchased property and government furnished equipment (GFE) in accordance with the DoDGARs Part 22, Subpart G.

(4) Perform a review of final incurred costs and assist the Grants Officer in resolving exceptions, if any, resulting from questioned costs.

(5) Assure that all refunds due the Government are received by the Grantor.

NOTE: This term and condition is **not applicable** to instrumentation and equipment grant awards.

26. Claims, Disputes and Appeals. Claims, disputes, and appeals shall be processed in accordance with the procedures provided in DoDGARs §22.815.

27. Termination and Enforcement. Recipients shall be subject to the termination and enforcement conditions found in DoDGARs §34.51 and §34.52.

28. Security. As a general rule, PI's will not need access to classified security information in the conduct of research supported under this Grant. Should it appear that access to such information is desirable, the recipient shall advise the Grantor and request clearance for the investigator. Should information be developed during the course of work under this Grant that, in the judgment of the PI or the recipient, should be classified, the Grants Officer shall be notified immediately.

29. Representations and Assurances. By accepting funds under this Grant, the recipient assures that it will comply with applicable provisions of the following national policies:

a. Nondiscrimination: By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following, national policies prohibiting discrimination:

(1) On the basis of race, color, or national origin, in Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, et seq.), as implemented by DoD regulations at 32 CFR Part 195.

(2) On the basis of sex or blindness, in Title IX of the Education Amendments of 1972 (20 U.S.C. 1681, et seq.), as implemented by DoD regulations at 32 CFR Part 196.

(3) On the basis of age, in the Age Discrimination Act of 1975 (42 U.S.C. 6101, et seq.), as implemented by Department of Health and Human Services regulations at 45 CFR Part 90.

(4) On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as implemented by Department of Justice regulations at 28 CFR Part 41 and DoD regulations at 32 CFR Part 56.

b. Live Organisms: By signing this agreement or accepting funds under this agreement, the recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

(1) For human subjects:

(a) The Common Federal Policy for the Protection of Human Subjects, codified by the Department of Health and Human Services at 45 CFR Part 46 and implemented by the Department of Defense at 32 CFR Part 219.

(b) The recipient shall adhere to DTRA local clause 252.223-9002. The full text of this clause is as follows:

252.223-9002 PROTECTION OF HUMAN SUBJECTS (AUG 2010)

All research under this grant involving human subjects must be conducted in accordance with 32 CFR 219, 10 U.S.C. 980, and DoDD 3216.02, as well as other applicable federal and state regulations. Grantees must be cognizant of and abide by the additional restrictions and limitations imposed on the DoD regarding research involving human subjects, specifically as regards vulnerable populations (32 CFR 219 modifications to subparts B-D of 45 CFR 46), recruitment of military research subjects (32 CFR 219), and surrogate consent (10 U.S.C. 980). DTRA Directive 3216.01 establishes the DTRA Human Subjects Protection Program, sets forth the policies, defines the applicable terms, and delineates the procedures necessary to ensure DTRA compliance with federal and DoD regulations and legislation governing human subject research. The regulations mandate that all DoD activities, components, and agencies protect the rights and welfare of human subjects of study in DoD-supported research, development, test and evaluation, and related activities hereafter referred to as "research". The requirement to comply with the regulations applies to new starts and to continuing research.

The DTRA directive requires that research using human subjects may not begin or continue until the Defense Threat Reduction Agency's Research Oversight Board (ROB) has reviewed and approved the proposed protocol. Grantees and subcontractors are required to submit a valid federal assurance for their organization (institution, laboratory, facility) that has been issued by either DoD or the Department of Health and Human Services, and documentation of review of proposed protocols by the local Institutional Review Board (IRB) to include consent forms for any planned research using human subjects to the DTRA ROB for its review through the Grants Officer's representative (if assigned) or the Grants Officer. The ROB review is separate from, and in addition to, local IRB review.

Written approval to begin research or subcontract for the use of human subjects under the proposed protocol will be provided in writing from the DTRA ROB, through the Grants Officer. A copy of this approval shall be maintained by both the Grantee and the government. Any proposed modifications or amendments to the approved protocol or consent forms must be submitted to the local IRB and the DTRA ROB for review and approval. Examples of modifications/amendments to the protocol include but are not limited to:

1) a change of the PI
2) changes in duration or intensity of exposure to some stimulus or agent

3) changes in the information requested of volunteers, or changes to the use of specimens or data collected
4) changes in perceived or measured risks or benefits to volunteers that require changes to the study

Research pursuant to such modifications or amendments shall not be initiated without IRB and ROB approval except when necessary to eliminate apparent and immediate hazards to the subject(s).

Research projects lasting more than one year require IRB review at least annually, or more frequently as required by the responsible IRB. ROB review and approval is required annually. The Grantee or subcontractor must provide documentation of continued IRB review of protocols for ROB review and approval in accordance with these Terms and Conditions. Research must not continue without renewed ROB approval unless necessary to eliminate apparent and immediate hazards to the subject(s).

Non-compliance with any provision of this clause may result in withholding of payments under the grant pursuant to the grant's payments clause(s) and/or grant termination pursuant to the grant's termination clause(s). The government shall not be responsible for any costs incurred for research involving human subjects prior to protocol approval by the ROB.

(2) For animals:

(a) The recipient shall adhere to:

(1) Requirements for animal acquisition, transport, care, handling, and use in 9 CFR Parts 1-4, Department of Agriculture rules implementing the Laboratory Animal Welfare Act of 1966 (7 U.S.C. 2131-2156) and 9 CFR Subchapter A, Parts 1 through 4).

(2) Rules of the Departments of Interior (50 CFR Parts 10-24) and Commerce (50 CFR Parts 217-227) implementing laws and conventions on the taking, possession, transport, purchase, sale, export, or import of wildlife and plants, including the: Endangered Species Act of 1973 (16 U.S.C. 1531-1543); Marine Mammal Protection Act (16 U.S.C. 1361-1384); Lacey Act (18 U.S.C. 42); and Convention on International Trade in Endangered Species of Wild Fauna and Flora.

(3) DTRA local clause 252.235-9001. The full text of this clause is as follows:

252.235-9001 PROHIBITION OF USE OF LABORATORY ANIMALS (JULY 2010) (DTRA)

The grant recipient shall obtain approval from the US Army Medical Research and Material Command (MRMC), Animal Care and Use Review Office (ACURO) prior to conducting research on live nonhuman vertebrates. Studies involving non-human primates, dogs, cats, or marine mammals will require a site visit by an ACURO laboratory animal veterinarian as a condition of approval. DoD may also conduct site visits involving research on other animals when deemed appropriate. The animal research facility is responsible for notifying the DoD sponsor if Association for the Assessment and Accreditation of Laboratory Animal Care accreditation is lost or the facility is under USDA inspection. DoD also has the right to a site inspection under these circumstances.

The grant recipient (including subcontractors) is expressly forbidden to use laboratory animals in any manner whatsoever without the express written approval of MRMC ACURO.

The grant recipient shall complete the ACURO Animal Use Appendix for Research Involving Animals found at the following web site: https://mrmc-www.army.mil/index.cfm?pageid=Research_Protections.acuro_AnimalAppendix. Submit the completed ACURO appendix, contact information, the DTRA grant number and a copy of the grant for processing to the email address listed at the ACURO website. Once ACURO approves the effort, the grant recipient will receive written approval to begin animal use from the US Army MRMC ACURO by separate email. The grant recipient shall promptly provide a copy of the approval to the Grants Officer and Grants Officer representative. After approval, changes or protocol amendments must be submitted to and approved by ACURO before implementation.

The grant recipient, or subcontractors as appropriate, shall submit the most recent U.S. Department of Agriculture Animal Care Inspection Report annually in accordance with the CDRL.

Non-compliance with any provision of this clause may result in the termination of the grant.

c. Debarment and Suspension: The recipient agrees to comply with the requirements regarding debarment and suspension in Subpart C of the OMB guidance in 2 CFR Part 180, as implemented by the DoD in 2 CFR Part 1125. The recipient also agrees to

communicate the requirement to comply with Subpart C to persons at the next lower tier with whom the recipient enters into transactions that are "covered transactions" under Subpart B of 2 CFR Part 180 and the DoD implementation in 2 CFR Part 1125.

d. Environmental Standards: By signing this agreement or accepting funds under this agreement, the recipient assures that it will:

(1) Comply with applicable provisions of the Clean Air Act (42 U.S.C. 7401, et. seq.) and Clean Water Act (33 U.S.C.1251, et. seq.), as implemented by Executive Order 11738 [3 CFR, 1971-1975 Comp., p. 799] and Environmental Protection Agency (EPA) rules at Subpart J of 40 CFR Part 32.

(2) Identify to the awarding agency any impact this award may have on the quality of the human environment, and provide help the agency may need to comply with the National Environmental Policy Act (NEPA, at 42 U.S.C. 4321, et. seq.) and to prepare Environmental Impact Statements or other required environmental documentation. In such cases, the recipient agrees to take no action that will have an adverse environmental impact (e.g., physical disturbance of a site such as breaking of ground) until the agency provides written notification of compliance with the environmental impact analysis process.

e. Drug-Free Workplace: The recipient agrees to comply with the requirements regarding drug-free workplace requirements in Subpart B (or Subpart C, if the recipient is an individual) of 32 CFR Part 26, which implements Sections 5151-5160 of the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D; 41 U.S.C. 701, et seq.).

f. Officials Not to Benefit: No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this agreement, or to any benefit arising from it, in accordance with 41 U.S.C. 22.

g. Preference for U.S. Flag Carriers: Travel supported by U.S. Government funds under this agreement shall use U.S.-flag air carriers (air carriers holding certificates under 49 U.S.C. 41102) for international air transportation of people and property to the extent that such service is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974 (49 U.S.C. 40118) and the interpretative guidelines issued by the Comptroller General of the United States in the March 31, 1981, amendment to Comptroller General Decision B138942.

h. Cargo Preference: The recipient agrees that it will comply with the Cargo Preference Act of 1954 (46 U.S.C.1241), as implemented by Department of Transportation regulations at 46 CFR 381.7, which require that at least 50 percent of equipment, materials or commodities procured or otherwise obtained with U.S. Government funds under this agreement, and which may be transported by ocean vessel, shall be transported on privately owned U.S.-flag commercial vessels, if available.

30. Research Involving Recombinant DNA Molecules. Any recipient performing research involving recombinant DNA molecules and/or organisms and viruses containing recombinant

DNA molecules agrees by acceptance of this award to comply with the National Institutes of Health "Guidelines for Research Involving Recombinant DNA Molecules," amended 29 September 2009 (74 FR48275), or such later revision of those guidelines as may be published in the Federal Register.

31. Retention and Access to Records. Retention and access to records pertinent to this award are subject to the requirements of DoDGARs §34.42.

32. Certification. By accepting funds under this agreement, the recipient is providing the Certification at Appendix A to 32 CFR Part 28 regarding lobbying.

33. Data Collection. Data collection activities, if any, performed under this Grant are the responsibility of the recipient. Awarding agency support of the project does not constitute approval of the survey design, questionnaire content, or data collection procedures. The recipient shall not represent to respondents that such data are being collected for or in association with the awarding agency without the specific written approval of the cognizant awarding agency official. However, this requirement is not intended to preclude mention of the awarding agency support of the project in response to an inquiry or acknowledgment of such support in any publication of this data.

34. Site Visits. The Government, through authorized representatives, has the right, at all reasonable times, to make site visits to review project accomplishments and to provide such technical assistance as may be required. The recipient shall provide, and shall require its subrecipients and subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the government representatives in the performance of site visits. All site visits and evaluations shall be performed in a manner that does not unduly interfere with or delay the work.

35. Publications and Acknowledgement of Sponsorship.

a. Publication of results of the research project in an appropriate professional journal is encouraged as an important method of recording and reporting scientific information. A courtesy copy of each accepted publication shall be uploaded directly into the web-based reporting system previously described herein

b. The recipient agrees that in the release of information relating to the grant, such release shall include the following statement, "The project or effort depicted was or is sponsored by the Department of the Defense, Defense Threat Reduction Agency. The content of the information does not necessarily reflect the position or the policy of the federal government, and no official endorsement should be inferred." For purposes of this provision, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

c. When issuing statements, press releases, requests for proposals, bid solicitations, and other documents describing projects or programs funded in whole or in part with federal money, all recipients receiving federal funds, shall clearly state: (i) the percentage of

total costs of the program or project which will be financed with federal money, and (ii) the dollar amount of federal funds for the project or program.

36. Fee and Profit. This agreement does not provide for the payment of fee or profit to the recipient.

37. Combating Trafficking in Persons. The recipient agrees to comply with the trafficking in persons requirement in Section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)).

a. Provisions applicable to a recipient that is a private entity.

(1) You as the recipient, your employees, subrecipients under this award, and subrecipients' employees may not

(a) Engage in severe forms of trafficking in persons during the period of time that the award is in effect;

(b) Procure a commercial sex act during the period of time that the award is in effect; or

(c) Use forced labor in the performance of the award or subawards under the award.

(2) We as the Federal awarding agency may unilaterally terminate this award, without penalty, if you or a subrecipient that is a private entity—

(a) Is determined to have violated a prohibition in paragraph a.(1) of this award term; or

(b) Has an employee who is determined by the agency official authorized to terminate the award to have violated a prohibition in paragraph a.(1) of this award term through conduct that is either—

(1) Associated with performance under this award; or

(2) Imputed to you or the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR Part 376.

b. Provision applicable to a recipient other than a private entity. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a subrecipient that is a private entity—

(1) Is determined to have violated an applicable prohibition in paragraph a.(1) of this award term; or

(2) Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.(1) of this award term through conduct that is either

(a) Associated with performance under this award; or

(b) Imputed to the subrecipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR Part 180, "OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," as implemented by our agency at 2 CFR Part 376.

c. Provisions applicable to any recipient.

(1) You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.(1) of this award term.

(2) Our right to terminate unilaterally that is described in paragraph a.(2) or b. of this Article:

(a) Implements Section 106(g) of the TVPA, as amended (22 U.S.C. 7104(g)), and

(b) Is in addition to all other remedies for noncompliance that are available to us under this award.

(3) You must include the requirements of paragraph a.(1) of this award term in any subaward you make to a private entity.

d. Definitions. For purposes of this award term:

(1) "Employee" means either:

(a) An individual employed by you or a subrecipient who is engaged in the performance of the project or program under this award; or

(b) Another person engaged in the performance of the project or program under this award and not compensated by you including, but not limited to, a volunteer or individual whose services are contributed by a third party as an in-kind contribution toward cost sharing or matching requirements.

(2) "Forced labor" means labor obtained by any of the following methods: the recruitment, harboring, transportation, provision, or obtaining of a person for

labor or services, through the use of force, fraud, or coercion for the purpose of subjection to involuntary servitude, peonage, debt bondage, or slavery.

(3) "Private entity":

(a) Means any entity other than a State, local government, Indian tribe, or foreign public entity, as those terms are defined in 2 CFR 175.25.

(b) Includes:

(1) A non-profit organization, including any non-profit institution of higher education, hospital, or tribal organization other than one included in the definition of Indian tribe at 2 CFR 175.25(b).

(2) A for-profit organization.

(4) "Severe forms of trafficking in persons," "commercial sex act," and "coercion" have the meanings given at Section 103 of the TVPA, as amended (22 U.S.C. 7102).

38. Central Contractor Registration and Universal Identifier Requirements.

a. Requirement for Central Contractor Registration (CCR)

Unless you are exempted from this requirement under 2 CFR 25.110, you as the recipient must maintain the currency of your information in the CCR until you submit the final financial report required under this award or receive the final payment, whichever is later. This requires that you review and update the information at least annually after the initial registration, and more frequently if required by changes in your information or another award term.

b. Requirement for Data Universal Numbering System (DUNS) Numbers

If you are authorized to make subawards under this award, you:

(1) Must notify potential subrecipients that no entity (see definition in paragraph c of this award term) may receive a subaward from you unless the entity has provided its DUNS number to you.

(2) May not make a subaward to an entity unless the entity has provided its DUNS number to you.

c. Definitions

For purposes of this award term:

(1) Central Contractor Registration (CCR) means the Federal repository into which an entity must provide information required for the conduct of business as a recipient. Additional information about registration procedures may be found at the CCR Internet site (currently at http://www.ccr.gov).

(2) Data Universal Numbering System (DUNS) number means the nine-digit number established and assigned by Dun and Bradstreet, Inc. (D&B) to uniquely identify business entities. A DUNS number may be obtained from D&B by telephone (currently 866 705 5711) or the Internet (currently at http://fedgov.dnb.com/webform).

(3) Entity, as it is used in this award term, means all of the following, as defined at 2 CFR Part 25, Subpart C:

(a) A Governmental organization, which is a State, local government, or Indian Tribe;

(b) A foreign public entity;

(c) A domestic or foreign nonprofit organization;

(d) A domestic or foreign for-profit organization; and

(e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

(4) Subaward:

(a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

(b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __.210 of the attachment to OMB Circular A 133, "Audits of States, Local Governments, and Non-Profit Organizations").

(c) A subaward may be provided through any legal agreement, including an agreement that you consider a contract.

(5) Subrecipient means an entity that:

(a) Receives a subaward from you under this award; and

(b) Is accountable to you for the use of the Federal funds provided by the subaward.

39. Reporting Subawards and Executive Compensation.

a. Reporting of first-tier subawards.

(1) Applicability. Unless you are exempt as provided in paragraph d. of this award term, you must report each action that obligates $25,000 or more in Federal funds that does not include Recovery funds (as defined in Section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111–5) for a subaward to an entity (see definitions in paragraph e. of this award term).

(2) Where and when to report.

(a) You must report each obligating action described in paragraph a.(1) of this award term to http://www.fsrs.gov.

(b) For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

(3) What to report. You must report the information about each obligating action that the submission instructions posted at http://www.fsrs.gov specify.

b. Reporting Total Compensation of Recipient Executives.

(1) Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if

(a) the total Federal funding authorized to date under this award is $25,000 or more;

(b) in the preceding fiscal year, you received—

(1) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(2) $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(c) The public does not have access to information about the compensation of the executives through periodic reports filed under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d))

or Section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.)

(2) Where and when to report. You must report executive total compensation described in paragraph b.(1) of this award term:

(a) As part of your registration profile at http://www.ccr.gov.

(b) By the end of the month following the month in which this award is made, and annually thereafter.

c. Reporting of Total Compensation of Subrecipient Executives.

(1) Applicability and what to report. Unless you are exempt as provided in paragraph d. of this award term, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if

(a) in the subrecipient's preceding fiscal year, the subrecipient received

(1) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(2) $25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or Section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at http://www.sec.gov/answers/execomp.htm.)

(2) Where and when to report. You must report subrecipient executive total compensation described in paragraph c.(1) of this award term:

(a) To the recipient.

(b) By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during

the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

d. Exemptions.

If, in the previous tax year, you had gross income, from all sources, under S300,000, you are exempt from the requirements to report:

(1) Subawards,

and

(2) The total compensation of the five most highly compensated executives of any subrecipient.

e. Definitions. For purposes of this award term:

(1) Entity means all of the following, as defined in 2 CFR Part 25:

(a) A Governmental organization, which is a State, local government, or Indian tribe;

(b) A foreign public entity;

(c) A domestic or foreign nonprofit organization;

(d) A domestic or foreign for-profit organization;

(e) A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

(2) Executive means officers, managing partners, or any other employees in management positions.

(3) Subaward:

(a) This term means a legal instrument to provide support for the performance of any portion of the substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

(b) The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. __ .210 of the attachment to OMB Circular A 133, "Audits of States, Local Governments, and Non-Profit Organizations").

(c) A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

(4) Subrecipient means an entity that:

(a) Receives a subaward from you (the recipient) under this award; and

(b) Is accountable to you for the use of the Federal funds provided by the subaward.

(5) Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see 17 CFR 229.402(c)(2)):

(a) Salary and bonus.

(b) Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

(c) Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

(d) Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

(e) Above-market earnings on deferred compensation which is not tax-qualified.

(f) Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds $10,000.

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page of pages
Defense Threat Reduction Agency HDTRA1	HDTRA1-14-1-0053	1 1

3. Recipient Organization (Name and complete address including Zip code)
Metabiota, Inc. 1 Sutter Street, Suite 600 San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(6)	Cage Code 56SP4	☑ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☑ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 08-07-2014	To: 6/6/2018	9/30/2017

	Cumulative
(Use lines a-c for single or combined multiple grant reporting)	
Federal Cash (To report multiple grants separately, also use FFR Attachment):	
a. Cash Receipts	$2,421,391.97
b. Cash Disbursements	$2,654,510.33
c. Cash on Hand (line a minus b)	-$233,118.36
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$2,788,483.00
e. Federal share of expenditures	$2,654,510.33
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$2,654,510.33
h. Unobligated balance of Federal funds (line d minus g)	$133,972.67
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal share of program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
	d. Email Address: FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	e. Date Report Submitted (Month, Day, Year): 10/27/2017
	14. Agency use only:

Standard Form 425 - Revised 10/11/2011
OMB Approval Number: 0348-0061
Expiration Date: 2/28/2015

Paperwork Burden Statement
According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

AWARD/CONTRACT

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 of 35

2. CONTRACT (Proc. Inst. Ident.) NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUEST/PROJECT NO.
HDTRA1-14-1-0053	07 Aug 2014	

5. ISSUED BY	CODE	6. ADMINISTERED BY (If other than Item 5)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	See Item 5	

7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code)	8. DELIVERY	
METABIOTA, INC. (b)(6) 1 SUTTER ST STE 600 SAN FRANCISCO CA 94104-4923	[ ] FOB ORIGIN [X] OTHER (See below)	
	9. DISCOUNT FOR PROMPT PAYMENT	
	10. SUBMIT INVOICES 1 (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:	ITEM
CODE 56SP4	FACILITY CODE	

11. SHIP TO/MARK FOR	CODE	12. PAYMENT WILL BE MADE BY	CODE
DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	DFAS COLUMBUS CENTER DFAS-CO/WEST ENTITLEMENT OPERATIONS P.O. BOX 182381 COLUMBUS OH 43218-2381	HQ0339

13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION:	14. ACCOUNTING AND APPROPRIATION DATA
[ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )	See Schedule

15A. ITEM NO.	15B. SUPPLIES/ SERVICES	15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
	SEE SCHEDULE				

15G. TOTAL AMOUNT OF CONTRACT **$2,788,483.00**

16. TABLE OF CONTENTS

(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
		PART I - THE SCHEDULE				**PART II - CONTRACT CLAUSES**	
X	A	SOLICITATION/ CONTRACT FORM	1		I	CONTRACT CLAUSES	
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2			**PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**	
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	3 - 28	X	J	LIST OF ATTACHMENTS	35
	D	PACKAGING AND MARKING				**PART IV - REPRESENTATIONS AND INSTRUCTIONS**	
X	E	INSPECTION AND ACCEPTANCE	29		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	30				
X	G	CONTRACT ADMINISTRATION DATA	31 - 34		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
	H	SPECIAL CONTRACT REQUIREMENTS			M	EVALUATION FACTORS FOR AWARD	

CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE

17 [ ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)

18 [X] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number REF: FRBAA09-6-2-0170 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award contract. No further contractual document is necessary.

19A. NAME AND TITLE OF SIGNER (Type or print)	20A. NAME OF CONTRACTING OFFICER
	(b)(6) / CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

19B. NAME OF CONTRACTOR	19C. DATE SIGNED	20B. UNITED STATES OF AMERICA	20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)		(b)(6) BY _____ (Signature of Contracting Officer)	07-Aug-2014

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	FOIA (b)(4)				$2,788,483.00

One Health Approach to Rift Valley Fever

FOIA (b)(4)

One Health Approach to Rift Valley Fever Brucella in Tanzania. Contractor shall perform all work IAW the SOW in Section C of this document.
FOB: Destination

NET AMT $2,788,483.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101					$0.00

Incramental Funding - Budget Year 1

FOIA (b)(4)

Incramental FY 14 Funds for Budget Year 1.
FOB: Destination

NET AMT $0.00

ACRN AA $932,060.00
CIN: 000101J3CTB12301

Section C - Descriptions and Specifications

SOW

Zoonotic Select Agents in Tanzania - A One Health Approach to Rift Valley Fever and Brucellosis Surveillance - *Phase II Technical Proposal*

I. ABSTRACT

An internationally recognized transdisciplinary team, including Metabiota, Inc., University of California, Davis (UCD), Sokoine University of Agriculture (SUA), Ifakara Health Institute (IHI), and the National Institute for Medical Research (NIMR) in Tanzania, propose a One Health research approach to address linkages between humans, animals, and their shared environments for investigation into the epidemiology of Rift Valley fever virus (RVFV) and *Brucella*. We will: 1) Coordinate with local partner institutions in Tanzania for characterization of sites with historical RVFV and *Brucella* activity representing diverse climatic and animal density variables; 2) Conduct surveillance of sentinel livestock herds and conspecific wildlife for pathogen transmission by real-time molecular diagnostic assays or seroconversion, indicating periods of increased transmission,for comparison with patterns in human populations; 3) Characterize RVFV and *Brucella* isolates from mosquito, animal, and human cases using phylogenetic analyses of genomic diversity; 4) Identify cryptic wildlife reservoir maintenance hosts by detection of seroconversion or using molecular characterization of blood meals from mosquitoes; 5) Develop models that predict areas of increased pathogen maintenance, transmission, and genomic diversity to target locales critical for intervention strategies and targeted surveillance. We will synthesize study findings from animal and human research to test the hypothesis that RVFV and *Brucella* infection and evolution in animals and humans is more commonly associated with areas of increased rainfall and increased livestock density. Study findings will build the Defense Threat Reduction Agency (DTRA) knowledge base and a network of professionals in Tanzania prepared to address emerging research and disease response needs.

II. SCOPE

A. OBJECTIVE

Hypothesis: In Tanzania, climatic conditions, such as high annual rainfall, and animal contact conditions, such as intense livestock density, are associated with increased RVFV and *Brucella* infection and evolution in livestock, wildlife, and humans living in the same areas. To test this hypothesis, two study regions, with varied rainfall conditions and animal density parameters, have been identified for ongoing surveillance and characterization of RVFV and *Brucella* exposure and isolates from animals, humans, and arthropod vectors during the three-year study.

Specific objectives:

1) Coordinate with local partner institutions in Tanzania for characterization of field sites with historic RVFV and *Brucella* activity that vary in climatic and animal density conditions.

2) Conduct surveillance of sentinel livestock herds (longitudinally) and conspecific

wildlife (opportunistically) for pathogen transmission activity by real-time molecular diagnostic assays or seroconversion, indicating periods of increased pathogen transmission, for comparison with disease patterns in local human populations.
3) Characterize RVFV and *Brucella* isolates from mosquito, animal, and human cases using phylogenetic analyses of genomic diversity.
4) Identify potential cryptic wildlife reservoir maintenance hosts by detection of seroconversion or molecular fingerprinting of blood meals from mosquito vectors.

5) Develop models that predict areas of increased pathogen maintenance, transmission, and genomic diversity in Tanzania to target locales of increased risk that may be critical for public health intervention strategies and targeted surveillance.

B. BACKGROUND

Emergence and re-emergence of infectious diseases transmitted between wildlife, livestock, and human populations are receiving increasing attention worldwide. Brucellosis, caused by *Brucella* spp., and Rift Valley fever (RVF), caused by RVFV are two re-emerging zoonotic diseases of high concern at interface areas throughout Africa [1]. The RVFV (family *Bunyaviridae*, genus *Phlebovirus*) is a mosquito-borne human and veterinary pathogen associated with large outbreaks of severe disease throughout Africa and the Arabian Peninsula [2]. The virus has caused numerous economically devastating epizootics, often characterized by sweeping "abortion storms," neonatal animal mortality approaching 100%, and significant mortality (~10 30%) among adult ruminant livestock, especially sheep and cattle [3]. Brucellosis is a primary differential diagnoses to RVFV in the early stages of a RVFV outbreak because clinical symptoms of brucellosis, including abortions and perinatal mortality, initially are indistinguishable from those of RVFV.

Brucellosis contributes significantly to the human disease burden in developing countries and causes substantial financial losses due to reduced production in livestock [4]. Cattle are most commonly infected with *Brucella abortus*, small ruminants with *Brucella melitensis*, and swine with *Brucella suis*, although cross species infections can occur [5]. During acute brucellosis infection, large amounts of bacteria are shed in the uterine fluids, aborted fetuses, and milk; whereas, chronically infected animals can develop hygromas, localized abscesses, and continue to shed the bacteria in the milk. Brucellosis has largely been controlled in developed countries through extensive surveillance, vaccination, and 'stamping out' policies [6] except for areas with wildlife reservoirs. However, brucellosis is a significant problem in developing countries such as Tanzania and has recognized potential for use as a bioterrorism agent.

RVF and brucellosis are well-suited for transdisciplinary One Health approaches to study the genomic diversity and evolution at interfaces involving the mosquito vector (for RVFV), domesticated livestock, African wildlife, and humans [7]. Mosquitoes are primarily responsible for maintaining RVFV in nature, and the virus has been isolated from over 30 species of mosquitoes from 10 genera (primarily *Aedes*, *Culex*, *Anopheles*, and others) [8]. In eastern and southern Africa, RVFV ecology can be divided into two distinct but overlapping cycles of continuous low-level endemic activity and periodic epizootics/epidemics. The linkage of RVFV epizootics/epidemic to heavy rainfall and high numbers of mosquitoes has been observed [9], and it is now recognized that the

development of epizootic/epidemic transmission is dependent on large-scale weather events that lead to increases in ground-water saturation and eventual flooding over parts of eastern and southern Africa [10].

Livestock are highly susceptible to RVFV infection and provide two key ecological links between the primary vector, the *Aedes* sp. floodwater mosquito, and the human population. First, livestock infected by the bite of transovarially infected *Aedes* sp. mosquitoes rapidly develop high viremias and clinical disease, and can in turn infect secondary bridging vectors, such as the *Culex* or *Anopheline* sp. mosquitoes [11] that are more likely to feed on humans. In addition to mosquito-borne transmission, humans can become infected through direct contact with infected livestock tissues or fetuses. In the large 2006 2007 East African outbreak, contact was the single most significant risk factor for infection [12]. RVFin humans is typically a self-limiting febrile illness that, in 1 2 % of affected individuals, can progress to more severe disease that includes fulminant hepatitis, encephalitis, retinitis, blindness, or a hemorrhagic syndrome. Fatality ratios in hospitalized patients are 10 20% [13]. Despite the high virulence of RVFV, no human vaccines are commercially available.

Similar to RVFV, brucellosis in humans and animals is transmitted through contact with infected tissues or fetal fluids, although consumption of infected raw milk is also considered a major transmission pathway. Shedding in milk can occur from both acutely and chronically infected animals and has been detected from *Brucella* seropositive goats, ewes, and cows [14]. Human brucellosis is most commonly caused by *B. melitensis*, although all *Brucella* spp. are potentially zoonotic. Clinical signs of brucellosis in humans include intermittent fever, malaise, anorexia, and joint pain, which may persist for weeks or months, and, if not treated, can progress to severe, debilitating disease [15]. Veterinarians, farm workers, and other health personnel are at high risk of infection from direct contact with infected animals, and outbreaks of brucellosis and RVF in Africa have often been initially detected because of illnesses among these workers. A goal of the current study is to leverage infrastructure and expertise in place to make headway on critical research involving RVFV and *Brucella* at cost savings over single-pathogen studies.

Rift Valley fever and brucellosis in Tanzania

Regular outbreaks of RVF have occurred in 10-20 year cycles (1947, 1957, 1977, 1997, and 2007) in East Africa. These large classic RVF outbreaks have typically occurred following the initiation of epizootics in Kenya/Somalia as heavy rains shifted towards the south and east. During the most recent 2007 outbreak, hundreds of humans and thousands of suspected fatal livestock cases of RVF were detected in the central and southern areas of the country, including the Ruaha and Kilombero River Valley study site regions [16]. During this outbreak, human case fatality among confirmed cases reached 47% and seroprevalence studies indicated that RVFV transmission occurred in 52% (n=21) regions of the country, with the majority reporting both livestock and humans infections [16]. Surveillance of RVFV activity to date in inter-epidemic periods has been limited, with studies indicating human seroprevalence ranging from 4%-29% [17].

Livestock brucellosis is widespread in Tanzania, but currently, only commercial dairy farms regularly conduct bi-annual testing, at the initiative and cost of the livestock owner, in order to obtain brucellosis-free certification. The test expense is prohibitive for

most rural livestock holders in Tanzania, and consequently, the disease is neither prevented nor controlled in most of the country. Studies have documented antibodies to *Brucella* spp. in 6% of cattle and small ruminants in northern Tanzania [18], in 1-2% of smallholder dairy cattle tested in the Kibaha and Morogoro districts [19], in 16% of village livestock in the Morogoro region [20], as well as in 1% of cattle in the Iringa and 2-4% of cattle in the coastal region [21]. Risk factors for exposure to *Brucella* spp. include age of the animal, watering cattle in surface water as opposed to with piped water, stocking density, herd size, location in peri-urban as opposed to rural area, and farmers lack of knowledge of brucellosis.

Exposure to *Brucella* has been documented in humans in Tanzania [22], but because of the unspecific symptoms that can be confused with other common diseases such as malaria, brucellosis in humans is under-diagnosed among febrile patients and frequently left untreated [22]. Lack of knowledge about zoonotic diseases among health practitioners also contributes to inaccurate or delayed diagnosis of brucellosis. For example, a study in northern Tanzania by our team colleagues evaluated the knowledge of rural and urban health professionals in diagnosing zoonotic diseases and found that a total of 13% (2/15) of rural practitioners and 44% (7/16) of urban practitioners did not know how to diagnose the disease [23]. Patients with brucellosis often do not recognize the symptoms themselves due to the similarity to other febrile diseases.

Genomic diversity in endemic areas and potential roles for wildlife in disease epidemiology

Due to the devastating nature of RVFV outbreaks, much effort has been devoted to understanding the factors allowing for epizootic/epidemic transmission of RVFV. However, much less is known regarding factors that influence long-term maintenance of the virus in enzootic areas that experience constant low-level RVFV or during inter-epizootic time periods. Enzootic areas are typically wetter semi-tropical locations that allow for continuous virus transmission under favorable microclimate conditions. For example, within a small 20km region of the Central African Republic, complete genome sequence data obtained from virus specimens collected over a 5 year period indicated ten times higher virus diversity than was observed during the typically monophyletic large-scale outbreaks that occurred in vast semi-arid east African regions [24]. This higher diversity may be supported by low-level transmission of RVFV between mosquito vectors and cryptic wildlife maintenance hosts, and our team is uniquely positioned to address such questions in Tanzania to the benefit of the region and to DTRA.

The true role of wildlife as maintenance hosts for RVFV is unclear. Intriguingly, in western Africa, small rodents were found to be seropositive and capable of supporting low-level RVFV replication in experimental studies [25]. Among larger animals, RVFV-specific IgG has been detected in a number of wild ungulates, megafauna, and carnivores [26]. Experimental studies of Cape buffalo indicated that they developed low-level transient viremias that were potentially sufficient for mosquito infection and further viral dissemination [27]. These limited data suggest a role for wildlife as important maintenance hosts that may allow for greater virus transmission and evolution in enzootic areas. Further support for a potential cryptic maintenance host can be found in classical epizootic zones (e.g. north-east Kenya) where sequence data indicates that the most recent common ancestor of the viruses present during the recent 2007 and previous 1998 Kenyan outbreaks occurred years prior to the detection of the first cases of RVFV infection [3,24]. These data support a

hypothesis that, despite the ability of RVFV to remain dormant in *Aedes spp.* mosquito eggs during the inter-epizootic period, there is likely a constant level of transmission among the vectors and mammalian hosts, and with ongoing viral evolution. African wildlife can also be infected with brucellosis, with spill-over and spill-back between wildlife and livestock a concern at wildlife-livestock interface areas as are present in our study sites and in many other areas of Africa. For example, exposure to *Brucella* spp. was detected in 11% (n=406) of African buffalo tested in Kruger National Park, South Africa [28], and in Tanzania exposure to *Brucella* was detected in 53% (n=19) of African buffalo from Tarangire National Park, 5% (n=19) of buffalo from Ngorogoro Crater, 13% (n=15) buffalo from Manyara National Park, 20% (n=30) of buffalo from Lake Katavi National Park, and 4% (n=51) of buffalo from Ruaha National Park [29]. *Brucella* species are diverse and have varied pathogenic potential that will be investigated using molecular approaches in the proposed study.

Study areas

The southern border of the Greater Ruaha Ecosystem in Tanzania and the Kilombero River Valley are two typical intense wildlife, livestock, and human interface areas, where there is high concern for disease transmission among populations. Both areas were considered critical hotspots in the 2007 Rift Valley Fever outbreak, and brucellosis is known to be endemic in the region. The Ruaha ecosystem is one of Africa's largest protected areas and has extraordinary diversity. There are two rainy seasons; from November – February and from March – April, with annual mean precipitation of 500-800 mm. The area adjacent to the southern border of the ecosystem is predominantly populated by pastoralists, agro-pastoralists, and subsistence agriculturalists, and the livestock population is substantial. The main water source in this area is the Great Ruaha River that, since 1993, has experienced a severe reduction in flow due to agricultural water diversion upstream [30]. The seasonal water scarcity in the dry season has forced wildlife, livestock, and humans closer together, leading to increased interactions.

To address the issues of water scarcity and associated changes in disease transmission, the Health for Animals and Livelihood Improvement (HALI) project was initiated in 2006. HALI, which literally means 'state of health' in Swahili, began as a collaborative research and capacity building program involving Sokoine University of Agriculture (SUA), the University of California, Davis (UCD), and regional stakeholders [30]. The project has grown to include additional national and international partners for research, training, and outreach related to zoonotic diseases. Brucellosis was identified as a high priority disease during initial stakeholder meetings, and the HALI project diagnosed exposure to *Brucella* spp. in 7% of 1334 cattle tested in the Iringa region, with 42% of the 93 herds testing seropositive. Spatial risk factors for *Brucella* spp. infection in the region included mixing of livestock and households located closer to protected area. The prevalence of *Brucella* spp. in regional wildlife is largely unknown, and in 2011 the HALI project collaborated to conduct disease testing of African buffalo from Ruaha National Park, with 16% (3/19) buffalo testing seropositive.

The second proposed study area, the Kilombero River Valley, is a current study site for

RVFV research, with substantial infrastructure and preliminary data in place to support the proposed research. It is located in south-central Tanzania and is bordered by the Selous Game Reserve, Udzungwa Mountains National Park, Kilombero Nature Reserve, Udzungwa Scarp, and contains the Kilombero Game Controlled Area in the South. The Kilombero River runs through the valley, creating a large flood plain. The annual mean rainfall is higher than Ruaha, at 1200 – 1400 mm. Local human populations are mainly agriculturalists. Due to its proximity to large protected areas and several wildlife corridors, the valley is an intense wildlife-livestock interface. Encroachment of cattle into wildlife areas is common, which can lead to conflict and pathogen exchange. In both the Ruaha and Kilombero study regions, our DTRA team is already established and can readily ramp up surveillance and research activities for the proposed tasks.

Critical knowledge gaps

To date, little information has been reported regarding the inter-epizootic prevalence and incidence of RVFV in southern and central Tanzania or the role of wildlife as maintenance hosts. Although multiple studies have been completed linking climate and rainfall data with increasing risk of RVFV outbreaks, none have rigorously examined the role of climate on enzootic RVFV transmission, diversity, and evolution. Genomic data to date suggest that enzootic areas support greater RVFV diversity than epizootic areas but have not determined whether such diversity may serve as a potential incubator for the evolution of novel genotypes with potentially altered pathogenic potential [24].

Limited information is available regarding the complex interactions between mosquito vectors and potential cryptic maintenance hosts that allow for RVFV to persist in enzootic environments. To address this gap, long-term longitudinal studies of vector abundance, virus detection, blood meal analysis of virus positive mosquito pools, and sampling of potential mammalian wildlife hosts in enzootic areas are needed. Furthermore, there is a critical lack of understanding of the role played by the environment on maintaining high levels of RVFV genomic diversity in a given microclimate zone. The comprehensive sampling of vectors and animals followed by complete genome sequencing of virus-positive specimens from vectors, animals, and humans in both enzootic and epizootic regions in Tanzania will allow for the development of models for RVFV maintenance, genomic diversity, and viral evolution in both ecologic zones. This will lay the foundation for improved models of outbreak risk and assist in the development of computational tools to better characterize the potential for RVFV to spread.

Brucellosis is a non-vector borne zoonotic disease of concern locally and internationally, with many of the same host species as RVFV but with differing disease dynamics and epidemiologic patterns that can inform on intervention strategies. To date, brucellosis has mainly been studied in cattle in Tanzania, with limited information available on small ruminants. *Brucella melitensis* has been less studied than *Brucella abortus*, though it is of critical importance as the most common cause of human brucellosis. Furthermore, there is limited information on the epidemiology of brucellosis in wildlife, though wildlife may act as a reservoir. Within the HALI study area, the risk for having seropositive cattle was found to vary with location, and climatic, herd management, and environmental risk factors need to

be further investigated. There is also a need for improved education on zoonotic diseases for livestock owners and health practitioners to improve *Brucella* diagnosis, topics previously addressed in parts of Tanzania by members of our DTRA research team with rapid update and success.

C. PROGRAMMATICS

Contributing to the Thrust Area 6 goals, the proposed research will improve international collaborations in infectious disease epidemiology and will advance the capacity in Tanzania to implement global health security initiatives. This highly qualified transdisciplinary team brings together local and international subject matter experts (SMEs) to investigate the epidemiology of select agents. The organizations represented include Metabiota (formerly Global Viral Forecasting) and UCD from the United States, as well as SUA, Ifakara Health Institute (IHI), the National Institute for Medical Research (NIMR), and the Tanzania Wildlife Research Institute (TAWIRI) from the United Republic of Tanzania (URT). These are premier organizations committed to the highest quality of science, collaboration, and capacity building, many of which have worked together on research and training projects since 2006.

Management team

(b)(6) Metabiota, will be the DTRA liaison for coordination of project administration and reporting and will provide programmatic leadership and input on all research objectives. Woutrina Smith, One Health Institute, School of Veterinary Medicine, UCD will be the program director responsible for project oversight. Smith will facilitate collaborative relationships, study design, and interpretation of findings. She is a SME for *Brucella* research. Jim MacLachlan, UCD, will be the professor responsible for mentoring junior faculty, postdocs, and students in the US and Tanzania. MacLachlan is world renown in vectorborne disease research and is a SME for RVF research components. Rudovick Kazwala, SUA, Morogoro, Tanzania will be the professor responsible for oversight of SUA-related field and laboratory activities as part of the HALI Project in Tanzania. Kazwala will facilitate capacity building for laboratories and trainees. Honorati Masanja, IHI, Tanzania will be responsible for input and oversight of IHI-related field and laboratory activities. Masanja will facilitate capacity building for URT laboratories and trainees, specifically on biosecurity and lab practices. Sayoki Mfinanga, NIMR, Tanzania will also play a key role in facilitating and guiding the URT research from a public health perspective. He has a history of strong collaboration with this research team in joint physician- veterinarian studies that involve diverse faculty, postdoctoral researchers, and students.

Management team (MT) activities include: 1) Coordinating team logistics, program management, and implementation; 2) Maintaining existing CBEP documents and providing subject matter input; 3) Providing administrative support and required reporting; and 4) Ensuring that all public releases are cleared by the DTRA Public Affairs Office (PAO). Additionally, the MT will monitor project activities to achieve the following benchmarks: 1) obtain US and Tanzanian protocol approval, characterize field sites, and initiate project trainees in Year 1; 2) perform field sampling and laboratory diagnostic activities in Years 1-3 and conduct data analyses in Years 2-3; and 3) develop predictive disease models and

prepare four scientific publications in Year 3.

D. RELEVANCE

The proposed work will improve fundamental understanding of RVF and brucellosis epidemiology and will add substantial data to the DTRA knowledge base. It will provide a platform for engaging and networking of professionals working in emerging infectious diseases (EIDs) and will increase the capacity for rapid and accurate local detection and mitigation of threats to humans and livestock with positive economic, health, and other security implications.

Both RVF and brucellosis are re-emerging zoonotic diseases of high concern in interface areas in Africa [1,4]. RVFV is considered a high-consequence overlap Select Agent by the US Departments of HHS and the USDA because epizootics and epidemics can have devastating impacts with tens of thousands of human cases and upwards of millions of livestock affected. These large affected populations rapidly overwhelm the capacities of the public health and veterinary medical communities to provide rapid diagnostic testing and adequate medical care for affected humans and animals. Analogously, *Brucella* spp. has been considered relevant for biological warfare and categorized as a category B biological agent for public health preparedness [32] because of the ease by which the bacterium can be produced, high infectivity for animals and man, serious impact on livestock production, and lack of an effective vaccine for humans [4].

The activities proposed here will contribute important insights into the epidemiology of these select agents in Tanzania. The work will provide critical and previously unavailable data on the inter-epizootic prevalence of RVF and brucellosis in southern and central Tanzania as well as the role of wildlife as maintenance hosts. In addition, it will be the first to rigorously examine the role of climate on enzootic transmission, diversity, and evolution. The work will assess the significance of earlier reports that enzootic areas support greater RVFV diversity than epizootic areas specifically, it will examine whether such increased diversity supports the evolution of novel genotypes [24]. The comprehensive sampling of vectors, livestock, and wild animals, followed by complete genome sequencing of virus-positive specimens in both enzootic and epizootic regions will allow for an assessment of baseline conditions as well as development of models for maintenance, genomic diversity, and evolution.

The proposed work will also extend the reach of the Cooperative Biologic Engagement Program (CBEP) and will advance partnerships that UCD and Metabiota have with institutions in Tanzania that are hubs for research excellence in East Africa. The institutional partnerships will have particular benefits given the active USAID and NIH-funded research programs that UCD can leverage in the region and will enhance the potential for collaborative One Health research that is a proven model within this internationally experienced and respected research team. These features have the potential to radically improve sustainability and absorbability of these investments for long-term impact.

In summary, the proposed efforts will: improve understanding of RVF and brucellosis

epidemiology; enhance partner country ability to rapidly assess threats; improve capacity to accurately distinguish between natural, purposeful, and accidental release; and assist in the development of effective and sustainable rapid response strategies.

III. CREDENTIALS

Our consortium is comprised of a group of highly qualified experts from across academia, industry, and government backgrounds, all of whom have successfully implemented large-scale USG and internationally funded programs abroad. First funded by CBEP in mid-2010, Metabiota has demonstrated high-quality research collaborations in some of the world's most austere settings. This work has resulted in 5 CBEP-funded high-impact publications and a 6th describing a novel virus associated with viral hemorrhagic fever syndrome in the Democratic Republic of the Congo (DRC). Metabiota supported the response to 6 outbreaks (suspected viral hemorrhagic fever, polio, and yellow fever) and has facilitated shipment of samples back to US DoD
laboratories for the further development and testing of diagnostics and countermeasures.

Metabiota was considered an invaluable resource during these events, setting the stage for future engagements globally and, in this regard, is a long-time collaborator with US military labs overseas. Our successes in working with CBEP have been sustained by involving multiple international and regional networks such as the African Field Epidemiology Network (AFENET), the WHO Especially Dangerous Pathogens Laboratory Network (WHO-EDPLN), and existing research and public health laboratory networks. We also have experience facilitating the establishment of regional networks as demonstrated through our assistance in the creation of the Central African Military Health Alliance (CAMHA), which Metabiota continues to serve as integrating contractor. Metabiota actively engages local, regional, and international partners in project implementation.

The UCD team is comprised of a highly qualified and integrated set of infectious disease faculty and researchers who specialize in the epidemiology and surveillance of zoonotic diseases that may be transmitted between animals and humans. Based within the One Health Institute at UCD, the multidisciplinary team has extensive experience in core CBEP topics, including infectious disease research, grant writing, mentoring, and training. For example, the UCD team manages an implementing consortium for and scientifically leads the USAID's Emerging Pandemic Threats Program PREDICT project, a $75 million multi-institutional, trans- disciplinary project in 20 developing countries that aims to enable global surveillance for zoonotic diseases emerging from wildlife using geospatial modeling, genomics, molecular virology, epidemiology, and targeted field studies at hot zoonotic disease transmission interfaces. SUA is the premier veterinary school for URT and has strong links with IHI and the National Institute for Medical Research, both lead institutions in public health research in the country. Since 2006, SUA has been responding to the critical need for research on the impact of zoonotic disease on the health and livelihoods of people in southern Tanzania as a partnership with UCD and NIMR through our HALI project. In 2009, HALI became the Tanzanian institutional home of the USAID Emerging Pandemic Threats' PREDICT project, a surveillance and capacity building program to detect emerging pathogens in wildlife that threaten humans.

IHI has an extensive history of human infectious disease research in URT and has collaborated with SUA on diverse health projects. The Tanzanian consortium is rounded out with representation from,the Tanzanian authority on wildlife research (TAWIRI), whose support and stamp of approval is critical for project success.

Personnel

(b)(6) **PhD, MPH,** will serve as PI for this effort as the Lead Metabiota Staff Scientist. (b)(6) is an infectious disease epidemiologist with over 10 years of experience in development and implementation of epidemiologic and clinical research studies in international settings. She currently serves as the scientific technical lead on epidemiologic studies of various infectious diseases, including Lassa Fever and Ebola, to characterize the morbidity, mortality and risk factors associated with disease and clinical outcome. She has also provided epidemiologic support in outbreak response efforts related to Ebola. In addition to her scientific expertise, Dr.

(b)(6) has over 5 years of experience in program management of international studies.

Woutrina A. Smith, DVM, MPVM, PhD will serve as a Co-PI and lead for the UCD team, as well as an SME in brucellosis. She is an Associate Professor in the School of Veterinary Medicine and as an infectious disease epidemiologist with extensive experience working with the animal and human health sectors, she is well positioned to provide leadership. Dr. Smith currently has an active research program in URT working with SUA and NIMR on tuberculosis and other zoonotic disease agents.

Rudovick Kazwala, BVM, PhD will serve as a Co-PI and lead for the Tanzania team. He is a Professor of Public Health and Epidemiology at SUA and is the Chairman of the Tanzania Veterinary Medical Association. Professor Kazwala is on the IHR Roster of Experts for veterinary issues involving zoonoses and has served as a resource to URT during RVFV outbreaks. As a founding PI of the HALI Project with UCD, Professor Kazwala is well established with all the partner organizations involved in this DTRA research proposal.

Jonna A.K. Mazet, DVM, MPVM, PhD will serve as a lead for the UCD HALI Project. At UCD, Professor Mazet leads a network of global NGOs and governmental agencies to build capacity within the more than 20 PREDICT countries to develop surveillance systems and complete the necessary research to halt the next pandemic. In addition, as a professor in the School of Veterinary Medicine, Dr. Mazet provides service to government agencies faced with emerging infectious disease challenges, including USAID and U.S. Department of Agriculture,

N. Jim MacLachlan, BVSc, MS, PhD will serve as a UCD SME for Rift Valley fever research components. Professor MacLachlan has 37 years of experience in academic veterinary medicine and is extensively involved in the regulation of international trade and movement of livestock, and the impacts of infectious diseases thereon as part of his active research program.

Brian Bird, DVM, MPH, PhD will serve as an SME for Rift Valley fever based on his ongoing RVFV research program in Africa. Dr. Bird worked with the Centers for Disease Control and has over 14 years of experience working in high containment BSL3 or BSL4 laboratories. He leads cutting edge research and has published extensively on numerous viral hemorrhagic fever agents. **Honorati Masanja, MS, PhD** will serve as the IHI lead in his

role as Chief of Research Operations at IHI. Dr. Masanja is an epidemiologist skilled in data management and biostatistics who leads numerous collaborative studies in Tanzania and is funded by international organizations such as the WHO and CDC.

J. Paschal Mugasa, MS, PhD will serve as an SME for Rift Valley fever research components. Dr. Mugasa is a chief laboratory officer at IHI and a respected expert who has performed critical preliminary research on which the current research proposal builds.

Sayoki Mfinanga, MD, PhD is the Muhimbili Centre Director for NIMR and has current research in the study region that positions him well to facilitate and guide approvals and study implementation logistics.

David Wolking, MS will fill a critical project management role to help coordinate short term project activities in the context of the long term research objectives and milestones. Mr. Wolking has excelled in this role in his current UCD position for Tanzania and Nepal research projects involving surveillance for emerging zoonotic diseases.

IV. WORK TO BE PERFORMED GENERAL

This project will investigate the epidemiology of RVF and *Brucella* in two study regions of URT while simultaneously enhancing the network of professionals prepared to address select agent emerging needs. The tasks below are designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization and modeling efforts. We expect that genomic analyses will position us to characterize diversity, identify wildlife reservoirs, and develop models that predict areas of pathogen maintenance, transmission, and evolution in this endemic region. The end research goal is increased detection and response capacity to sustainably further human and animal health.

A. SUMMARY

Several of the tasks below will occur collaboratively and at multiple institutions, but in general our research strategy is for in-country human surveillance and research activities to occur at either IHI or NIMR in URT. Animal surveillance and research activities will occur primarily at SUA and IHI in URT. For the entire project, each objective will be accomplished in-country to the point that is technologically achievable. As a back-up partner, UCD will provide laboratory support where needed for training and advanced molecular techniques. Metabiota will provide administrative and logistical support to UCD and URT partners, as well as serve as scientific integrator for all project stakeholders.

Year 1

Task 1: Management team meetings (monthly).

Task 2: Project administration (Begin in 1st quarter): a) Develop research protocols and data collection forms, b) Obtain protocol and research permit approval, c) Organize field logistics, hire additional field staff, d) Seek collaboration with health clinics, livestock officers, hunting companies and game scouts, e) Begin database development based on data

collection forms, f) Identify and enroll Tanzanian postdoctoral scientist/masters students.
Task 3: Training (Begin 2nd quarter): a) Identify field and laboratory training needs, b) Conduct field, clinic and laboratory staff training including blinded controls as part of quality assurance
plan, c) Develop networked and secured database tailored for project needs.
Task 4: Field site characterization (1st and 2nd quarter): a) Conduct systematic site
characterization of current climactic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero study regions, b) Analyze distribution of key risk factors.

Task 5: Public health surveillance (Begin 2nd quarter): Establish collaborations with public health officials to facilitate comparative studies of RVFV and *Brucella* in humans with the proposed animal and vectors studies.
Task 6: Sentinel livestock surveillance (Begin 3rd quarter): a) Conduct an initial cross-sectional
study by screening samples from 100 households per study region to determine RVFV and *Brucella* livestock infection status, b) Administer risk factor surveys to new study households, c) Enroll 10 sentinel herds per study region for quarterly longitudinal surveillance, d) Conduct longitudinal surveillance testing.
Task 7: Syndromic livestock surveillance (Begin 3rd quarter): a) Conduct outreach to livestock officers to raise awareness of abortion and the reporting chain to document cases as part of the
proposed research, b) Begin monitoring abortion incidence in collaboration with livestock officers, c) Follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.
Task 8: Wildlife surveillance (Begin 2nd quarter): a) Coordinate with TAWIRI and TANAPA for
opportunistic wildlife surveillance planning, b) Collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies, c) Collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.
Task 9: Vector surveillance (Begin 3rd quarter): a) Conduct transects for systematic vector
collection near households in the two study regions, b) Characterize collected vectors and preserve for RVFV screening.
Task 10: Genomic characterization (Begin 4th quarter): a) Perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs, b) Conduct genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates, b) Genetically characterizate *Brucella* isolates from animals and humans in the study region to identify shared species.
Task 11: Data analysis and report preparation (Begin 4th quarter): a) Perform preliminary
database validation, b) Conduct preliminary data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, and scoping

studies to inform the predictive model development, c) Prepare progress reports for internal and external purposes.

Year 2

Task 1: Management team meetings (monthly).

Task 2: Project administration (ongoing): a) Update research protocols and data collection forms, b) Renew protocol and research permit approval, c) Organize field logistics, maintain field staff, d) Support collaboration with health clinics, livestock officers, hunting companies and game scouts, e) Finalize database development based on data collection forms and initial scope studies, f) Support and mentor Tanzanian postdoctoral scientist/masters students.

Task 3: Training (ongoing): a) Identify new field and laboratory training needs, b) Conduct field, clinic and laboratory staff training including blinded controls as part of quality assurance plan, c) Validate networked and secured database tailored for project needs.

Task 4: Field site characterization (ongoing): a) Conduct systematic site characterization of current climatic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero study regions, b) Analyze distribution of key risk factors.

Task 5: Public health surveillance (ongoing): Collaborate with public health officials to facilitate comparative studies of RVFV and *Brucella* among humans, animals, and vectors in the region.

Task 6: Sentinel livestock surveillance (ongoing): a) Complete the cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock infection status, b) Conduct longitudinal surveillance.

Task 7: Syndromic livestock surveillance (ongoing): a) Continue outreach to livestock officers to raise awareness of abortion and the reporting chain to document cases as part of the proposed research, b) Collaborate with livestock officers to monitor reported abortion incidence, c) Follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.

Task 8: Wildlife surveillance (ongoing): a) Coordinate with TAWIRI and TANAPA for opportunistic wildlife surveillance planning, b) Collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies, c) Collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.

Task 9: Vector surveillance (ongoing): a) Conduct transects for systematic vector collection near households in study regions, b) Characterize collected vectors and preserve for RVFV screening. **Task 10:** Genomic characterization (ongoing): a) Perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs, b) Conduct genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates, b) Genetically characterize *Brucella* isolates from animals and humans in the study region to identify shared species.

Task 11: Data analysis and report preparation (ongoing): a) Perform preliminary modeling analyses, b) Conduct data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, c) Prepare progress reports.

Year 3

Task 1: Management team meetings (monthly).

Task 2: Project administration (ongoing): a) Update research protocols and data collection forms, b) Renew protocol and research permit approval, c) Organize field logistics, maintain field staff, d) Support collaboration with health clinics, livestock officers, hunting companies and game scouts, e) Perform database maintenance as needed for quality control purposes, f) Support and mentor Tanzanian postdoctoral scientist/masters students.

Task 3: Training (ongoing): a) Identify new field and laboratory training needs, b) Conduct training sessions on data analysis, scientific writing, and outreach approaches for project staff and students.

Task 4: Field site characterization (complete).

Task 5: Public health surveillance (ongoing): Collaborate with public health officials to facilitate comparative studies of RVFV and *Brucella* among humans, animals, and vectors in the region.

Task 6: Sentinel livestock surveillance (complete 2nd quarter): a) Longitudinal surveillance.

Task 7: Syndromic livestock surveillance (complete 2nd quarter): a) Collaborate with livestock officers to monitor abortion incidences, b) Follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.

Task 8: Wildlife surveillance (complete 2nd quarter): a) Coordinate with TAWIRI and TANAPA for opportunistic wildlife surveillance planning, b) Collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies, c) Collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.

Task 9: Vector surveillance (Complete 2rd quarter): a) Conduct transects for systematic vector collection near households in the two study regions, b) Characterize collected vectors and preserve for RVFV screening.

Task 10: Genomic characterization (Complete 3rd quarter): a) Perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs, b) Conduct genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates, b) Genetically characterizate *Brucella* isolates from animals and humans in the study region to identify shared species.

Task 11: Data analysis and report preparation (complete 4th quarter): a) Predictive model development and validation, b) Conduct data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, c) Prepare final reports.

B. **DETAILED TASKS**

Task 1: Management team (MT) meetings (monthly, Years 1-3): The lead project team partners from Metabiota, UCD, SUA, IHI, and NIMR will meet at least monthly, initially by conference call, to discuss and coordinate research program decisions and progress. *Personnel involved:* (b)(6) Smith, MacLachlan, Kazwala, Masanja, Mfinanga.

Metrics of Success: At least 12 MT meetings logged per project year.
Deliverables: MT meeting minutes will be archived and highlighted in the annual report.

Task 2: Project Administration (Years 1-3):
a) Develop research protocols, questionnaires and data collection forms: Detailed sample collection protocols, household questionnaires, and data collection forms will be developed collaboratively in English and Kiswahili. Standard operating procedures for sample preservation, storage and transport, including cold chain management, have already been developed for other URT infectious disease studies and will be adapted as needed. Diagnostic tests, such as serology and ELISA for *Brucella,* as well as PCR for a variety of pathogens, are routinely performed in our laboratories. For RVFV diagnostics, established and previously published protocols and assays will be utilized at IHI and NIMR. Detection of RVFV in acute phase sera, aborted fetal materials, and mosquito pools will be screened by qRT-PCR, whereas sentinel herds and wildlife will be screened by standard anti-RVFV IgG ELISA techniques [34-36].
b) Obtain research protocols and permit approvals: Through the appropriate authorities in the US and URT, obtain research permit approval for the proposed research objectives. Key organizations are represented on our research team and will facilitate URT applications.
c) Organize field logistics, hire, and maintain project staff: Existing research teams will be supplemented as needed to implement the proposed project objectives. Field site coordinators will work closely with their institutional leads and the management team to integrate activities with laboratory staff and to ensure an efficient work flow throughout the project.
d) Foster collaboration with health clinics, veterinary officers, hunting companies, game scouts: SUA, UCD, and NIMR have a field office in Iringa near the Ruaha study site, and from this base we work with rural health clinics and village health workers, as well as livestock officers and wildlife authorities. Similarly, IHI has long established collaborations with households and clinics in the Kilombero River valley. Additional collaborations will be sought as needed at both study sites to foster stakeholder involvement where appropriate for the research objectives.
e) Database development and maintenance: A secured database will be developed and maintained in collaboration with URT and US data management professionals.

f) Support and mentor postdoctoral scientists and Tanzanian masters students: Two highly trained postdoctoral researchers from the US and two URT masters students, one from SUA and one from IHI, will work closely together to complete their research within the study scope. The project faculty members will participate in a mentoring plan to encourage professional development and research proficiency.
Personnel: Fair, Smith, Mazet, MacLachlan, Kazwala, Masanja, Mugasa, Mfinanga, Wolking.
Metrics of Success: Permits and protocol approvals in place each year; database developed in Year 1; at least two postdoctoral scientists and URT students mentored each year.
Deliverables: Permit and approval documentation; database section included in annual report; trainee progress reports and mentor evaluations included as an appendix to annual report.

Task 3: Field, clinic, and laboratory staff training (Years 1-3). The UCD/SUA HALI project, NIMR, and IHI already have field staff with extensive experience in zoonotic disease research and data collection. New field staff and clinic personnel will be trained as needed in data collection procedures, sampling, and cold chain requirements. The diagnostic capacity of local clinics will be assessed and supplementary training planned as needed. In Years 2-3, training will shift to also include data analysis, model development, and scientific writing for publications.
Personnel involved: Fair, Smith, Kazwala, Masanja, Mugasa, Mfinanga, Wolking.
Metrics of Success: At least two training workshops conducted each year.
Deliverables: Training documents compiled for annual report; trainee progress reports and trainer evaluations included as an appendix to annual report.

Task 4: Field site characterization (Years 1-2):
a) Conduct systematic site characterization of current climatic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero study regions: UCD and SUA have been working in the Ruaha region since 2006, and collaborations with local village leaders, health clinics, game scouts, and livestock officers are already established. Similarly, IHI has been working extensively with local government, households, and health clinics in the Kilombero River Valley. The central study database will be input with past and newly collected datasets for study site characterization over time and space. Preliminary relevant spatial layers are already available through core partner and collaborating institutions.
b) Analyze distribution of key risk factors: Descriptive and analytic statistics will be generated to characterize the epidemiologic, spatial, and temporal risk factors and outcomes across the two study regions. Maps showing geographic, ecological, climatic and demographic information for the study areas will be generated using ArcGIS software in order to characterize within and between study site variations in time and space. These data will be used to guide and inform predictive model development throughout the research period.
Personnel involved: Fair, Smith, Bird, Kazwala, Masanja, Mugasa, Mfinanga, Wolking.
Metrics of Success: At least four risk factor and outcome variables characterized per study site.
Deliverables: Field site characterization section in database and annual report.

Task 5: Public health surveillance (Year 1-3). Collaborate with public health officials to facilitate comparative studies of RVFV and *Brucella* among humans, animals, and vectors in the region. Relationships with local health clinics are already established and the prevalence of RVFV and *Brucella* diagnosis in febrile patients will be documented from clinic records where possible. The prevalence of RVFV and *Brucella* in the human populations of the Ruaha and Kilombero area will be estimated through serologic screening of febrile patients in close

collaboration with local doctors and nurses at the health clinics. We will collaborate with medical health professionals from NIMR and IHI to educate clinic staff about symptoms of brucellosis and RVF, and to provide training in testing protocols, and diagnostics. Samples will be screened for antibodies for RVFV and *Brucella* at IHI and NIMR as appropriate by study location. Longitudinal contact with the clinics will be carried

out by URT project staff. *Personnel involved:* Fair, Smith, Kazwala, Masanja, Mugasa, Mfinanga, Wolking. *Metrics of Success:* At least two collaborative planning meetings conducted each year. *Deliverables:* Public health surveillance and collaborations section included in annual report. Data will be shared with WHO and URT stakeholders, pending approval of DRT, thus contributing to public health surveillance in URT.

Task 6: Sentinel livestock surveillance (Years 1-3):

a) Conduct an initial cross-sectional study of 100 households per study region to determine RVFV and Brucella livestock infection status: A total of 100 households with livestock will be selected within each of the two study areas while ensuring that different climatic, geographic, and demographic variables are represented. The number of animals sampled per herd is dependent on herd size (epitools.ausvet.com.au) and will be determined to balance herd level sensitivity and specificity. In order to screen for RVFV and *Brucella*, blood samples will be collected from cattle and small ruminants by jugular venipuncture and milk samples will be collected aseptically from lactating animals. The livestock testing will be carried out by Tanzanian project staff after initial joint team trainings. For RVFV diagnostics, livestock will be screened by standard anti-RVFV IgG ELISA techniques using recombinant nucleocapsid protein antigen as described in [34-36]. Detection of RVFV in acute phase sera, will be conducted by real-time PCR. The qRT-PCR design is broadly reactive and allows for the detection of all known virus genotypes. The RVF work will be conducted primarily at IHI and NIMR. Serum samples from cattle and small ruminants will be tested for *Brucella* antibodies using the Rose Bengal Test, and positive samples confirmed with a cELISA. Milk samples will be screened for *Brucella* with qRT-PCR at SUA. The cross sectional survey will provide baseline comparative prevalence data between study areas and be used to identify the best target areas for the enrollment of sentinel surveillance herds that will be followed over time.

b) Sentinel herd surveillance: A total of 10 sentinel herds, with at least 5 cattle and 5 small ruminants each, will be identified from the households enrolled in the prevalence study per region. Suitable herds will be identified through the cross-sectional study in order to enroll households in locations with varying risk factors such as livestock density, proximity to wildlife, and rainfall. Testing methods as described above for livestock screening will be done biannually.

Personnel involved: Fair, Smith, Kazwala, Mugasa, Wolking.

Metrics of Success: Survey results from at least 100 households in each study area and enrollment of ten sentinel herds per region; seroprevalences of RVF and *Brucella* determined in both study areas through the cross-sectional study; and changes in seroprevalence established through the sentinel surveillance.

Deliverables: Livestock surveillance section included in annual report; 1 publication prepared.

Task 7: Syndromic livestock surveillance (Year 1-3):

a) Monitor reported abortion incidence: Due to limited veterinary infrastructure in URT, the cause of most abortion cases is not determined. We will work with URT livestock officers to raise awareness about the importance of monitoring abortions, and provide a mechanism for the livestock officers to get samples tested. Outreach to livestock extension

officers conducted by URT project staff will educate about the zoonotic potential of diseases that cause livestock abortions. Since the clinical symptoms of brucellosis and early outbreaks of RVF similar, syndromic surveillance is the best mechanism to facilitate early detection for RVF, reduce human risk of contracting brucellosis, and identify strains of *Brucella* and RVF causing abortion events.

b) Follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region: Livestock officers will receive training in proper sample collection, hygiene and use of personal protective equipment from the URT project staff. Tissues from aborted fetuses or afterbirth will be collected in collaboration with local livestock officers or by the URT project staff, and submitted to the diagnostic laboratory for pathogen identification. Samples stored in viral transport media (for RVFV diagnostics), formalin, or frozen at -20C in the project field freezer before transport to the laboratory. At the time of sample collection, the livestock owner will be asked questions regarding the individual animal history, herd health and vaccination history, and general livestock management. Samples will be screened for RVFV and *Brucella* using real-time PCR. Feedback will be provided to the local livestock officer and animal owner, in addition to data inclusion in the project database.

Importance of using both cross-sectional and sentinel serologic surveillance and syndromic surveillance: The cross-sectional and sentinel serologic and syndromic surveillance activities complement each other but serve different purposes. The cross-sectional study will provide information about the seroprevalence of RVFV and *Brucella* in the region and enable us to identify target areas for sentinel serologic surveillance. The sentinel surveillance will inform on risk factors associated with changing seroprevalence. For RVFV risk factors for seroconversion, such as increased vector activity, rainfall and other climatic events, as well as livestock herd related risk factors as described above, will be evaluated. For *Brucella*, the risk for seroconversion will be evaluated for factors such as herd location, livestock density, herd management, animal movement, and contact to wildlife over time. Syndromic surveillance not only increases the capacity of livestock officers to accurately diagnose the causes of abortions, and provides education to livestock owners about the zoonotic risks, but also creates the infrastructure for an early warning system for RVF, as well as potentially sourcing isolates of RVF and *Brucella* for comparison with wildlife and human strains. Early detection of the disease is essential for rapid implementation of preventive strategies such as livestock vaccinations.

Personnel involved: Fair, Smith, Kazwala, Mugasa, Wolking.

Metrics of Success: At least two livestock extension officers involved each year.

Deliverables: Syndromic surveillance section included in annual report; 1 publication prepared.

Task 8: Wildlife surveillance (Years 1-3):

a) Coordinate with TAWIRI and TANAPA for opportunistic wildlife surveillance planning: these are the two prominent wildlife authorities in Tanzania, and relationships are in place to foster dialogue about the park's interests paired with the needs of the research project.

b) Collect wildlife samples for RVFV and Brucella screening from live animals involved

with wildlife immobilization studies: There are sporadic opportunities to participate in immobilization activities during which animal samples can be collected for research purposes. Buffalo testing was a recent example where the HALI team provided leadership and experience to the immobilization exercises, and was concurrently able to collect samples for research.

c) Collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region: In collaboration with local game scouts and wildlife authorities, wildlife samples will be collected from the following sources: opportunistically collected specimens from legally hunted animals, natural mortalities, wild animals opportunistically found dead, and depredation animals deceased due to human-wildlife conflict. The GPS location from where the sample is collected will be recorded and collaboration with legal hunting organizations and game scouts are established in the study regions. Game scouts trained in tissue sampling will collect tissues from liver, spleen, reproductive tract, lymph nodes, and other organs. All samples will be screened for presence of RVFV and *Brucella* by real time qRT-PCR or qPCR, respectively. If the sampled animals are fr dead, blood samples for serological testing will be screened. *Personnel involved:* (b)(6) Smith, Kazwala, Mugasa, Wolking.

Metrics of Success: At least two hundred wildlife samples screened each year.

Deliverables: Wildlife surveillance section included in annual report; 1 publication prepared.

Task 9: Vector surveillance (Year 1-3, Objective 2):

a) Conduct transects for systematic vector collection near households in the two study regions: After identification of sentinel livestock herds in the two study regions, transects will be established for mosquito collection using CO_2 baited CDC light traps in contrasting environmental zones as discussed above. It is anticipated that mosquito collections will be conducted at least twice per dry and wet season, with 10-15 trapping nights expected per site.

b) Characterize collected vectors and preserve for pathogen screening: After collection, mosquitoes will be pooled (~20-25 mosquitoes per pool) by species, sex, and blood meal status. Female mosquitoes with evidence of a blood meal will be individually processed. Mosquito pools will be homogenized, clarified by low speed centrifugation, and aliquoted either directly to virucidal lysis buffer for RNA/DNA extraction or long-term frozen storage. RVFV diagnosis will be accomplished by qRT-PCR as described for livestock specimens. Blood meal positive mosquitoes will be processed similarly with the addition of PCR testing and DNA sequencing of the Cytochrome b gene to develop a "DNA-fingerprint" of the source of the blood meal at rou y the genus level as described in [37].

Personnel involved: (b)(6) Smith, MacLachlan, Kazwala, Masanja, Mugasa, Wolking.

Metrics of Success: At least 1000 mosquito vector samples ened each year.

Deliverables: Vector surveillance section included in annual report; 1 publication prepared.

Task 10: Genomic characterization (Years 1-3):

a) Perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs: Perform phylogenetic analyses of genomic diversity. Initial screening of mosquito pools and acute phase patient/animal derived clinical materials (blood, tissues) will be accomplished by qRT-PCR.

b) Conduct genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates: RVFV positive specimens will be subjected to complete genome amplification using standard RT-PCR techniques utilizing primers binding the extreme 3' and 5' termini of each viral genome segment (S, M, L) following techniques described in [3,24]. Following full length cDNA amplification, complete genome sequencing will be performed in the region if feasible, and analyzed using Bayesian and maximum likelihood techniques to generate phylogenies and multiple sequence alignments.
c) Genetically characterize Brucella isolates from animals and humans in the study region to identify shared isolates: Clinical and archived samples will be molecularly screened using qPCR for confirmation of *Brucella* species and subtypes using established methods in our laboratories including PCR targeting 16S rRNA genes, Outer Membrane Proteins, and spacer elements for molecular characterization, followed by sequence analysis. Culture will only be used if sufficient sample or isolate is not available for direct molecular screening. Bacterial amplification will be co[illegible]cted per established protocols in URT team laboratories.
Personnel involved: (b)(6) Smith, MacLachlan, Kazwala, Masanja, Mugasa, Mfinanga, Wolking.
Metrics of Success: At least two hundred samples molecularly c[illegible]acterized each year.
Deliverables: Molecular epidemiology section included in annual report; 1 publication prepared.

Task 11: Data analysis, modeling, and progress reports (Year 2-3):
a) Predictive model development and data analysis on study site characteristics, infection outcomes in vectors, animals, and people: Data analysis will initially involve examining variable distributions and calculating the proportion of individuals in each host species that have been exposed to RVFV and *Brucella*. Modeling efforts will integrate data across tasks, detailed below.

- Analysis for Task 5, public health surveillance: The goal of this task is to determine the prevalence of RVF and brucellosis in febrile patients in the study regions. This will be done based on analysis of health records and on prospective screening of febrile individuals in collaboration with local health clinics. Data analysis will involve descriptive statistics and cluster analysis to characterize patterns of disease in space and time using SaTScan software.

- Analysis for Task 6, livestock surveillance: Cross-sectional serologic and risk factor study: Herd level and individual animal level seroprevalence of *Brucella* and RVFV exposure will be determined and associations between risk factors and exposure will be examined using multivariate logistic regression models with a random effect adjusting for herd dependence. Herd level exposure and risk factors include 1) for RVF: age, sex, parity, breed, stocking density, location of herd, season, climatic factors, contact and proximity to wildlife; and 2) for *Brucella:* age, sex, parity, breed, stocking density, grazing management, mixing with other herds, water sources, location of household, season, climatic factors, and contact with wildlife. Individual animal risk factors for shedding *Brucella* in the milk will also be assessed using descriptive statistics and regression models. Additional analysis will be performed to evaluate infection clustering in space and time using GIS and SaTScan

software.

Sentinel surveillance: The goal of the sentinel surveillance is to assess risk factors associated with seroconversion for RVFV and *Brucella* given potential endemic transmission dynamics within the study area. Changes in the proportion of livestock, wildlife and mosquito vectors (for

RVF) exposed to RVFV and/or *Brucella* will be determined over time for different locations and reported using descriptive statistics. For RVF, spatial and temporal associations with geographic, climatic, demographic, and herd specific risk factors as described under task 6 will be mapped. The influence of different risk factors will be determined using regression analyses. Similarly, for *Brucella*, risk factors associated with spatial and temporal variations in seroprevalence will be evaluated using herd specific risk factors and regression modeling as described above.

- Analysis for Task 7, syndromic surveillance: The goal of the syndromic surveillance is to determine the frequency of abortion due to RVFV and *Brucella* in the study area, and to obtain strains of each pathogen for molecular characterization and comparison with strains from insect vectors, wildlife, and humans. The frequency of abortion due to RVFV and *Brucella* during the study period will be reported using descriptive statistics. Individual animal and herd level risk factors for abortions will be evaluated using data on individual animal history and herd history and analyzed using logistic regression. Strains of RVFV and *Brucella* isolated from aborted material will be compared to strains isolated from wildlife, and insect vectors (RVF only). Location of abortion events caused by each pathogen will be mapped and compared to serologic data to see if the locations of abortion events correspond to areas of high or low seroprevalance.

- Analysis for Task 8, wildlife surveillance: The goal of the wildlife surveillance is to determine the frequency of exposure (for live animals) and infection and strain types (for post-mortem sampled animals) with RVFV and *Brucella*. In wildlife, potential reservoir/ spill-over hosts for RVFV and will be determined based on the frequency of exposure to or presence of the pathogens as well as for RVFV from blood meal analysis from mosquitoes and reported using descriptive statistics. The spatial distribution of exposure to, or presence of both diseases, will be examined using GIS and statistical software to identify areas of disease overlap between livestock, wildlife and human populations. Associations of infection with risk factors such as location, climatic variables, species, age, sex, and proximity to livestock will be assessed using regression analysis. Strains of RVFV and *Brucella* isolated from wildlife will be compared to livestock and human strains. The focus on endemic disease dynamics in this project builds on our preliminary studies in the region and complements other studies that focus on modeling disease dynamics surrounding epidemics.

- Analysis, genomic characterization: The goal of the genomic characterization is to determine the type and diversity of strains of RVFV and *Brucella* in the study areas. Complete genome sequence data will be processed by multiple sequence alignment algorithms and analyzed by Bayesian and maximum likelihood techniques to generate phylogenies and estimates of the overall molecular evolutionary rate and time to most

recent common ancestor. If sufficient RVFV or *Brucella* spp. specimen genomic data are obtained, further population genetics studies such as Bayesian skyline analyses, creation of minimum spanning networks, and Mantell analyses will determine whether genetic diversity is correlated with space or time factors.

Model development: For RVFV, the human, livestock, wildlife, vector, and climate data will be integrated to develop spatially explicit models that predict areas and time periods of increased pathogen maintenance, transmission, and genomic diversity. For *Brucella*, human, livestock and wildlife data will be integrated to identify areas of higher risk for transmission, and for determining the most important risk factors for disease transmission. For both diseases, the URT partner institutions and stakeholders will utilize information from the models in order to target

locales of increased risk, and implement preventive measures that may be critical for public and targeted surveillance.

Personnel responsible for data analysis, and capacity building: Tanzanian project staff and students will be trained by the more senior faculty and staff on scientific analysis and writing so that all team members can lead on publications in their specific research areas within the project, working in close collaboration.

c) Prepare final reports. Metabiota will coordinate reporting mechanisms across the partner organizations to ensure proper chain of command in decision making. Preliminary and annual progress reports will be generated throughout the project, with the final report assembled for review 1 month before the end of the project, so as to seek input and revise as appropriate. *Personnel:* (b)(6) Smith, Mazet, MacLachlan, Bird, Kazwala, Masanja, Mugasa, Mfinanga Wolking.

Metrics of Success: Mixed epidemiologic and transmission models produced for RVFV and *Brucella* to characterize endemic dynamics and evolution of pathogens in the region. Reports submitted, complete and on time.

Deliverables: Data analysis and modeling section included in annual report; 2 publications.

C. PERFORMANCE SCHEDULE

Project Timeline	**Year 1** (July '14-June '15)				**Year 2** (July '15-June '16)				**Year 3** (July'16-June'17)			
Task #: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings												
2: Administrative startup												
Obtain research permits, Develop field protocols, HH questionnaires, SOP's for sample transport, storage, preservation, hire field staff and students												

Develop lab protocols
Seek collaboration with game scouts, clinics, livestock officers
Database development
3: Training of field staff, lab staff and students
4: Field site characterization
5: Public health surveillance
Establish collaborations with officials

6: Sentinel livestock surveillance
Cross-sectional livestock prevalence study testing
Sentinel herd surveillance
7: Syndromic livestock surveillance
Training of livestock officers in PPE, sampling
Receive and test samples
8: Wildlife surveillance
Game scout training
Wildlife sampling
9: Vector surveillance
Identify sampling sites
Vector sampling and blood meal analysis
10: Genomic characterization of RVFV and *Brucella* isolates from livestock, wildlife, and vectors
11: Data analysis
Preliminary analysis
Final analysis and model development
Reporting
Annual report due
Final report due
Manuscript preparation

IV. REFERENCES

1. Bengis RG, Kock RA, Fischer J (2002) Infectious animal diseases: the wildlife/livestock interface. Revue Scientifique et Technique Office International des Epizooties 21: 53-65.
2. Bird BH, Ksiazek TG, Nichol ST, Maclachlan NJ (2009) Rift Valley fever virus. J Am Vet Med Assoc 234: 883-893.
3. Bird BH, Githinji JW, Macharia JM, Kasiiti JL, Muriithi RM, et al. (2008) Multiple virus lineages sharing recent common ancestry were associated with a Large Rift Valley fever outbreak among livestock in Kenya during 2006-2007. J Virol 82: 11152-11166.
4. Seleem MN, Boyle SM, Sriranganathan N (2010) Brucellosis: a re-emerging zoonosis. Vet Microbiol 140: 392-398.
5. Godfroid J, Scholz HC, Barbier T, Nicolas C, Wattiau P, et al. (2011) Brucellosis at the animal/ecosystem/human interface at the beginning of the 21st century. Preventive Veterinary Medicine 102: 118-131.
6. McDermott JJ, Arimi SM (2002) Brucellosis in sub-Saharan Africa: epidemiology, control and impact. Veterinary Microbiology 90: 111-134.
7. Bird BH, Nichol ST (2012) Breaking the chain: Rift Valley fever virus control via livestock vaccination. Curr Opin Virol 2: 315-323.
8. Meegan JM, Bailey CL (1989) Rift Valley Fever; Monath TP, editor. Boca Raton, Florida (USA): CRC Press, Inc. 51-76 p.
9. Daubney R, Hudson JR, Garnham PC (1931) Enzootic hepatitis or Rift Valley fever. An undescribed virus disease of sheep cattle and man from East Africa. J Path Bact 34: 545- 579.
10. Linthicum KJ, Bailey CL, Davies FG, Tucker CJ (1987) Detection of Rift Valley fever viral activity in Kenya by satellite remote sensing imagery. Science 235: 1656-1659.
11. Turell MJ, Bailey CL (1987) Transmission studies in mosquitoes (Diptera: Culicidae) with disseminated Rift valley fever virus infections. Journal of Medical Entomology 24:11-18.
12. Anyangu AS, Gould LH, Sharif SK, Nguku PM, Omolo JO, et al. (2010) Risk factors for severe Rift Valley fever infection in Kenya, 2007. Am J Trop Med Hyg 83: 14-21.
13. Madani TA, Al-Mazrou YY, Al-Jeffri MH, Mishkhas AA, Al-Rabeah AM, et al. (2003) Rift Valley fever epidemic in Saudi Arabia: epidemiological, clinical, and laboratory characteristics. Clin Infect Dis 37: 1084-1092.
14. Hamdy MER, Amin AS (2002) Detection of Brucella Species in the Milk of Infected Cattle, Sheep, Goats and Camels by PCR. The Veterinary Journal 163: 299-305.
15. Dean AS, Crump L, Greter H, Hattendorf J, Schelling E, et al. (2012) Clinical manifestations of human brucellosis: a systematic review and meta-analysis. PLoS Negl Trop Dis 6: e1929.
16. Mohamed M, Mosha F, Mghamba J, Zaki SR, Shieh WJ, et al. (2010) Epidemiologic and clinical aspects of a Rift Valley fever outbreak in humans in Tanzania, 2007. Am J Trop Med Hyg 83: 22-27.
17. Heinrich N, Saathoff E, Weller N, Clowes P, Kroidl I, et al. (2012) High Seroprevalence of Rift Valley Fever and Evidence for Endemic Circulation in Mbeya Region, Tanzania,

in a Cross-Sectional Study. PLoS Negl Trop Dis 6: e1557.

18. Shirima G, Cleaveland, S., Kazwala, R.R., Kambarage, D.M., Nigel, F., McMillan, A., Kunda, J., Mfinanga, G.S., FitzPatrick, J.S. (2008) Seroprevalence of brucellosis in smallholder dairy, agropastoral, pastoral, beef ranch and wildlife animals in Tanzania. Bulletin of Animal Health and Production in Africa.
19. Mdegela RH, Kusiluka LJM, Kapaga AM, Karimuribo ED, Turuka FM, et al. (2004) Prevalence and determinants of mastitis and milk-borne zoonoses in smallholder dairy farming sector in Kibaha and Morogoro Districts in Eastern Tanzania. Journal of Veterinary Medicine, Series B 51: 123-128.
20. Kanuya NL, Matiko MK, Kessy BM, Mgongo FO, Ropstad E, et al. (2006) A study on reproductive performance and related factors of zebu cows in pastoral herds in a semi- arid area of Tanzania. Theriogenology 65: 1859-1874.
21. Karimuribo ED, Ngowi, H.A., Swai, E.S., Kambarage, D.M. (2007) Prevalence of brucellosis in crossbred and indigenous cattle in Tanzania. Livestock research for rural development 19: 148.
22. Bouley AJ, Biggs HM, Stoddard RA, Morrissey AB, Bartlett JA, et al. (2012) Brucellosis among hospitalized febrile patients in northern Tanzania. Am J Trop Med Hyg 87: 1105- 1111.

23. John K, Kazwala R, Mfinanga GS (2008) Knowledge of causes, clinical features and diagnosis of common zoonoses among medical practitioners in Tanzania. BMC Infect Dis 8: 162.
24. Bird BH, Khristova ML, Rollin PE, Ksiazek TG, Nichol ST (2007) Complete genome analysis of 33 ecologically and biologically diverse Rift Valley fever virus strains reveals widespread virus movement and low genetic diversity due to recent common ancestry. J Virol 81: 2805-2816.
25. Gora D, Yaya T, Jocelyn T, Didier F, Maoulouth D, et al. (2000) The potential role of rodents in the enzootic cycle of Rift Valley fever virus in Senegal. Microbes Infect 2: 343-346.
26. Evans A, Gakuya F, Paweska JT, Rostal M, Akoolo L, et al. (2008) Prevalence of antibodies against Rift Valley fever virus in Kenyan wildlife. Epidemiol Infect 136: 1261-1269.
27. Davies FG, Karstad L (1981) Experimental infection of the African buffalo with the virus of Rift Valley fever. Trop Anim Health Prod 13: 185-188.
28. Chaparro F, Lawrence JV, Bengis R, Myburgh JG (1990) A serological survey for brucellosis in buffalo (*Syncerus caffer*) in the Kruger National Park. J S Afr Vet Assoc 61: 110-111.
29. Hamblin C, Anderson EC, Jago M, Mlengeya T, Hipji K (1990) Antibodies to some pathogenic agents in free-living wild species in Tanzania. Epidemiology and Infection 105: 585-594.
30. Mazet JA, Clifford DL, Coppolillo PB, Deolalikar AB, Erickson JD, et al. (2009) A "one health" approach to address emerging zoonoses: the HALI project in Tanzania. PLoS Medicine 6: e1000190.

31. Taylor LH, Latham SM, Woolhouse ME (2001) Risk factors for human disease emergence. Philos Trans R Soc Lond B Biol Sci 356: 983-989.
32. Bengis RG, Leighton FA, Fischer JR, Artois M, Morner T, et al. (2004) The role of wildlife in emerging and re-emerging zoonoses. Revue Scientifique et Technique Office International des Epizooties 23: 497-511.
33. Doganay GD, Doganay M (2012) Brucella as a Potential Agent of Bioterrorism. Recent Pat Antiinfect Drug Discov.
34. Bird BH, Bawiec DA, Ksiazek TG, Shoemaker TR, Nichol ST (2007) Highly sensitive and broadly reactive quantitative reverse transcription-PCR assay for high-throughput detection of Rift Valley fever virus. J Clin Microbiol 45: 3506-3513.
35. Bird BH, Maartens LH, Campbell S, Erasmus BJ, Erickson BR, et al. (2011) Rift Valley fever virus vaccine lacking the NSs and NSm genes is safe, nonteratogenic, and confers protection from viremia, pyrexia, and abortion following challenge in adult and pregnant sheep. J Virol 85: 12901-12909.
36. McElroy AK, Albarino CG, Nichol ST (2009) Development of a RVFV ELISA that can distinguish infected from vaccinated animals. Virol J 6: 125.
37. Meece JK, Reynolds CE, Stockwell PJ, Jenson TA, Christensen JE, et al. (2005) Identification of mosquito bloodmeal source by terminal restriction fragment length polymorphism profile analysis of the cytochrome B gene. J Med Entomol 42: 657-667.
38. McElroy AK, Nichol ST (2012) Rift Valley fever virus inhibits a pro-inflammatory response in experimentally infected human monocyte derived macrophages and a pro-inflammatory cytokine response may be associated with patient survival during natural infection. Virology 422: 6-12.

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	N/A	N/A	N/A	Government
000101	N/A	N/A	N/A	Government

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 07-AUG-2014 TO 06-AUG-2017	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1
000101	N/A	N/A	N/A	N/A

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 044315 097 0134 000 N 20142016 D 34HQ 0901515BR-KD-BP 1416-0134-34HQ-TANCT DTRA 410
AMOUNT: $932,060.00
CIN 000101J3CTB12301: $932,060.00

CLAUSES INCORPORATED BY FULL TEXT

252.232-7007 LIMITATION OF GOVERNMENT'S OBLIGATION (APR 2014)

(a) Contract line item(s) 0001 is/are incrementally funded. For this/these item(s), the sum of $932,060.00 of the total price is presently available for payment and allotted to this contract. An allotment schedule is set forth in paragraph (j) of this clause.

(b) For items(s) identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those item(s) for the Government's convenience, approximates the total amount currently allotted to the contract. The Contractor is not authorized to continue work on those item(s) beyond that point. The Government will not be obligated in any event to reimburse the Contractor in excess of the amount allotted to the contract for those item(s) regardless of anything to the contrary in the clause entitled "TERMINATION FOR THE CONVENIENCE OF THE GOVERNMENT." As used in this clause, the total amount payable by the Government in the event of termination of applicable contract line item(s) for convenience includes costs, profit and estimated termination settlement costs for those item(s).

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (j) of this clause, the Contractor will notify the Contracting Officer in writing at least ninety days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s). The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (j) of this clause, or to a mutually agreed upon substitute date. The notification will also advise the Contracting Officer of the estimated amount of additional funds that will be required for the timely performance of the item(s) funded pursuant to this clause, for subsequent period as may be specified in the allotment schedule in paragraph (j) of this clause, or otherwise agreed to by the parties. If after such notification additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause of this contract entitled "TERMINATION FOR THE CONVENIENCE OF TIIE GOVERNMENT".

(d) When additional funds are allotted for continued performance of the contract line item(s) identified in paragraph (a) of this clause, the parties will agree as to the period of contract performance which will be covered by the funds. The provisions of paragraph (b) through (d) of this clause will apply in like manner to the additional allotted funds and agreed substitute date, and the contract will be modified accordingly.

(e) If, solely by reason of failure of the Government to allot additional funds, by the dates indicated below, in amounts sufficient for timely performance of the contract line item(s) identified in paragraph (a) of this clause, the

Contractor incurs additional costs or is delayed in the performance of the work under this contract and if additional funds are allotted, an equitable adjustment will be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the item(s), or in the time of delivery, or both. Failure to agree to any such equitable adjustment hereunder will be a dispute concerning a question of fact within the meaning of the clause entitled "disputes."

(f) The Government may at any time prior to termination allot additional funds for the performance of the contract line item(s) identified in paragraph (a) of this clause.

(g) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "DEFAULT." The provisions of this clause are limited to work and allotment of funds for the contract line item(s) set forth in paragraph (a) of this clause. This clause no longer applies once the contract if fully funded except with regard to the rights or obligations of the parties concerning equitable adjustments negotiated under paragraphs (d) or (e) of this clause.

(h) Nothing in this clause affects the right of the Government to this contract pursuant to the clause of this contract entitled "TERMINATION FOR CONVENIENCE OF THE GOVERNMENT."

(i) Nothing in this clause shall be construed as authorization of voluntary services whose acceptance is otherwise prohibited under 31 U.S.C. 1342.

(j) The parties contemplate that the Government will allot funds to this contract in accordance with the following schedule:

On execution of contract $--

August 07, 2015 $925,557.00

August 07, 2016 $930,866.00

(End of clause)

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: (b)(6)
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addr

b. Grantee Business Office:
Name: FOIA (b)(6)
Title:
Phone:
E-mail

c. Grantee Principal Investigator (PI):
Name: FOIA (b)(6)
Title:

Phone: FOIA (b)(6)
E-mail:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/ J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

252.601-9002 GRANT REFERENCE INFORMATION (MAY 2009)

e. This grant is awarded as a result of Broad Agency Announcement (BAA) **RFBAA09-6-2-0170**, Research and Development Enterprise, Basic and Applied Sciences Directorate, Basic Research for Combating Weapons of Mass Destruction (C-WMD).

f. **CFDA #:** 12.351

g. **Authority:** Pub. 11376 Cooperative Threat Reduction

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit B	Terms and Conditions	39	01-MAY-2012

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00003	04-Aug-2017		

6. ISSUED BY CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

7. ADMINISTERED BY (If other than item 6) CODE N62879

OFFICE OF NAVAL RESEARCH-BOSTON
495 SUMMER STREET, ROOM 627
BOSTON MA 02110-2109

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

METABIOTA, INC.
FOIA (b)(6)
425 CALIFORNIA STREET SUITE 200
SAN FRANCISCO CA 94104-2104

CODE 56SP4 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
X	10B. DATED (SEE ITEM 13) 07-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: J3CTB23203A

The purpose of this administrative modification is to exercise a No-Cost Extension to the subject grant by extending the period of performance from August 7, 2016-August 6, 2017 to August 7, 2017-June 6, 2018. This modification will also update the Grants Officers Representative clause 252.601-9001.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	04-Aug-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'Payment will be made by' organization has changed from

DFAS COLUMBUS CENTER
DFAS-CO/WEST ENTITLEMENT OPERATIONS
P.O. BOX 182381
COLUMBUS OH 43218-2381

to

DFAS COLUMBUS CENTER
DFAS-CO/WEST ENTITLEMENT OPERATIONS
P.O. BOX 182317
COLUMBUS OH 43218-2317

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 07-AUG-2014 TO 06-AUG-2017	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 07-AUG-2014 TO 06-JUN-2018	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB (b)(6) 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 (b)(6) FOB: Destination	HDTRA1

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been modified:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

a. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/ J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addr

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 2

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00004	25-Aug-2017		

6. ISSUED BY CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

7. ADMINISTERED BY (If other than item 6) CODE S0507A

DCMA STOCKTON
3247 WEST MARCH LANE, STE 300
STOCKTON CA 95219

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

METABIOTA, INC.
FOIA (b)(6)
SUITE 200
SAN FRANCISCO CA 94104-2104

CODE 56SP4 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
X	10B. DATED (SEE ITEM 13) 07-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

X B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: HDTRA1723203B

The purpose of this adminstrative modification is to correct the grant administrative office by changing it to DCMA Stockton and to update the Grant Funding Profile Clause.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	23-Aug-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The 'administered by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201
to
DCMA STOCKTON
3247 WEST MARCH LANE, STE 300
STOCKTON CA 95219

SECTION G - CONTRACT ADMINISTRATION DATA

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total amount obligated under this Grant is $2,788,483.00 for work performed during the period beginning with Grant award and continuing through June 6, 2018. Additional incremental funding planned, but not obligated, is:
$0.00
The Government's liability is limited to the amount obligated

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 10

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00005	11-Apr-2018		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA ST STE 200 SAN FRANCISCO CA 94104-2104		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
CODE 56SP4	X	10B. DATED (SEE ITEM 13) 07-Aug-2014
FACILITY CODE		

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN: ACOPI181066

The purpose of this administrative modification is to revise the Statement of Work. No additional costs will be incurred as a result of the SOW revision.

All terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
		(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6)
(Signature of person authorized to sign)		(Signature of Contracting Officer)
		16C. DATE SIGNED 11-Apr-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM
The 'issued by' organization has changed from
DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201
to
DEFENSE THREAT REDUCTION AGENCY/AL-ACO
8725 JOHN J.KINGMAN RD
FT BELVOIR VA 22060-6201

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:
SOW

Project Title: A One Health Response to Rift Valley Fever and Brucellosis Surveillance in Tanzania

Document Date: Revised April 10, 2018

Objectives: Rift Valley fever virus (RVFV) is a mosquito-borne pathogen of livestock and humans that causes widespread and devastating outbreaks of severe disease throughout Africa [2]. Outbreaks can involve tens to hundreds of thousands of human cases and millions of livestock cases. The severity of the disease varies by species, but in sheep and cattle "abortion storms" as well as high neonatal (~70%) and adult mortality (20 30%) are features. Human cases are generally self-limiting, but severe complications are associated with case fatalities of 10–20% [13]. While lying at the heart of the RVFV belt in eastern Africa, little is known in the United Republic of Tanzania (URT) about the role of the environment on endemic virus activity during the inter-epidemic period, vector composition, wildlife maintenance hosts, and virus diversity. Livestock are a key ecological link as high viremias in animals lead to spillover of RVFV into mosquitoes likely to feed on humans, and close contact with infected animal tissues or aborted fetal materials are significant risk factors for human infections [12] [7].

Brucella bacteria are also important zoonotic pathogens globally, known to cause disease in humans and animals, and are relevant for biological warfare as a category B biological agent [33]. Clinical signs of brucellosis in humans include intermittent fever, malaise, anorexia, and joint pain that may persist for weeks or months. Because of the fairly unspecific symptoms that can be confused with other common diseases, such as malaria, brucellosis in humans is under- diagnosed among febrile patients in URT [22]. In animals, clinical symptoms include infertility and abortions, and during acute infection, large amounts of bacteria are shed in the uterine fluids, aborted fetuses, and milk. Chronically infected animals can develop hygromas,

localized abscesses, and continue to shed the bacteria in the milk, providing human transmission routes.

The team hypothesizes that in URT, climatic conditions, such as high rainfall, and animal contact conditions, such as intense livestock density, are associated with increased endemic RVFV and *Brucella* exposure in sympatric livestock, wildlife, and humans. To test this hypothesis, two study areas with varied rainfall conditions and animal density parameters have been selected for surveillance and characterization of RVFV and *Brucella* disease dynamics in animals, humans, and arthropod vectors. Contributing to the Thrust Area 6 goals, the proposed research will improve international collaborations to detect, characterize, and report disease outbreaks and will advance the capacity in URT to implement global health security initiatives.

Scope: This project will investigate the epidemiology of RVFV and *Brucella* in two study regions of URT while enhancing the network of professionals prepared to address ongoing select agent emerging needs. The project is designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization and modeling efforts. Genomic analyses will enhance capabilities in characterizing diversity, identifying wildlife reservoir maintenance hosts, and developing models that predict areas of pathogen maintenance, transmission, and diversity in this endemic region.
The end goal is increased detection and response capacity to further human and animal health.

Performance Schedule

Project Timeline	**Year 1** (Oct '13-Sept '14)				**Year 2** (Oct '14-Sept '15)				**Year 3** (Oct '15-Sept 16)			
Task #: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings	■	■	■	■	■	■	■	■	■	■	■	■
2: Administrative startup	■	■	■	■	■	■	■	■	■	■	■	■
Obtain research permits, Develop field protocols, HH questionnaires, SOP's for sample transport, storage, preservation, hire field staff and students	■	■	■									
Develop lab protocols	■	■	■	■	■							
Seek collaboration with game scouts, clinics, livestock officers	■	■	■	■								
Database development	■	■	■	■								
3: Training of field staff, lab staff and students		■	■	■	■	■	■	■	■	■	■	■
4: Field site characterization	■	■	■	■	■	■	■	■				
5: Public health surveillance		■	■	■	■	■	■	■	■	■	■	■
Establish collaborations with officials		■	■	■	■	■	■	■	■	■	■	■
6: Sentinel livestock surveillance												
Survey administration and livestock testing for prevalence study												
Sentinel herd surveillance												
7: Syndromic livestock surveillance												
Training of livestock officers in PPE, sampling												
Receive and test samples												
8: Wildlife surveillance		■	■	■	■	■	■	■	■	■		
Game scout training		■	■									
Wildlife sampling			■	■	■	■	■	■	■	■		
9: Vector surveillance	■	■	■	■	■	■	■	■	■	■		
Identify sampling sites	■	■										
Vector sampling and blood meal analysis			■	■	■	■	■	■	■	■		

10: Genomic characterization of RVFV and *Brucella* isolates from livestock, wildlife, and vectors												
11: Data analysis												
Preliminary analysis												
Final analysis and model development												
Reporting												
Annual report due												
Final report due												
Manuscript preparation												

Research Objectives:

1) Consult and coordinate with local partner institutions in Tanzania for characterization of field sites with historical RVFV and *Brucella* activity that represent diverse climactic and animal density variables.
2) Conduct surveillance of sentinel livestock herds (longitudinally) and conspecific wildlife (opportunistically) for pathogen transmission activity by real-time molecular diagnostic assays and/or seroconversion indicating periods of increased pathogen transmission, for comparison with disease patterns in local human populations.
3) Characterize RVFV and *Brucella* isolates from mosquito, animal, and human cases using phylogenetic analyses of genomic diversity.
4) Identify potential cryptic wildlife reservoir maintenance hosts by detection of seroconversion or molecular fingerprinting of blood meals from mosquito vectors.

Develop models that predict areas of increased pathogen maintenance, transmission, and genomic diversity in URT to target locales of increased risk that may be critical for public health intervention strategies and targeted surveillance.

Background: Rift Valley fever and brucellosis are well suited for transdisciplinary One Health approaches to study the genomic diversity and epidemiology at interfaces involving the mosquito vector (for RVFV), domesticated livestock, wildlife, and humans. Mosquitoes are primarily responsible for maintaining RVFV in nature, and the virus has been isolated from over 30 species of mosquitoes from 10 genera (primarily *Aedes*, *Culex*, *Anopheles*) [8]. In eastern and southern Africa, RVFV ecology can be divided into two distinct but overlapping cycles of continuous low-level endemic activity and periodic epizootics/epidemics. The linkage of RVFV epizootics/epidemic to heavy rainfall and high numbers of mosquitoes has been observed [9], and it is now recognized that the development of epizootic/epidemic transmission is dependent on large-scale weather events that lead to increases in ground-water saturation and eventual flooding over parts of eastern and southern Africa [10].

Regular outbreaks of RVF have occurred in 10-20 year cycles in East Africa. These large classic RVF outbreaks have typically occurred following the initiation of epizootics in Kenya/Somalia

as heavy rains shifted towards the south and east. During the most recent 2006-2007 outbreak, human case fatality among confirmed cases reached 47% and seroprevalence studies indicated that RVFV transmission occurred in 52% (n=21) of the country regions, with the majority of these regions reporting both livestock and humans infections [16]. Surveillance of RVFV activity in inter-epidemic periods has been limited, with studies indicating human seroprevalences from 4% in the northeast region up to 29% in the southern region [17]. Wildlife can also be infected with brucellosis, with spillover and spill-back between wildlife and livestock a concern at wildlife-livestock interface areas as are present in our study sites.

Due to the devastating nature of RVFV outbreaks, much effort has been devoted to understanding the factors allowing for epizootic/epidemic transmission of RVFV. However, less is known regarding factors that influence long-term maintenance of the virus in enzootic areas that experience constant low-level RVFV or during inter-epizootic time periods. Enzootic areas are typically wetter semi-tropical locations that allow for continuous virus transmission under favorable microclimate conditions. For example, within a small 20km region of the Central African Republic, complete genome sequence data obtained from virus specimens collected over a period of 5 years (1969 to 1974) indicated a near 10 times higher level of virus diversity than that observed during the typically monophyletic large-scale outbreaks that occur in semi-arid east African regions [24]. The higher viral diversity observed elsewhere may be supported by low-level transmission of RVFV between mosquito vectors and potential cryptic wildlife maintenance hosts, and our team is uniquely positioned to address such questions in URT.

Two study regions, the southern border of the Greater Ruaha Ecosystem in URT and the Kilombero River Valley, are typical, intense wildlife, livestock and human interface areas, where there is high concern for disease transmission among populations. Both areas were considered critical hotspots in the 2007 Rift Valley Fever outbreak, and brucellosis is known to be endemic in the region. The Ruaha ecosystem is one of Africa's largest protected areas and has an extraordinary diversity of plants and animals. There are two rainy seasons; from November – February and from March April, with annual mean precipitation of 500-800 mm. The area adjacent to the southern border of the ecosystem is predominantly populated by pastoralists, agro-pastoralists and subsistence agriculturalists in the villages, and the livestock population is substantial. The main water source in this area is the Great Ruaha River that since 1993 has experienced a severe reduction in flow due to agricultural water diversion upstream [30]. The seasonal water scarcity in the dry season has increasingly forced wildlife, livestock and humans closer together, increasing the potential for pathogen exposure and evolution.

Tasks/Scientific Goals: Project activities involve coordinating with other organizations actively involved in RVFV and *Brucella* research projects, including the key research partners Sokoine University of Agricutlure (SUA), Ifakara Health Institute (IHI), the National Institute for Medical Research (NIMR)) and Tanzania Wildlife Research Institute (TAWIRI). The tasks below are designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization paired with modeling efforts. We expect that genomic analyses will position us to characterize diversity, identify wildlife reservoir maintenance hosts, and develop models that predict high risk areas of pathogen maintenance, transmission, and diversity in this endemic region.

Year 1

1. The team shall conduct management team meetings at times and places specified in the grant schedule (monthly).
2. Project administration (Begin in 1st quarter)
   2.1. The team shall develop and update research protocols and data collection forms.
   2.2. The team shall obtain and maintain protocol and research permit approval.
   2.3. The team shall organize field logistics, hire and maintain additional field staff.
   2.4. The team shall seek and support collaboration with health clinics, livestock officers, hunting companies and game scouts.
   2.5. The team shall begin database development based on data collection forms, and perform database maintenance as needed for quality control purposes.
   2.6. The team shall identify, enroll, support, and mentor Tanzanian postdoctoral scientist/masters students.
3. Training (Begin 2nd quarter)
   3.1. The team shall identify field and laboratory training needs.
   3.2. The team shall conduct field, clinic and laboratory staff training including blinded controls as part of quality assurance plan.
   3.3. The team shall develop networked and secured database tailored for project needs.
4. Field site characterization (1st and 2nd quarter)
   4.1. The team shall conduct systematic site characterization of current climactic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero site study regions.
   4.2. The team shall analyze distribution of key risk factors.
5. Public health surveillance (Begin 2nd quarter): The team shall establish collaborations with public health officials and local URT health centers to facilitate comparative studies of Rift Valley Fever (RVF) and *Brucella* in humans with the proposed animal and vectors studies.
   5.1. The team shall conduct a review of health clinic records to determine the prevalence of febrile disease, non-malarial febrile disease, RVF diagnosis, and brucellosis diagnosis.
   5.2. The team shall work closely with health centers in the study region to improve diagnosis of RVF and brucellosis by providing education and laboratory testing support, with improved data feeding into the epidemiology data analysis and modeling.
   5.3. RVF diagnostic kit evaluation in humans: During this project's conception stage in 2011, a validated human testing kit to detect anti-Rift Valley fever virus (RVFV) IgG antibodies in an ELISA format was available from Biological Diagnostics Supply Limited (BDSL). Unfortunately, the National Institute for Communicable Diseases (NICD) Special Pathogens Unit in Sandringham, South Africa ceased production of the inactivated RVFV NP-antigen required for kit production. This led to an initial shortage, and then complete lack of kit inventory by the time that the team was ready to commence human serologic testing. Our teams have been making good progress in testing livestock animals with the commercially available competitive ELISA (ID-Vet multispecies ELISA catalogue #RIFTC-4P or 10P: https://www.id-vet.com/produit/id-screen-rift-valley-fever-competition-multi-species/). This kit is designed to detect anti-RVFV IgG/IgM without the requirement for a species specific secondary antibody. Thus, in principle this kit could be utilized for human use. However, it is not validated for human diagnostic purposes and is labelled for animal use only. The CDC Viral Special Pathogens Branch (VSPB) has offered to help to validate the ID-Vet ELISA

against the VPSB gold-standard human IgG ELISA. VSPB will test approximately 750 specimens from the R&B project. The R&B project will fund shipping and reagent costs from existing project line-items dedicated to shipments for lab result confirmation and testing reagents. The diagnostic testing by CDC will serve multiple purposes including the timely assistance in completion of our proposed DTRA project-related activities and providing a viable alternative for human RVF serological testing (if the ID-Vet assay performs as expected against the gold-standard assay).

6. Sentinel livestock surveillance (Begin 3rd quarter)
   6.1. The team shall conduct an initial cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
   6.2. The team shall administer risk factor surveys to the study households.
   6.3. The team shall enroll 10 sentinel herds per study region for biannual longitudinal surveillance or as needed to meet study objectives.
   6.4. The team shall conduct longitudinal surveillance testing.
7. Syndromic livestock surveillance (Begin 3rd quarter)
   7.1. The team shall conduct village outreach to raise awareness of abortion and the reporting chain to document cases as part of the proposed research.
   7.2. The team shall begin monitoring abortion incidence.
   7.3. The team shall follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.
8. Wildlife surveillance (Begin 2nd quarter)

8.1. The team shall coordinate with TAWIRI and Tanzania National Parks (TANAPA) for opportunistic wildlife surveillance.
8.2. The team shall collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies.
8.3. The team shall collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.

9. Vector surveillance (Begin 3rd quarter)
   9.1. The team shall conduct transects for systematic vector collection near households in the two study regions.
   9.2. The team shall characterize collected vectors and preserve for RVFV screening.
   9.3. The team shall perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs.
10. Genomic characterization (Begin 4th quarter)
   10.1. The team shall perform genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates.
   10.2. The team shall perform genetic characterization of *Brucella* isolates from animals and humans in the study region to identify shared species.
11. Data analysis and report preparation (Begin 4th quarter)
   11.1. The team shall perform preliminary database validation.
   11.2. The team shall conduct preliminary data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, and scoping studies to inform the predictive model development.
   11.3. The team shall prepare progress reports for internal and external purposes.

Year 2

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
3. Training (ongoing from Year 1)
4. Field site characterization (ongoing from Year 1)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (ongoing from Year 1)
   6.1. The team shall complete the cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
7. Syndromic livestock surveillance (ongoing from Year 1)
8. Wildlife surveillance (ongoing from Year 1)
9. Vector surveillance (ongoing from Year 1)
10. Genomic characterization (ongoing from Year 1)
11. Data analysis and report preparation (ongoing from Year 1)
   11.1. The team shall perform preliminary modeling analyses.
   11.2. The team shall prepare progress reports.

Year 3

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
   2.1. The team shall renew protocol and research permit approvals,

3. Training (ongoing from Year 1)
   3.1. The team shall conduct training sessions on data analysis, scientific writing, and outreach approaches for project staff and students.
4. Field site characterization (complete)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (complete 2nd quarter)
7. Syndromic livestock surveillance (complete 2nd quarter)
8. Wildlife surveillance (complete 2nd quarter)
9. Vector surveillance (complete 2nd quarter)
10. Genomic characterization (complete 3rd quarter)
11. Data analysis and report preparation (ongoing from Year 1)
    11.1. The team shall perform predictive model development and validation.
    11.2. The team shall prepare final reports.

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit B	Terms and Conditions	39	01-MAY-2012

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Exhibit A Statement of Work	8	10-APR-2018
Exhibit B	Terms and Conditions	39	01-MAY-2012

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 11

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00006	25-May-2018		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/AL-ACO 8725 JOHN J.KINGMAN RD FT BELVOIR VA 22060-6201	HDTRA1	DCMA STOCKTON 3247 WEST MARCH LANE, STE 300 STOCKTON CA 95219	S0507A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA ST STE 200 SAN FRANCISCO CA 94104-2104		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
CODE 56SP4 FACILITY CODE	X	10B. DATED (SEE ITEM 13) 07-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
The purpose of this modification is to:

1. Extend the period of performance to September 4, 2018 at no additional cost to the Government.
2. Revise the Statement of Work dated 2 May 2018. No additional costs will be incurred as a result of the SOW revision.

All terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	25-May-2018

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:
SOW

Project Title: A One Health Response to Rift Valley Fever and Brucellosis Surveillance in Tanzania

Document Date: Revised May 2, 2018

Objectives: Rift Valley fever virus (RVFV) is a mosquito-borne pathogen of livestock and humans that causes widespread and devastating outbreaks of severe disease throughout Africa [2]. Outbreaks can involve tens to hundreds of thousands of human cases and millions of livestock cases. The severity of the disease varies by species, but in sheep and cattle "abortion storms" as well as high neonatal (~70%) and adult mortality (20 30%) are features. Human cases are generally self-limiting, but severe complications are associated with case fatalities of 10–20% [13]. While lying at the heart of the RVFV belt in eastern Africa, little is known in the United Republic of Tanzania (URT) about the role of the environment on endemic virus activity during the inter-epidemic period, vector composition, wildlife maintenance hosts, and virus diversity. Livestock are a key ecological link as high viremias in animals lead to spillover of RVFV into mosquitoes likely to feed on humans, and close contact with infected animal tissues or aborted fetal materials are significant risk factors for human infections [12] [7].

Brucella bacteria are also important zoonotic pathogens globally, known to cause disease in humans and animals, and are relevant for biological warfare as a category B biological agent [33]. Clinical signs of brucellosis in humans include intermittent fever, malaise, anorexia, and joint pain that may persist for weeks or months. Because of the fairly unspecific symptoms that can be confused with other common diseases, such as malaria, brucellosis in humans is under- diagnosed among febrile patients in URT [22]. In animals, clinical symptoms include infertility and abortions, and during acute infection, large amounts of bacteria are shed in the uterine fluids, aborted fetuses, and milk. Chronically infected animals can develop hygromas, localized abscesses, and continue to shed the bacteria in the milk, providing human transmission routes.

The team hypothesizes that in URT, climatic conditions, such as high rainfall, and animal contact conditions, such as intense livestock density, are associated with increased endemic RVFV and *Brucella* exposure in sympatric livestock, wildlife, and humans. To test this hypothesis, two study areas with varied rainfall conditions and animal density parameters have been selected for surveillance and characterization of RVFV and *Brucella* disease dynamics in animals, humans, and arthropod vectors. Contributing to the Thrust Area 6 goals, the proposed research will improve international collaborations to detect, characterize, and report disease outbreaks and will advance the capacity in URT to

implement global health security initiatives.

Scope: This project will investigate the epidemiology of RVFV and *Brucella* in two study regions of URT while enhancing the network of professionals prepared to address ongoing select agent emerging needs. The project is designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization and modeling efforts. Genomic analyses will enhance capabilities in characterizing diversity, identifying wildlife reservoir maintenance hosts, and developing models that predict areas of pathogen maintenance, transmission, and diversity in this endemic region.
The end goal is increased detection and response capacity to further human and animal health.

Performance Schedule

Project Timeline	**Year 1** (Oct '13-Sept '14)				**Year 2** (Oct '14-Sept '15)				**Year 3** (Oct '15-Sept 16)			
Task #: Description	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
1: Monthly MT meetings												
2: Administrative startup												
Obtain research permits, Develop field protocols, HH questionnaires, SOP's for sample transport, storage, preservation, hire field staff and students												
Develop lab protocols												
Seek collaboration with game scouts, clinics, livestock officers												
Databasedevelopment												
3: Training of field staff, lab staff and students												
4: Field site characterization												
5: Public health surveillance												
Establish collaborations with officials												
6: Sentinel livestock surveillance												
Survey administration and livestock testing for prevalence study												
Sentinel herd surveillance												
7: Syndromic livestock surveillance												
Training of livestock officers in PPE, sampling												
Receive and test samples												
8: Wildlife surveillance												
Game scout training												
Wildlife sampling												
9: Vector surveillance												
Identify sampling sites												
Vector sampling and blood meal analysis												

10: Genomic characterizationof RVFV and *Brucella* isolates from livestock, wildlife, and vectors												
11: Data analysis												
Preliminary analysis												
Final analysis and model development												
Reporting												
Annual report due												
Final report due												
Manuscript preparation												

Research Objectives:

1) Consult and coordinate with local partner institutions in Tanzania for characterization of field sites with historical RVFV and *Brucella* activity that represent diverse climactic and animal density variables.
2) Conduct surveillance of sentinel livestock herds (longitudinally) and conspecific wildlife (opportunistically) for pathogen transmission activity by real-time molecular diagnostic assays and/or seroconversion indicating periods of increased pathogen transmission, for comparison with disease patterns in local human populations.
3) Characterize RVFV and *Brucella* isolates from mosquito, animal, and human cases using phylogenetic analyses of genomic diversity.
4) Identify potential cryptic wildlife reservoir maintenance hosts by detection of seroconversion or molecular fingerprinting of blood meals from mosquito vectors.

Develop models that predict areas of increased pathogen maintenance, transmission, and genomic diversity in URT to target locales of increased risk that may be critical for public health intervention strategies and targeted surveillance.

Background: Rift Valley fever and brucellosis are well suited for transdisciplinary One Health approaches to study the genomic diversity and epidemiology at interfaces involving the mosquito vector (for RVFV), domesticated livestock, wildlife, and humans. Mosquitoes are primarily responsible for maintaining RVFV in nature, and the virus has been isolated from over 30 species of mosquitoes from 10 genera (primarily *Aedes*, *Culex*, *Anopheles*) [8]. In eastern and southern Africa, RVFV ecology can be divided into two distinct but overlapping cycles of continuous low-level endemic activity and periodic epizootics/epidemics. The linkage of RVFV epizootics/epidemic to heavy rainfall and high numbers of mosquitoes has been observed [9], and it is now recognized that the development of epizootic/epidemic transmission is dependent on large-scale weather events that lead to increases in ground-water saturation and eventual flooding over parts of eastern and southern Africa [10].

Regular outbreaks of RVF have occurred in 10-20 year cycles in East Africa. These large classic RVF outbreaks have typically occurred following the initiation of epizootics in Kenya/Somalia

as heavy rains shifted towards the south and east. During the most recent 2006-2007 outbreak, human case fatality among confirmed cases reached 47% and seroprevalence studies indicated that RVFV transmission occurred in 52% (n=21) of the country regions, with the majority of these regions reporting both livestock and humans infections [16]. Surveillance of RVFV activity in inter-epidemic periods has been limited, with studies indicating human seroprevalences from 4% in the northeast region up to 29% in the southern region [17]. Wildlife can also be infected with brucellosis, with spillover and spill-back between wildlife and livestock a concern at wildlife-livestock interface areas as are present in our study sites.

Due to the devastating nature of RVFV outbreaks, much effort has been devoted to understanding the factors allowing for epizootic/epidemic transmission of RVFV. However, less is known regarding factors that influence long-term maintenance of the virus in enzootic areas that experience constant low-level RVFV or during inter-epizootic time periods. Enzootic areas are typically wetter semi-tropical locations that allow for continuous virus transmission under favorable microclimate conditions. For example, within a small 20km region of the Central African Republic, complete genome sequence data obtained from virus specimens collected over a period of 5 years (1969 to 1974) indicated a near 10 times higher level of virus diversity than that observed during the typically monophyletic large-scale outbreaks that occur in semi-arid east African regions [24]. The higher viral diversity observed elsewhere may be supported by low-level transmission of RVFV between mosquito vectors and potential cryptic wildlife maintenance hosts, and our team is uniquely positioned to address such questions in URT.

Two study regions, the southern border of the Greater Ruaha Ecosystem in URT and the Kilombero River Valley, are typical, intense wildlife, livestock and human interface areas, where there is high concern for disease transmission among populations. Both areas were considered critical hotspots in the 2007 Rift Valley Fever outbreak, and brucellosis is known to be endemic in the region. The Ruaha ecosystem is one of Africa's largest protected areas and has an extraordinary diversity of plants and animals. There are two rainy seasons; from November – February and from March – April, with annual mean precipitation of 500-800 mm. The area adjacent to the southern border of the ecosystem is predominantly populated by pastoralists, agro-pastoralists and subsistence agriculturalists in the villages, and the livestock population is substantial. The main water source in this area is the Great Ruaha River that since 1993 has experienced a severe reduction in flow due to agricultural water diversion upstream [30]. The seasonal water scarcity in the dry season has increasingly forced wildlife, livestock and humans closer together, increasing the potential for pathogen exposure and evolution.

Tasks/Scientific Goals: Project activities involve coordinating with other organizations actively involved in RVFV and *Brucella* research projects, including the key research partners Sokoine University of Agricutlure (SUA), Ifakara Health Institute (IHI), the National Institute for Medical Research (NIMR)) and Tanzania Wildlife Research Institute (TAWIRI). The tasks below are designed to characterize the epidemiology of RVF and brucellosis in livestock, wildlife, and humans in the region, including cross-sectional and longitudinal testing components, syndromic surveillance, and molecular epidemiologic characterization paired with modeling efforts. We expect that genomic analyses will position us to characterize diversity, identify wildlife reservoir maintenance hosts, and develop models that predict high risk areas of pathogen maintenance, transmission, and diversity in this endemic region.

Year 1

1. The team shall conduct management team meetings at times and places specified in the grant schedule (monthly).
2. Project administration (Begin in 1st quarter)
   2.1. The team shall develop and update research protocols and data collection forms.
   2.2. The team shall obtain and maintain protocol and research permit approval.
   2.3. The team shall organize field logistics, hire and maintain additional field staff.
   2.4. The team shall seek and support collaboration with health clinics, livestock officers, hunting companies and game scouts.
   2.5. The team shall begin database development based on data collection forms, and perform database maintenance as needed for quality control purposes.
   2.6. The team shall identify, enroll, support, and mentor Tanzanian postdoctoral scientist/masters students.
3. Training (Begin 2nd quarter)
   3.1. The team shall identify field and laboratory training needs.
   3.2. The team shall conduct field, clinic and laboratory staff training including blinded controls as part of quality assurance plan.
   3.3. The team shall develop networked and secured database tailored for project needs.
4. Field site characterization (1st and 2nd quarter)
   4.1. The team shall conduct systematic site characterization of current climactic conditions, animal and human populations, and risk factor data for the Ruaha and Kilombero site study regions.
   4.2. The team shall analyze distribution of key risk factors.
5. Public health surveillance (Begin 2nd quarter): The team shall establish collaborations with public health officials and local URT health centers to facilitate comparative studies of Rift Valley Fever (RVF) and *Brucella* in humans with the proposed animal and vectors studies.
   5.1. The team shall conduct a review of health clinic records to determine the prevalence of febrile disease, non-malarial febrile disease, RVF diagnosis, and brucellosis diagnosis.
   5.2. The team shall work closely with health centers in the study region to improve diagnosis of RVF and brucellosis by providing education and laboratory testing support, with improved data feeding into the epidemiology data analysis and modeling.
   5.3. The RVFV viremic period in animals and humans is of short duration, and has been documented in both experimentally and in natural outbreak settings to be closely linked to the onset of IgM/IgG antibodies in non-lethal cases by approximately day 10-12 post infection (see *Bird et al.*, PMID: 18786992, 17804663, 18199647). In order to best allocate valuable personnel time and laboratory reagent resources, the initial focus of human diagnostic testing will be on whole blood specimens. All enrolled study participants presented as "acute febrile illness" patients with active signs of illness (fever >38.5C, and other clinical signs). For these acutely ill patients, whole blood from all individuals will be tested by the qRT-PCR RVFV assay to potentially detect patients still within the viremic time-period. This strategic down-selection process allows the scientific team to balance finite budgetary and human resources with our scientific objective of detecting acutely viremic animals or humans to obtain valuable RVFV genomic material for subsequent phylogenetic analyses. Other collected specimens from human subjects (e.g., feces and nasopharyngeal swabs) not initially tested will be stored safely and securely so that if RVFV genomic material is detected, additional diagnostic specimens from each individual will be available for confirmatory testing and to determine the diversity and distribution of the virus in alternative specimen types/matrices (e.g., nasopharyngeal swabs).

5.4. RVF diagnostic kit evaluation in humans: During this project's conception stage in 2011, a validated human testing kit to detect anti-Rift Valley fever virus (RVFV) IgG antibodies in an ELISA format was available from Biological Diagnostics Supply Limited (BDSL). Unfortunately, the National Institute for Communicable Diseases (NICD) Special Pathogens Unit in Sandringham, South Africa ceased production of the inactivated RVFV NP-antigen required for kit production. This led to an initial shortage, and then complete lack of kit inventory by the time that the team was ready to commence human serologic testing. Our teams have been making good progress in testing livestock animals with the commercially available competitive ELISA (ID-Vet multispecies ELISA catalogue #RIFTC-4P or 10P: https://www.id-vet.com/produit/id-screen-rift-valley-fever-competition-multi-species/). This kit is designed to detect anti-RVFV IgG/IgM without the requirement for a species specific secondary antibody. Thus, in principle this kit could be utilized for human use. However, it is not validated for human diagnostic purposes and is labelled for animal use only. The CDC Viral Special Pathogens Branch (VSPB) has offered to help to validate the ID-Vet ELISA against the VPSB gold-standard human IgG ELISA. VSPB will test approximately 750 specimens from the R&B project. The R&B project will fund shipping and reagent costs from existing project line-items dedicated to shipments for lab result confirmation and testing reagents. The diagnostic testing by CDC will serve multiple purposes including the timely assistance in completion of our proposed DTRA project-related activities and providing a viable alternative for human RVF serological testing (if the ID-Vet assay performs as expected against the gold-standard assay).

6. Sentinel livestock surveillance (Begin 3rd quarter)
   6.1. The team shall conduct an initial cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
   6.2. The team shall administer risk factor surveys to the study households.
   6.3. The team shall enroll 10 sentinel herds per study region for biannual longitudinal surveillance or as needed to meet study objectives.
   6.4. The team shall conduct longitudinal surveillance testing. The RVFV viremic period in animals and humans is of short duration, and has been documented in both experimentally and in natural outbreak settings to be closely linked to the onset of IgM/IgG antibodies in non-lethal cases by approximately day 10-12 post infection (see *Bird et al.*, PMID: 18786992, 17804663, 18199647). In order to best allocate valuable personnel time and laboratory reagent resources, livestock serum will be initially screened individually by IgG and IgM serology. If all animals in a herd were either IgG negative or positive with no actively ill animals present no qRT-PCR testing of whole blood was completed, as these animals would be extremely unlikely to have a detectable viremia and would be negative by qRT-PCR testing. Alternatively, if any animal in a herd was determined to be IgM sero-positive (sign of recent infection), or to be actively ill (*e.g.*, fever >39.5C, or recent abortion history) whole blood from all animals in that herd were then tested by qRT-PCR to attempt to detect animals that might be actively viremic in that herd. Collected specimens not initially tested (e.g. feces, nasopharyngeal swabs) will be stored safely and securely so that if RVFV genomic material is detected, additional diagnostic specimens from each individual will be available for confirmatory testing and to determine the diversity and distribution of the virus in alternative specimen types/matrices (*i.e.*, milk from lactating RVFV viremic animals).
7. Syndromic livestock surveillance (Begin 3rd quarter)
   7.1. The team shall conduct village outreach to raise awareness of abortion and the reporting chain to document cases as part of the proposed research.
   7.2. The team shall begin monitoring abortion incidence.

7.3. The team shall follow up abortion reports with field visits to confirm and characterize causes of abortion in the study region.

8. Wildlife surveillance (Begin 2nd quarter)
   8.1. The team shall coordinate with TAWIRI and Tanzania National Parks (TANAPA) for opportunistic wildlife surveillance.
   8.2. The team shall collect wildlife samples for RVFV and *Brucella* screening from live animals involved with wildlife immobilization studies.
   8.3. The team shall collect wildlife samples for pathogen screening from depredated and hunted wildlife in the study region.
9. Vector surveillance (Begin 3rd quarter)
   9.1. The team shall conduct transects for systematic vector collection near households in the two study regions.
   9.2. The team shall characterize collected vectors and preserve for RVFV screening.
   9.3. The team shall perform blood meal analyses from vectors to identify vector hosts and possible wildlife reservoirs.
10. Genomic characterization (Begin 4th quarter)
   10.1. The team shall perform genetic characterization studies of RVFV from vector and animal isolates collected in the study region for comparison with human isolates.
   10.2. The team shall perform genetic characterization of *Brucella* isolates from animals and humans in the study region to identify shared species.
11. Data analysis and report preparation (Begin 4th quarter)
   11.1. The team shall perform preliminary database validation.
   11.2. The team shall conduct preliminary data analyses on study site characteristics, infection outcomes in vectors, animals, and people from the study region, and scoping studies to inform the predictive model development.
   11.3. The team shall prepare progress reports for internal and external purposes.

Year 2

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
3. Training (ongoing from Year 1)
4. Field site characterization (ongoing from Year 1)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (ongoing from Year 1)
   6.1. The team shall complete the cross-sectional study of 100 households per study region to determine RVFV and *Brucella* livestock exposure status.
7. Syndromic livestock surveillance (ongoing from Year 1)
8. Wildlife surveillance (ongoing from Year 1)
9. Vector surveillance (ongoing from Year 1)
10. Genomic characterization (ongoing from Year 1)
11. Data analysis and report preparation (ongoing from Year 1)
   11.1. The team shall perform preliminary modeling analyses.
   11.2. The team shall prepare progress reports.

Year 3

1. Management team meetings (monthly, ongoing from Year 1)
2. Project administration (ongoing from Year 1)
   2.1. The team shall renew protocol and research permit approvals.

3. Training (ongoing from Year 1)
   3.1. The team shall conduct training sessions on data analysis, scientific writing, and outreach approaches for project staff and students.
4. Field site characterization (complete)
5. Public health surveillance (ongoing from Year 1)
6. Sentinel livestock surveillance (complete 2nd quarter)
7. Syndromic livestock surveillance (complete 2nd quarter)
8. Wildlife surveillance (complete 2nd quarter)
9. Vector surveillance (complete 2nd quarter)
10. Genomic characterization (complete 3rd quarter)
11. Data analysis and report preparation (ongoing from Year 1)
    11.1. The team shall perform predictive model development and validation.
    11.2. The team shall prepare final reports.

SECTION F - DELIVERIES OR PERFORMANCE

The following Delivery Schedule item for CLIN 0001 has been changed from:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 07-AUG-2014 TO 06-JUN-2018	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB DR. MARY LANCASTER 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 703-767-6625 FOB: Destination	HDTRA1

To:

DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	DODAAC / CAGE
POP 07-AUG-2014 TO 04-SEP-2018	N/A	DEFENSE THREAT REDUCTION AGENCY/J3CTB DR. MARY LANCASTER 8725 JOHN J. KINGMAN ROAD MSC 6201 FORT BELVOIR VA 22060-6201 703-767-6625 FOB: Destination	HDTRA1

SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS

The Table of Contents has changed from:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Exhibit A Statement of Work	8	10-APR-2018
Exhibit B	Terms and Conditions	39	01-MAY-2012

to:

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Exhibit A	Revised SOW dated 2 May 2018	8	02-MAY-2018
Exhibit B	Terms and Conditions	39	01-MAY-2012

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 5

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00001	13-Apr-2016		

6. ISSUED BY CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4CO
8725 JOHN J. KINGMAN RD.
FT. BELVOIR VA 22060-6201

7. ADMINISTERED BY (If other than item 6) CODE HDTRA1

DEFENSE THREAT REDUCTION AGENCY/J4C
8725 JOHN J. KINGMAN ROAD, MSC 6201
FORT BELVOIR VA 22060-6201

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)

METABIOTA, INC.
FOIA (b)(6)
1 SUTTER ST STE 600
SAN FRANCISCO CA 94104-4923

CODE 56SP4 FACILITY CODE

	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
X	10B. DATED (SEE ITEM 13) 07-Aug-2014

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
IAW T&C Number 10

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)

The purpose of this modification is to provide incremental funding in the amount of $925,557.00 and update the Funding Profile clause 252-232-9000. All other terms and conditions remain unchanged.
PR#HDTRA141230103

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
	(b)(6) CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)

15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		BY (b)(6) (Signature of Contracting Officer)	14-Apr-2016

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000102 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102					$0.00
	Year 2 Funding Info Only				
	FOIA (b)(4)				
	FY14 Ebola Funds				
	FOB: Destination				
				NET AMT	$0.00
	ACRN AB				$925,557.00
	CIN: HDTRA1412301000102				

SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000102:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $925,557.00 from $932,060.00 to $1,857,617.00.

SUBCLIN 000102:
Funding on SUBCLIN 000102 is initiated as follows:

ACRN: AB

CIN: HDTRA1412301000102

Acctng Data: 044315 097 0134 000 N 20142016 D 34HQ 0901515BR-KD-BP 1416-0134-34HQ-EBOCT DTRA 410

Increase: $925,557.00

Total: $925,557.00

The following have been added by full text:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE: The total amount obligated under this Grant is $1,857,617.00 for work performed during the period beginning with Grant award and continuing through year 2. Additional incremental funding planned, but not obligated, is: Year 3 $930,866 The Government's liability is limited to the amount obligated

The following have been modified:

252.601-9000 GRANT POINTS OF CONTACT (MAY 2009)

a. Grant Specialist:
Name: Caroline (Carrie) Allen
Defense Threat Reduction Agency/BE-BCR
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (703) 767-7873
email address: caroline.e.allen6.civ@mail.mil.

b. Grantee Business Office:
Name: FOIA (b)(6)
Title:
Phone:
E-mail

c. Grantee Principal Investigator (PI):
Name: FOIA (b)(6)
Title:
Phone:
E-mail:

252.601-9001 GRANTS OFFICER'S REPRESENTATIVE (GOR) (MAY 2009)

d. Grants Officer's Representative (GOR) for this Grant is:

Name: (b)(6)
Defense Threat Reduction Agency/ J3CTBS
8725 John J. Kingman Road, MS 6201
Fort Belvoir, VA 22060-6201
Telephone: (b)(6)
email addre

b. SCOPE AND LIMITATIONS OF AUTHORITY FOR DTRA GRANTS OFFICER'S REPRESENTATIVE

1. The Grants Officer's Representative (GOR) is responsible for monitoring the technical and programmatic performance of the grant or cooperative agreement (hereinafter referred to as agreement) including compliance with the agreement's reporting requirements. Perceived deviations from the agreement's terms and conditions shall be brought to the attention of appropriate recipient personnel and if not corrected, to the attention of the Grants Officer. Deviations or other occurrences indicative of the recipient's inability or unwillingness to conform to the agreement's requirements shall be brought to the immediate attention of the Grants Officer.

2. The GOR has no authority to modify the stated terms of the agreement or specifications in any manner, or to approve any action that would result in additional charges to the Government. The DTRA Grants Officer must make all such changes in writing.

3. The GOR is authorized to correspond directly with the recipient on matters within the scope and limitations of his or her authority. All such correspondence shall be signed personally by the GOR and a copy will be furnished the Grants Officer for placement in the official agreement file.

4. The GOR will provide technical advice to the recipient to the extent such advice will not alter any of the agreement's terms and conditions or result in an increase in the estimated cost of the agreement's performance as specified in the agreement. The GOR is encouraged to discuss with the recipient new ideas related to the original scope of the agreement that may be of special interest to DTRA. The GOR should also be alert for indications that any part of the research is becoming unfruitful. If, as a result of such discussions, questions arise as to the possible need for a modification, the matter shall be brought to the immediate attention of the Grants Officer. The GOR shall not direct the recipient to undertake any action that the recipient believes to be contrary to the agreement's scope, terms or conditions without the written approval of the Grants Officer.

5. Any visits to the recipient's facilities on matters pertaining to the agreement will be documented in a brief memorandum. A copy will be provided the Grants Officer for placement in the official agreement file.

6. The GOR will maintain such work files as he or she deems necessary to properly document performance of the duties and responsibilities as a GOR. Upon completion of the agreement and delivery of all required reports, such work files will be forwarded to the Grants Officer for placement in the official agreement file.

7. In performance of the GOR's duties, the GOR shall constantly stress protection of the Government's interests. Similarly, the GOR shall avoid any act which may tend to compromise the position of DTRA, any individual member of DTRA or which will impact confidence in the integrity of DTRA with the business community.

(End of Clause)

The following have been deleted:

252.232-7007	Limitation Of Government's Obligation	APR 2014

(End of Summary of Changes)

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
	1 | 4

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)
P00002	29-Mar-2017		

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
DEFENSE THREAT REDUCTION AGENCY/J4C 8725 JOHN J. KINGMAN ROAD, MSC 6201 FORT BELVOIR VA 22060-6201	HDTRA1	OFFICE OF NAVAL RESEARCH-BOSTON 495 SUMMER STREET, ROOM 627 BOSTON MA 02110-2109	N62879

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
METABIOTA, INC. FOIA (b)(6) 425 CALIFORNIA STREET SUITE 200 SAN FRANCISCO CA 94104-2104		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. HDTRA1-14-1-0053
	X	10B. DATED (SEE ITEM 13) 07-Aug-2014
CODE 56SP4	FACILITY CODE	

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
DTRA Terms and Conditions

☐ D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor ☒ is not, ☐ is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: (b)(4)
RQN:23203

The purpose of this modification is to update the grant administration office and to provide year 3 funding in the amount of $930,866.00 to subCLIN 000103, ACRN AC in support of CLIN 0001.

All other terms and conditions remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) (b)(6) / CONTRACTS OFCR-GRANTS OFCR TEL: (b)(6) EMAIL: (b)(6)	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY (b)(6) (Signature of Contracting Officer)	16C. DATE SIGNED 30-Mar-2017

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The standard size code 1,000 has been added.
The NAICS code 541711 has been added.

SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000101
The FOB Destination has been deleted.

SUBCLIN 000102
The FOB Destination has been deleted.

SUBCLIN 000103 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000103					$0.00

Year 3 Funding
FOIA (b)(4)
FY 17 CTR funding in the amount of $930,866.00.

NET AMT	$0.00
ACRN AC	$930,866.00

CIN: J3CTB23203000103

SECTION E - INSPECTION AND ACCEPTANCE

The Acceptance/Inspection Schedule for SUBCLIN 000101 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The Acceptance/Inspection Schedule for SUBCLIN 000102 has been changed from:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY

N/A	N/A	N/A	Government

To:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

The following Acceptance/Inspection Schedule was added for SUBCLIN 000103:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	N/A

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by $930,866.00 from $1,857,617.00 to $2,788,483.00.

SUBCLIN 000103:
Funding on SUBCLIN 000103 is initiated as follows:

ACRN: AC

CIN: J3CTB23203000103

Acctng Data: 044315 097 0134 000 N 20172019 D 34HQ 0901515BR_KD_BP2_OT 1719_0134_34HQ_SCNCT DTRA 410

Increase: $930,866.00

Total: $930,866.00

The following have been added by reference:

252.204-0002

The following have been modified:

252.632-9000 GRANT FUNDING PROFILE (MAR 2012)

FUNDING PROFILE:
The total amount obligated under this Grant is $2,788,483.00 for work performed during the period beginning with Grant award and continuing through year 2. Additional incremental funding planned, but not obligated, is:

$0.00

The Government's liability is limited to the amount obligated

(End of Summary of Changes)

REQUEST FOR ADVANCE OR REIMBURSEMENT

(See instructions on back)

OMB APPROVAL NO. 0348-0004

PAGE 1 OF 2 PAGES

1. TYPE OF PAYMENT REQUESTED — a. "X" one or both boxes: ☐ ADVANCE ☑ REIMBURSEMENT; b. "X" the applicable box: ☐ FINAL ☑ PARTIAL

2. BASIS OF REQUEST: ☐ CASH ☑ ACCRUAL

3. FEDERAL SPONSORING AGENCY AND ORGANIZATION ELEMENT TO WHICH THIS REPORT IS SUBMITTED: **Defense Threat Reduction Agency/ J3CTBS**

4. FEDERAL GRANT OR OTHER IDENTIFYING NUMBER ASSIGNED BY FEDERAL AGENCY: **HDTRA1-14-1-0053**

5. PARTIAL PAYMENT REQUEST NUMBER FOR THIS REQUEST:

6. EMPLOYER IDENTIFICATION NUMBER: FOIA (b)(6)

7. RECIPIENT'S ACCOUNT NUMBER OR IDENTIFYING NUMBER:

8. PERIOD COVERED BY THIS REQUEST — FROM (month, day, year): **04/01/2018** TO (month, day, year): **06/30/2018**

9. RECIPIENT ORGANIZATION

Name : **Metabiota, Inc**

Number and Street : **425 California Street, Ste 1200**

City, State and ZIP Code : **San Francisco, CA 94104**

10. PAYEE *(Where check is to be sent is different than item 9)*

Name :

Number and Street :

City, State and ZIP Code :

11. **COMPUTATION OF AMOUNT OF REIMBURSEMENTS/ADVANCES REQUESTED**

PROGRAMS/FUNCTIONS/ACTIVITIES ▶		(a) OneHealth Rift Valley Fever (TZ2)	(b)	(c)	TOTAL
a. Total program outlays to date *(As of date)*		$ 884,105.83	$	$	$ 884,105.83
b. *Less:* Cumulative program income		0.00			0.00
c. Net program outlays *(Line a minus line b)*		884,105.83	0.00	0.00	884,105.83
d. Estimated net cash outlays for advance period		0.00			0.00
e. Total *(Sum of lines c & d)*		884,105.83	0.00	0.00	884,105.83
f. Non-Federal share of amount on line e		0.00	0.00	0.00	0.00
g. Federal share of amount on line e		884,105.83			884,105.83
h. Federal payments previously requested		826,985.42			826,985.42
i. Federal share now requested *(Line g minus line h)*		57,120.41	0.00	0.00	57,120.41
j. Advances required by month, when requested by Federal grantor agency for use in making prescheduled advances	1st month				
	2nd month				
	3rd month				

12. **ALTERNATE COMPUTATION FOR ADVANCES ONLY**

a. Estimated Federal cash outlays that will be made during period covered by the advance	$
b. *Less:* Estimated balance of Federal cash on hand as of beginning of advance period	
c. Amount requested *(Line a minus line b)*	$ 0.00

AUTHORIZED FOR LOCAL REPRODUCTION

(Continued on Reverse)

13.	CERTIFICATION	
I certify that to the best of my knowledge and belief the data on the reverse are correct and that all outlays were made in accordance with the grant conditions or other agreement and that payment is due and has not been previously requested.	SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL FOIA (b)(6) TYPED OR PRINTED NAME AND TITLE FOIA (b)(6)	DATE REQUEST SUBMITTED **7/13/2018** TELEPHONE (AREA CODE, NUMBER, EXTENSION) FOIA (b)(6)

This space for agency use

Public reporting burden for this collection of information is estimated to average 60 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0004), Washington, DC 20503.

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET, SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

INSTRUCTIONS

Please type or print legibly. Items 1, 3, 5, 9, 10, 11c, 11e, 11f, 11g, 11i, 12 and 13 are self-explanatory; specific instructions for other items are as follows:

Item	*Entry*
2	Indicate whether request is prepared on cash or accrued expenditure basis. All requests for advances shall be prepared on a cash basis.
4	Enter the Federal grant number, or other identifying number assigned by the Federal sponsoring agency. If the advance or reimbursement is for more than one grant or other agreement, insert N/A; then, show the aggregate amounts. On a separate sheet, list each grant or agreement number and the Federal share of outlays made against the grant or agreement.
6	Enter the employer identification number assigned by the U.S. Internal Revenue Service, or the FICE (institution) code if requested by the Federal agency.
7	This space is reserved for an account number or other identifying number that may be assigned by the recipient.
8	Enter the month, day, and year for the beginning and ending of the period covered in this request. If the request is for an advance or for both an advance and reimbursement, show the period that the advance will cover. If the request is for reimbursement, show the period for which the reimbursement is requested.
Note:	The Federal sponsoring agencies have the option of requiring recipients to complete items 11 or 12, but not both. Item 12 should be used when only a minimum amount of information is needed to make an advance and outlay information contained in item 11 can be obtained in a timely manner from other reports.
11	The purpose of the vertical columns (a), (b), and (c), is to provide space for separate cost breakdowns when a project has been planned and budgeted by program, function, or activity.

Item	*Entry*
	If additional columns are needed, use as many additional forms as needed and indicate page number in space provided in upper right; however, the summary totals of all programs, functions, or activities should be shown in the "total" column on the first page.
11a	Enter in "as of date," the month, day, and year of the ending of the accounting period to which this amount applies. Enter program outlays to date (net of refunds, rebates, and discounts), in the appropriate columns. For requests prepared on a cash basis, outlays are the sum of actual cash disbursements for goods and services, the amount of indirect expenses charged, the value of in-kind contributions applied, and the amount of cash advances and payments made to subcontractors and subrecipients. For requests prepared on an accrued expenditure basis, outlays are the sum of the actual cash disbursements, the amount of indirect expenses incurred, and the net increase (or decrease) in the amounts owed by the recipient for goods and other property received and for services performed by employees, contracts, subgrantees and other payees.
11b	Enter the cumulative cash income received to date, if requests are prepared on a cash basis. For requests prepared on an accrued expenditure basis, enter the cumulative income earned to date. Under either basis, enter only the amount applicable to program income that was required to be used for the project or program by the terms of the grant or other
11d	Only when making requests for advance payments, enter the total estimated amount of cash outlays that will be made during the period covered by the advance.
13	Complete the certification before submitting this request.

FEDERAL FINANCIAL REPORT

(Follow form instructions)

1. Federal Agency and Organizational Element to Which Report is Submitted	2. Federal Grant or Other Identifying Number Assigned by Federal Agency (To report multiple grants, use FFR Attachment)	Page 1 of 1 pages
Defense Threat Reduction Agency/J3CTBS	HDTRA1-14-1-0053	

3. Recipient Organization (Name and complete address including Zip code)

Metabiota, Inc., 425 California Street, San Francisco, CA 94104

4a. DUNS Number	4b. EIN	5. Recipient Account Number or Identifying Number (To report multiple grants, use FFR Attachment)	6. Report Type	7. Basis of Accounting
828 131 156	FOIA (b)(6)		☑ Quarterly ☐ Semi-Annual ☐ Annual ☐ Final	☐ Cash ☑ Accrual

8. Project/Grant Period (Month, Day, Year)		9. Reporting Period End Date (Month, Day, Year)
From: 8/7/2014	To: 9/4/2018	6/30/2018

10. **Transactions**	Cumulative
(Use lines a-c for single or multiple grant reporting)	
Federal Cash (To report multiple grants, also use FFR Attachment):	
a. Cash Receipts	$2,670,193.14
b. Cash Disbursements	$2,741,722.83
c. Cash on Hand (line a minus b)	-$71,529.69
(Use lines d-o for single grant reporting)	
Federal Expenditures and Unobligated Balance:	
d. Total Federal funds authorized	$2,788,483.00
e. Federal share of expenditures	$2,741,722.83
f. Federal share of unliquidated obligations	$0.00
g. Total Federal share (sum of lines e and f)	$2,741,722.83
h. Unobligated balance of Federal funds (line d minus g)	$46,760.17
Recipient Share:	
i. Total recipient share required	0
j. Recipient share of expenditures	0
k. Remaining recipient share to be provided (line i minus j)	0
Program Income:	
l. Total Federal program income earned	0
m. Program income expended in accordance with the deduction alternative	0
n. Program income expended in accordance with the addition alternative	0
o. Unexpended program income (line l minus line m or line n)	0

11. Indirect Expense	a. Type	b. Rate	c. Period From	Period To	d. Base	e. Amount Charged	f. Federal Share
	FOIA (b)(4)						
				g. Totals:	FOIA (b)(4)		

12. Remarks: Attach any explanations deemed necessary or information required by Federal sponsoring agency in compliance with governing legislation:

13. Certification: By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and intent set forth in the award documents. I am aware that any false, fictitious, or fraudulent information may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

a. Typed or Printed Name and Title of Authorized Certifying Official	c. Telephone (Area code, number, and extension)
FOIA (b)(6)	FOIA (b)(6)
	d. Email Address: FOIA (b)(6)
b. Signature of Authorized Certifying Official: FOIA (b)(6)	7/13/2018
	14. Agency use only:

Standard Form 425 - Revised 6/28/2010
OMB Approval Number: 0348-0061
Expiration Date: 10/31/2011

Paperwork Burden Statement

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is 0348-0061. Public reporting burden for this collection of information is estimated to average 1.5 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0061), Washington, DC 20503.

From: (b)(6)
To:
Subject: RE: [Non-DoD Source] HDTRA1-14-1-0053 (Metabiota, Inc.) -- NCE Request
Date: Thursday, May 24, 2018 7:41:07 AM

Thank you for the information. I will engage Deb tomorrow on this.

(b)(6) Contractor
Senior Contract Specialist
TENICA and Associates
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Wednesday, May 23, 2018 9:36 PM
To: (b)(6)
(b)(6)
Subject: Fwd: [Non-DoD Source] HDTRA1-14-1-0053 (Metabiota, Inc.) -- NCE Request

Fysa, Metabiota sent this NCE request straight to (b)(6) Let me know if you need additional information.

Cheers,
(b)(6)
Cooperative Biological Engagement Program
Defense Threat Reduction Agency
Ft. Belvoir, VA
Phone: (b)(6)
Mobile:
(b)(6)

Begin forwarded message:

From: FOIA (b)(6)
Date: May 23, 2018 at 3:14:14 PM PDT
To: (b)(6)
Cc: FOIA (b)(6)
FOIA (b)(6)
Subject: [Non-DoD Source] HDTRA1-14-1-0053 (Metabiota, Inc.) -- NCE Request

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Good afternoon (b)(6)

Attached is a No Cost Extension request from Metabiota.

Please let us know if you need anything further.

Best Regards,

FOIA (b)(6)

Metabiota, Inc.

FOIA (b)(6)

CONFIDENTIALITY NOTICE: The information contained in this electronic mail (email) transmission (including attachments), is intended by Metabiota for the use of the named individual or entity to which it is addressed and may contain information that is privileged or otherwise confidential. It is not intended for transmission to, or receipt by, any individual or entity other than the named addressee except as otherwise expressly permitted in this email transmission. If you have received this email in error, please delete it without copying or forwarding it, and notify the sender of the error by email reply.

From: (b)(6)
To: FOIA (b)(6)
Cc: Gano Cohen, Kelsey A CTR DTRA J3-7 (US)
Subject: Re: [Non-DoD Source] Rift Valley and Brucellosis project
Date: Wednesday, May 23, 2018 10:16:17 AM

Hi FOIA (b)(6)
I will do what I can to push an NCE through. Given today is 23 May and the POP ends in early June, the NCE may not be executed prior to the end of the POP.

Please provide ASAP more information regarding what has gone wrong and when, as well as details on the current solution and why it is not adequate. Please include a description of the scope of work remains to be completed (e.g. how many specimens, etc.) and how much additional time is being requested.

The formal written request for NCE should be submitted in the next day or two and should include the detailed information described above. I do not know how the contracting officer will respond to this late request for an extension.

Cheers,

(b)(6)
Cooperative Biological Engagement Program
Defense Threat Reduction Agency
Ft. Belvoir, VA
Phone: (b)(6)
Mobile:
(b)(6)

On May 23, 2018, at 6:36 AM, FOIA (b)(6) wrote:

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

(b)(6)

We just wanted to give you a heads up that we expect to submit a request for No Cost Extension for the HDTRA1-14-1-0053. We were notified last night that UC Davis would like to request a No Cost Extension for the Rift Valley Fever and Brucellosis project only. This is based on the unexpected development of equipment breakdown for laboratory testing at Ifakara Health Institute that has delayed progress, though we have come up with an interim solution by partnering IHI with our Sokoine University of Agriculture labs to keep making slower progress. Please let us know if you have any questions or concerns. Thanks.

FOIA (b)(6)

FOIA (b)(6)

Metabiota, Inc.

FOIA (b)(6)

metabiota.com <http://metabiota.com> < Caution-http://metabiota.com >

CONFIDENTIALITY NOTICE: The informationcontained in this electronic mail (email) transmission (including attachments),is intended by Metabiota for the use of the named individual or entity to whichit is addressed and may contain information that is privileged or otherwiseconfidential. It is not intended for transmission to, or receipt by, anyindividual or entity other than the named addressee except as otherwiseexpressly permitted in this email transmission. If you have received this emailin error, please delete it without copying or forwarding it, and notify thesender of the error by email reply.

From: (b)(6)
To: FOIA (b)(6)
Cc: (b)(6)
Subject: RE: Equipment request for HDTRA1-14-1-0053
Date: Tuesday, April 18, 2017 4:44:30 PM

Hi FOIA (b)(6)
I wanted to let you know that the ELISA plate reader purchase that we discussed earlier has been approved. I will put this note into the project record.

Cheers,

(b)(6)
Cooperative Biological Engagement Program
Defense Threat Reduction Agency
Ft. Belvoir, VA
Phone: (b)(6)
Mobile
(b)(6)

**NOTICE: Nothing in this email is intended to constitute contractual direction or impact currently negotiated cost, price, or schedule contained within the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and contact the contracting officer for direction.

-----Original Message-----
From: (b)(6)
Sent: Tuesday, April 11, 2017 4:09 PM
To: (b)(6)
Cc:
Subject: RE: Equipment request for HDTRA1-14-1-0053

The contracting officer has approved Metabiota's request.

(b)(6)
DTRA Contract Specialist
(b)(6)

-----Original Message-----
From: (b)(6)
Sent: Monday, April 10, 2017 1:32 PM
To: (b)(6)
Cc:
(b)(6)
Subject: Equipment request for HDTRA1-14-1-0053

Hi (b)(6)
I got a request from Metabiota for an equipment purchase associated with contract HDTRA1-14-1-0053 (One Health Approach to Rift Valley fever and Brucella in Tanzania). Could you please get (b)(6) approval for this purchase?

The project team is requesting the purchase of an ELISA plate reader as the existing equipment has become non-functional due to a software incompatibility issue. The purchase will be made with funds from within the project and

will not result in an overall increase in the project budget. I support the purchase request they have made.

What additional information do you need to execute this action?

Thanks,

(b)(6)

Cooperative Biological Engagement Program
Defense Threat Reduction Agency
Ft. Belvoir, VA
Phone: (b)(6)
Mobile
(b)(6)

**NOTICE: Nothing in this email is intended to constitute contractual direction or impact currently negotiated cost, price, or schedule contained within the contract. If the contractor believes there is an impact, the contractor must disregard that portion of the communication and contact the contracting officer for direction.

-----Original Message-----
From: FOIA (b)(6)
Sent: Monday, April 10, 2017 12:54 PM
To: (b)(6)
Cc: FOIA (b)(6)
Subject: [Non-DoD Source] Fwd: DTRA R&B project - equipment request

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

Hi (b)(6)
Attached please find the request for equipment that we discussed last week. Please let us know if you require any additional information.

Apologies for not CC'ing (b)(6) but I am out of the office for the next few days and didn't have her email address in my phone.
Thanks.
Falgunee
Begin forwarded message:

From: David J Wolking <djwolking@ucdavis.edu < Caution-mailto:djwolking@ucdavis.edu > >
Date: April 10, 2017 at 11:48:43 AM EDT
To: FOIA (b)(6)
Cc: (b)(6) FOIA (b)(6)
FOIA (b)(6) > >, (b)(6)
Caution-mailto (b)(6)
Caution-mailto
Caution-mailto
Subject: Re: DTRA R&B project - equipment request

Thanks FOIA (b)(6) for reaching out to DTRA and apologies for the delay getting this back to you. Does the language in this version work?

(b)(6)