DEPARTMENT OF THE INTERIOR
Interior Business Center
Acquisition Services Directorate, Division III
354 South Highway 92
Sierra Vista, AZ 85635

Agent for:
Defense Advanced Research Projects Agency (DARPA)

RESEARCH COOPERATIVE AGREEMENT SCHEDULE

1. **Agreement Number**: D19AC00004

2. **Recipient Name:** Autonomous Therapeutics, Inc.
63 Flushing Ave.
Building 128, Unit 241
Brooklyn, NY 11205-1059

3. **Identification Numbers**:

Tax Identification Number (TIN)**: 814828129**

Data Universal Numbering System (DUNS) Number**: 080507421**

Commercial and Government Entity (CAGE) Code**: 7T4N4**

Federal Interagency Code for Education (FICE)**: N/A**

Catalog of Federal Domestic Assistance (CFDA): **12.910 – Research and Technology Development**

ASAP Recipient Number: **2430774**

Defense Advanced Research Projects Agency (DARPA) MIPR Number(s)**: HR0011836359**
HR0011937750

4. **Principal Investigator/Key Personnel**: (b)(6)
Autonomous Therapeutics, Inc.
63 Flushing Ave.
Building 128, Unit 241
Brooklyn, NY 11205-1059

Telephone: (b)(6)
E-mail address: (b)(6)@autonomoustherapeutics.com

5. **Statement of Work:** The research to be accomplished is identified in the Recipient's Revised Statement of Work (SOW) and is incorporated in full text as part of this agreement. The proposal entitled "Platform Technologies for Enzootic Confinement of Pandemic Threats" dated 03/27/2018, revised technical and budget proposal dated 01/18/2019, submitted in response to Broad Agency Announcement DARPA-BAA- HR001118S0017 is incorporated by reference herein.

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0117

6. Points of Contact (POC):

a. Agreements Officer:

Interior Business Center
Acquisition Services Directorate, Division III
381 Elden Street
Herndon, VA 20170

Attention: Shane Lomelin
Telephone: (703) 964-8869
Email: shane_lomelin@ibc.doi.gov

b. Cooperative Agreement Administrator:

Department of the Interior
Acquisition Services Directorate, Division III
381 Elden Street
Herndon, VA 20170

Attention: Richard A. Carter
Telephone: (703) 964-3600
Email: richard_carter@ibc.doi.gov

c. Agreements Officer's Representative:

J. Aura Gimm
Air Force Office of Scientific Research
875 N. Randolph Street
Arlington, VA 22203

Telephone: (703) 696-9542
Email: jung-hwa.gimm.1@us.af.mil

d. DARPA Program Manager (PM):

Biological Technologies Office (BTO)
675 N. Randolph Street
Arlington, VA 22203-2114

Attention: Bradley R. Ringeisen
Telephone: (703) 526-1576
Email: bradley.ringeisen@darpa.mil

e. DARPA BTO Assistant Director, Program Management (ADPM)

Attention (b)(6)
Email: (b)(6)@darpa.mil

7. Period of Performance Profile:

a.	Period I Base (24 Months):	(02/04/2019 through 02/03/2021)	$5,631,947.00
	- Year 1 Option Tasks:	(02/04/2019 through 02/03/2020)	$218,110.00 (If Implemented)
	- Year 2 Option Tasks:	(02/04/2020 through 02/03/2021)	$515,746.00 (If Implemented)
b.	Optional Phase II (18 Months):	(02/04/2021 through 08/03/2022)	$2,380,406.00 (If Implemented)
c.	Total Award Amount (inclusive of the unimplemented options):		$8,746,209.00

8. **Funding:** The following funds are allotted to this cooperative agreement.

FY2018/2019:	$2,331,832.00 (MIPR# HR0011836359)
FY2019/2020:	$2,324,218.00 (MIPR# HR0011937750)
Total:	$4,656,050.00

9. **Appropriation Data:** Pursuant to this action:

MIPR# HR0011836359 $2,331,832.00
Account Assignment: K G/L
Account: 6100.411C0
Business Area: D000
Commitment Item: 411C00
Cost Center: DS68694000
Functional Area: DNPAQ0000.000000
Fund: XXXD4529NP
Fund Center: DS68694000
Project/WBS: DR.F3BN8.DPBX6359
PR Acct Assign: 01

MIPR# HR0011937750 $2,324,218.00
Account Assignment: K G/L
Account: 6100.411C0
Business Area: D000
Commitment Item: 411C00
Cost Center: DS68694000
Functional Area: DNPAQ0000.000000
Fund: XXXD4529NP
Fund Center: DS68694000
Project/WBS: DR.F3BN9.DPBX7750
PR Acct Assign: 01

10. **Terms and Conditions:** This cooperative agreement is subject to General Terms and Conditions, For Profit Organizations set forth in the attached Exhibit A.

11. **Acceptance of Cooperative Agreement:** Acceptance of this cooperative agreement is pursuant to Article 3 of Exhibit A, Acceptance of Award. The Recipient is not required to countersign the Cooperative Agreement document; however, the Recipient agrees to the conditions specified in the Research Cooperative Agreement Schedule and the Articles herein unless notice of disagreement is furnished to the Agreements Officer within 15 calendar days after the date of the Agreements Officer's signature. In case of disagreement, the Recipient shall not assess the Cooperative Agreement of any costs of the research unless and until such disagreement(s) is/are resolved.

12. **Payments:** Payments will be made in accordance with Article 19 of Exhibit A, Payment.

13. **Reporting Requirements:** Technical and Financial Reporting requirements are pursuant to Article 5, Patent Rights. Pursuant to Article 25, a final DD Form 882 is required to be filed listing all subject inventions or stating that there were none. In accordance with DARPA-BAA-HR001118S0017, the frequency of the reporting requirement below differs from those commonly found in financial assistance agreements due to significant Government involvement throughout the duration of the research cycle.

REPORT TYPE	DUE DATE	SUBMIT TO
Quarterly R&D Status Reports	Within 30 days of the end of each quarter	POCs listed in Item 6
Monthly Financial Management Report	Within 30 days of the end of each month	POCs listed in Item 6
Special Technical Report	Due if required	POCs listed in Item 6
Annual Federal Financial Report (SF 425)	Within 90 days of the end of each year	POCs listed in Item 6
Final Technical Report	Within 90 days of the end of Period I Base	POCs listed in Item 6, & DTIC*
Final Financial Report (SF425)	Within 90 days of the end of Period I Base if Period II is not implemented	POCs listed in Item 6, & DTIC*
Final Invention Report (DD Form 882)	Within 90 days of the end of Period I Base if Period II is not implemented	POCs listed in Item 6

*Defense Technical Information Center
ATTN: DTIC-O
8725 John J. Kingman Road
Ft. Belvoir, VA 22060-6218

Optional Phase II, if implemented - The following reports shall be submitted and will become due on the dates as shown below:

REPORT TYPE	DUE DATE	SUBMIT TO
Quarterly R&D Status Reports	Within 30 days of the end of each quarter	POCs listed in Item 6
Monthly Financial Management Report	Within 30 days of the end of each month	POCs listed in Item 6
Special Technical Reports	Due if required	POCs listed in Item 6
Annual Federal Financial Report (SF 425)	Within 90 days of the end of each year	POCs listed in Item 6
Final Technical Report	Within 90 days of the end of Optional Phase II	POCs listed in Item 6, & DTIC*
Final Financial Report (SF425)	Within 90 days of the end of Optional Phase II	POCs listed in Item 6, & DTIC*
Final Invention Report (DD Form 882)	Within 90 days of the end of Optional Phase II	POCs listed in Item 6

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ATTN: DTIC-O
8725 John J. Kingman Road
Ft. Belvoir, VA 22060-6218

- Mark all data delivered with the following statement: “Approved for public release; distribution is unlimited.”

14. **Substantial Involvement:** Substantial involvement is expected between the U. S. Government and the Recipient when carrying out the activity contemplated in this Agreement. Substantial Government involvement will include:
    a. DARPA review and approval required after completion of one phase of the project to move on to the next phase
    b. DARPA monitoring of the work with the potential of redirecting work because of interrelationships with other projects
    c. DARPA review and collaboration in the development of research and analyses protocols necessary to complete the work

15. **Funding Increments and Options:** The Government's obligation to provide funding for increments and/or options is pursuant to Article 20, Funding Increments and/or Options of Exhibit A.

16. **Special Terms and Conditions**:

a. Assurance by the recipient to adhere to the Defense Advanced Research Agency's (DARPA) policy and communication on Dual Use of Research Concerns (DURC).

i. Definitions:

1. "Dual use research" is research conducted for legitimate purposes that generates knowledge, information, technologies, and/or products that can be utilized for benevolent or harmful purposes.
2. "Dual use research of concern," or "DURC," is life sciences research that, based on current understanding, can be reasonably anticipated to provide knowledge, information, products, or technologies that could be directly misapplied to pose a significant threat with broad potential consequences to public health and safety, agricultural crops and other plants, animals, the environment, materiel, or national security.

ii. DURC Policy: Any data with potential dual use of research concerns emerging from DARPA funded research shall be evaluated by the team, communicated to DARPA, and submitted for evaluation by team's Institutional Review Entity (IRE). If the IRE and DARPA determine that results or information obtained during the course of funded effort could be considered DURC, the IRE and DARPA will jointly determine an acceptable risk mitigation plan including a responsible publication strategy to determine appropriate venues and content that can and should be released to the public.

iii. Reporting Process: The Principal Investigator (PI) shall collect information about team's activities (including experiments, data collection, and data processing) on any emergent issues of relevance to DURC and GOF, and send a brief monthly report to DARPA (including negative responses). Within 15 days of a notification of a potential DURC issue the PI shall submit the findings to team's Institutional Review Entity (IRE). If the IRE determines that the findings in question are not of concern, the reported findings are not subject to additional review or oversight, but future activities must continue to be assessed by the PI in monthly reports. If IRE determines the findings could be considered DURC, the PI shall notify DARPA within 10 days of IRE's assessment along with a copy of the assessment.

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0121

b. This research **DOES NOT** require the use of Human Subjects.

c. This research **DOES** require the use of Animal Subjects. See Article 36 of Exhibit A. **No animal studies may be conducted using funds from this award until Institutional Animal Care and Use Committee (IACUC) and DARPA second level review approvals are received.**

IACUC Protocol #: Pending Approval
Second-level Review #: Pending Approval
Expiration Date: Pending Approval
Renewal due date: Pending Approval

d. This research **DOES NOT** have restricted data rights.

THIS ACTION IS MADE ON BEHALF OF A DoD CUSTOMER UTILIZING DoD FUNDS.

UNITED STATES OF AMERICA
Department of the Interior, Interior Business Center
Acquisition Services Directorate, Division III

SHANE LOMELIN
Digitally signed by SHANE LOMELIN
Date: 2019.02.04 14:59:34 -05'00'

Shane Lomelin
Agreements Officer

Attachment 1: Revised Statement of Work, dated 01/18/2019
Exhibit A: General Terms and Conditions for Profit Organizations
Attachment 1 to Exhibit A: Quarterly Status Report Template
Attachment 2 to Exhibit A: Monthly Financial Detail Spreadsheet Example

STATEMENT OF WORK

** Note that NAMRU-2 will be funded separately by DARPA via IAA/MIPR. The costs in this proposal do not include the costs of NAMRU-2.*

Technical Area I:

PHASE I

Task I.1 (Sampling): Metagenomic sampling of Select Agent viruses in global 'hot-spot' regions.

Subtasks a-c: Sample animal/vector populations for (a) AIV (b) CCHFV (c) (Option) (b)(4) (b)(4)

Approach: Longitudinal collection of biological samples & metadata from relevant animal reservoirs in known hotspot regions (see **Key Milestone I.1**).

Orgs: ATI (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a,c**).

Deliverables & Completion Metrics: **>***2000 samples collected for each virus; >200 positive samples*

Task I.2 (Sequencing): Profile & cultivate rare animal viral QS by deep-sequencing and culture.

Subtasks a-c: Sequence QS samples for (a) AIV (b) CCHFV (c) (Option) (b)(4)

Approach: Illumina-based whole genome sequencing of viral QS isolated in Task I.2.

Orgs: ATI & UChicago (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a**,**c**).

Deliverables: *(i) >50 novel metagenomic sequences for each virus, (ii) raw NGS reads* (b)(4) (b)(4) *(iii) immune data (seroprevalence) for biological samples containing antibodies.*

Task I.3 (b)(4) **animal QS landscape.**

Subtasks a-c: Develop (b)(4) for: (a) AIV (b) CCHFV (c) (Option) (b)(4)

Approach: (b)(4) transition to BSL-4s at UTMB & AAHL

Orgs: ATI (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a**,**c**); UChicago (**a-c**)

Deliverables: (b)(4) (b)(4)

Task I.4 (b)(4) (b)(4) (b)(4)

Subtasks a-c: Develop (b)(4) for (a) AIV (b) CCHFV (c) (Option) (b)(4)

Approach: (b)(4) transition to BSL-4s at UTMB & AAHL

Orgs: ATI/UChicago (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a**,**c**)

Deliverables: (b)(4) (b)(4)

Task I.5 (*in vivo*): (b)(4) (b)(4)

Subtasks a-b: (b)(4) (b)(4) (a) AIV (b) CCHFV.

Approach: (b)(4) (b)(4)

Attachment 1

Orgs: ATI/UChicago (**a-b**); *NAMRU-2 (**a**); UTMB (**b**); AAHL (**a**).
Deliverables: (b)(4) (b)(4) (b)(4)

Task I.6 (Genotype-to-Phenotype *initial*): Prototype SpICE to quantify *relative* risk of: i) spillover and ii) pandemics (*i.e., necessary* conditions for human infection & spread)—based on genotype alone.
Subtask a: Train SpiCE on (b)(4) *in vivo* data from: AIV & CCHFV (see **Key Milestone II.1**).
Approach: Develop ML classifier to *learn* residues required for species jump (see **Key Milestone II.1**).
Orgs: University of Chicago (UChicago) & ATI.
Deliverables & Completion Metrics: *(i) Genotype-to-phenotype mappings for each virus; (ii) algorithm to map relative risk of any QS; (iii) algorithm to map relative risk of any sequence; (iv) relative risk computed as functions of discrete environmental variables beyond time (e.g., space, political instabilities); (v) key genetic sites and mutations that predict spillover & pandemic risk for each virus.*

Task I.7 (Intervention Design Constraints): Cell-to-Animal Scale Models of Therapeutic Safety & Efficacy
Subtasks a-b: Design multi-scale, within-animal models of (a) TIPs and (b) (b)(4) TRVs.
Approach: Combine state-of-the-art multi-scale modeling framework pioneered by ATI founders with SpICE genotype-to-phenotype modeling and computational epitope prediction **(**see **Key Milestone III.1 & III.2).**
Orgs: University of Chicago (UChicago) & ATI.
Deliverables & Completion Metrics: *(i) Cell-to-host scale models of TIP efficacy for each virus; (ii) Cell-tohost scale models of TRV efficacy for each virus; (iii) predictions of TIP optimal design and maximal QS abundance thresholds for TIP host-scale success (iv) predictions of* (b)(4) *optimal design and maximal QS diversity thresholds for TRV host-scale success.*

PHASE II Task I.8 (Genotype-to-Phenotype *optimized*): Link SpiCE & Poisson 'ecological' regression models to develop *absolute* risk models quantifying i) spillover & ii) pandemic risk based on genotype & ecology.
Subtask a: Generate 'Optimal' Regression Models based on population-scale ecological and epidemiological data for: AIV & CCHFV (see **Key Milestone II.2**).
Subtask b: Link SpICE & Optimized Regression Models to generate *absolute* risk model (**Key Milestone II.2**).
Approach: Combine (b)(4) (b)(4) to select optimal regression models, into which SpICE genotypes are inputs. (see **Key Milestone II.2**).
Orgs: University of Chicago (UChicago) & ATI.
Deliverables & Completion Metrics: *(i) Improved genotype-to-phenotype mappings for each virus; (ii) algorithm to map absolute risk of any QS; (iii) algorithm to map absolute risk of any sequence; (iv) key genetic mutations, and key ecological & epidemiological variates that predict spillover, pandemic risk for each virus.*

Task I.9 (Pop. Scale Design Constraints): Population-scale Models of TIP & TRV safety and efficacy across: i) (*single-species)* animal populations, ii) *(multi-species)* animal & human populations.
Subtask a: Design cell-to-population-scale models across animal reservoir species for: (a) TIPs and (b) (b)(4) TRVs.
Subtask b: Design cell-to-population-scale models between animal reservoir species and humans: (a) TIPs and
(b) (b)(4) TRVs.
Approach: Combine multi-scale models and ecological regression approaches developed in Tasks I.7 & I.8— to link viral and therapeutic genotypes to population-scale therapeutic safety and efficacy across animal & human populations. Models will be informed by *in vitro* (b)(4) environmental 'metadata' and *in vivo* experiments, and will guide therapeutic development & deployment **(see Key Milestones II.2 & III.1-3).**
Orgs: University of Chicago (UChicago) & ATI.
Deliverables & Completion Metrics: *(i) Cell-to-population scale models of TIP efficacy for each virus; (ii) Cellto-population scale models of TRV efficacy for each virus; (iii) predictions of TIP optimal design and maximal QS abundance thresholds for TIP population-scale success (iv) predictions of* (b)(4) *optimal design and maximal QS diversity thresholds for TRV population-scale success; (v) quantitative predictions of TIP & TRV probabilities of blocking zoonotic spillover and transmission in humans.*
Technical Area II:
PHASE I
Task II.1 (TIP (b)(4) **Engineering):** (b)(4) **screen** (b)(4) **target viruses**
Subtasks a-c: (b)(4) for (a) AIV (b) (Option) CCHFV (c) (Option) (b)(4)
App: Generate and screen (b)(4) in animal tissues
Orgs: ATI & UChicago (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a**,**c**).
Deliverables: *(i)* (b)(4) *for each target virus (ii) analyzed screen data*
Task II.2 (TIPs): Engineer TIPs using results from (b)(4) **screening**
Subtasks a-c: Develop prototype TIPs from screen for (a) AIV (b) (Option) CCHFV (c) (Option) (b)(4)
Approach: Pure TIP prototypes (b)(4) screens, assay for disease-parasitism (see **Key Milestone IV.1**)
Orgs: ATI, UChicago (**a-c**); *NAMRU-2 (**a**,**c**); UTMB (**b**); AAHL (**a**,**c**).
Deliverables: *(i) >10 clonal prototype TIPs (ii)* (b)(4) *data for each prototype TIP*
Task II.3 (TIPs): Engineer (b)(4) **vaccine**
Subtask a (proof-of-concept): Engineer (b)(4) genome as TRV platform; show production (b) (b)(4)
Subtask b: Develop (b)(4) TRV prototypes for CCHFV
Approach: (b)(4) (b)(4)
Orgs: ATI (**a, b**); UChicago (**a**); UCLA (**a**, **b**); UTMB (**a, b**).

Attachment 1

Deliverables & Completion Metrics: *(i) Prototype* (b)(4) *TRV* (b)(4) (b)(4) *(ii) >5* (b)(4) *prototypes for target virus*

Task II.4 (Validation): 'Field'-test TIPs and (b)(4) **TRVs in** (b)(4) **to quantify escape & resistance**

Subtasks a and c: Reduction of VL in (b)(4) by TIPs for (a) AIV (c) (Option) CCHFV

Subtask b: Reduction of VL (b)(4) by sera from animals immunized w/TRV for CCHFV

Approach: Demonstrate control of target virus in VR by TIPs or by sera from TRV-immunized animals

Organizations: ATI (**a-d**); UChicago (**a-d);** UCLA (**b**, **d**); *NAMRU-2 (**a**,**c**); UTMB (**b**,**d**); AAHL (**a**,**c**).

Deliverables & Completion Metrics: *(i) TIPs: reduction of viral* (b)(4) *(ii)* (b)(4) (b) *TRVs: reduction of viral loads* (b)(4)

Task II.5 (TIPs & TRVs): Test safety and efficacy of TIPs & TRVs in individual animals

Subtask a: TIPs reduces VL >3x in target animals for AIV

Subtask b: (b)(4) TRV reduces VL >3x in target animals for CCHFV

Approach: Demonstrate >3x reduction in VL of target virus in VR by TIPs or by TRV-immunized animals

Orgs: ATI, UChicago (**a-b**); UCLA (**b**); *NAMRU-2 (**a**); UTMB (**b**); AAHL (**a**).

Deliverable: *(i) TIP-based therapies: >3x reduction of VL in animals during co-infection with WT virus (ii)* (b)(4) *based therapies: >3x reduction of VL in immunized animals after challenge with WT virus*

PHASE II

Task II.6 (TIPs): Test safety and efficacy of TIPs & TRVs in populations of single-species animals

Subtask a: TIPs reduce VL >3X (b)(4) for AIV

Subtask b: (b)(4) TRV that reduces VL >3X (b)(4) for CCHFV.

Approach: Demonstrate reduction of VL and transmission in single-species laboratory animal testbeds

Orgs: ATI, UChicago (**a-b**); *NAMRU-2 (**a**); UTMB (**b**); AAHL (**a**).

Deliverable: *(i) TIP-based therapies: >3x reduction of VL in animals during co-infection with WT virus* (b)(4) *(ii)* (b)(4) *based therapies: >3x reduction of VL in immunized animals after challenge with WT virus* (b)(4) (b)(4)

Task II.7 (TIPs): Test safety and efficacy of TIPs & TRVs across populations of multi-species animals

Subtask a: TIPs reduce rate of spillover >5x for AIV

Subtask b: (b)(4) TRV that reduces rate of spillover >5X for CCHFV.

Approach: Demonstrate reduced rate of transmission between multi-species in laboratory testbeds

Orgs: ATI, UChicago (**a**, **b**); *NAMRU-2 (**a**); UTMB (**b**); AAHL (**a**).

Deliverable: *(i) TIP-based therapies: >5x reduction in the rate of transmission (spillover) (ii)* (b)(4) *based therapies: >5x reduction in the rate of transmission (spillover)*

Attachment 1

Acquisition Services Directorate (AQD)
Research and Development (R&D)
On Behalf of DoD
General Terms and Conditions
For Profit Organizations
November 2018

This award is subject to the Office of Management and Budget (OMB) guidance, "Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards," published in the Code of Federal Regulations (CFR) at 2 CFR part 200, and implemented in 2 CFR part 1103, "Interim Awards and Cooperative Agreements Implementation of Guidance in 2 CFR part 200" (79 FR 76047, December 19, 2014). Provisions of Chapter I, Subchapter C of Title 32, CFR, "DoD Grant and Agreement Regulations," other than those listed in paragraph (b) of 2 CFR §1103.100, continue to be in effect and are incorporated herein by reference, with applicability as stated in those provisions.

ARTICLES

Article 1. Recipient Responsibility

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 award terms and conditions.

B. The principal investigator(s) specified in the award will be responsible for the conduct of the research project and will be closely involved with the research effort. The principal investigator, 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.

Article 2. Order of Precedence

In the event of a conflict between the terms of this agreement and other governing documents, the conflict shall be resolved by giving precedence in descending order as follows:

A. Federal statutes
B. Federal regulations
C. 2 CFR part 200, as modified and supplemented by DoD's interim implementation found in 2 CFR part 1103 and DoDGARs
D. Award-specific terms and conditions
E. AQD R&D General Terms and Conditions with For Profit Organizations

Article 3. Acceptance of Award

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

Article 4. Allowable Costs

Allowability of costs is in accordance with DoDGARs §34.17

Article 5. Performance Reports

A. Recipients shall monitor the program and submit performance reports in accordance with this article and DoDGARs 32.51. The format for performance reports is attached.
B. All reports shall be submitted in accordance with the agreement, Item 13 Reporting Requirements.

C. Mark all data delivered with the following statement: "Approved for public release; distribution is unlimited."

Article 6. Amendment of the award

The only method by which this award may be amended is by a formal, written notification signed by the Agreement Officer. No other communications, whether oral or in writing, is valid.

Article 7. Retention and Access Requirements for Records

Financial records, supporting documents, statistical records, and all other records pertinent to an award shall be retained for a period of three years from the date of submission of the final expenditure report. The United States Government shall have access to records in accordance with DoDGARs 34.42.

Article 8. Prior Approvals

The Recipient shall immediately request, in writing, prior approval from the Agreement Officer when there is reason to believe that within the next 7 business days a programmatic or budgetary revision will be necessary for certain reasons, as follows:

A. Change in the scope or objective of the research project, the methodology or experiment when such is stated in the award as a specific objective, or the phenomenon or phenomena under study (even if there is no associated budget revision requiring prior written approval).

B. Need for additional Federal funding.

C. The continuation of the research work during the absence for more than three months, or a 25 percent reduction in time devoted to the project, by the approved principal investigator (PI) or project director (PD).

D. Award of a Subaward to accomplish substantial programmatic work required in the agreement to be performed by the prime Recipient unless the Subaward is identified in the approved budget incorporated as part of the award, exclusive of supplies, material, or general support services.

E. Expenditures for equipment not specifically identified in the budget incorporated as part of the award.

F. Expenditures for foreign travel not specifically identified in the budget incorporated as part of the award.

G. A change in principal investigator or project director (PI/PD).

H. No-Cost Extension (NCE) of the performance period. A request to extend the performance period shall be received from the Recipient at least thirty (30) calendar days prior to the end of the current performance period. The NCE request should be sent to the Program Officer via email. Documents required for an NCE include,

- Justification letter from the recipient's business office or PI. specifying reason(s) for the extension;
- A copy of the most current SF425;
- The proposed new POP end date.

I. Transfer of funds among direct 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 last approved budget.

Article 9. Recognition of Pre-Award Costs

A. Recipients may incur preaward costs for up to ninety (90) days prior to the effective date of the award.

B. Preaward costs as incurred by the Recipient must be necessary for the effective and economical conduct of the project, and the costs must be otherwise allowable in accordance with the appropriate cost principles.

C. Any preaward costs are incurred at the Recipient's risk. The incurring of preaward costs by the Recipients does not impose any obligation on the AQD or our Customers. (1) In the absence of appropriations, (2) if an award is not subsequently made, or (3) if an award is made for a lesser amount than the Recipient expected.

Article 10. Termination and Enforcement

Recipients shall be subject to the termination and enforcement conditions found in DoDGARs §34.51 and §34.52.

Article 11. 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 award agreement.

Article 12. Publications and Acknowledgement of Sponsorship

A. Publication of results of the research project in appropriate professional journals is encouraged as an important method of recording and reporting scientific information. One copy of each paper planned for publication will be submitted to the Program Manager.

B. The Recipient agrees that when releasing information relating to this Award, the release shall include a statement to the effect that the project or effort undertaken was or is sponsored by the DARPA Biological Technologies Office (BTO)
"This material is based upon work supported by DARPA BTO under award Acquisition Services Directorate (AQD) number D19AC00004."

C. Disclaimer: The Recipient is responsible for assuring that every publication of material (including World Wide Web pages) based on or developed under this award, except scientific articles or papers appearing in scientific, technical or professional journals, contains the following disclaimer: "Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of AQD or DARPA."

D. For the purpose of this article, information includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

Article 13. Amendments

A. Amendments to this agreement may be proposed by either party. Recipient recommendations for any amendments to this agreement shall be submitted in writing to the Government program manager with a copy to the Agreement Officer. The Recipient shall detail the technical, chronological, and financial impact of the proposed amendment to the program. Changes are effective only after the agreement has been amended. Only the Agreement Officer has the authority to act on behalf of the Government to amend this agreement.

B. The Agreement Officer, or administrative Agreement Officer, may unilaterally issue minor or administrative agreement amendments (e.g., changes in the paying office or appropriation data, changes to Government personnel identified in the agreement, etc.).

Article 14. Option to Renew

If an option is indicated on the Award/Cooperative Agreement Award, the Government may require the continuation of the research by implementing the option. Option(s) must be implemented before any funds can be accessed to any portion of the Option. Any funds accessed without Government implementation of an Option is, at the Recipient's risk.

Article 15. Property

A. Property Management. The Recipient's property management system shall comply with the standards set forth in DoDGARs 34.23.

B. Title to Property. Recipient may purchase real property or equipment (as defined at DoDGARs 34.2 and 2 CFR 200.81) in whole or in part with Federal funds under this agreement only with the prior approval of the Agreement Officer (except that additional approval is not required for such items included in the proposed/negotiated budget at the time of award). Title to such real property or equipment shall vest in the Recipient upon acquisition subject to the conditions that the Recipient:

1. Use the 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.
2. Not encumber the property without approval of the Agreement Officer.
3. Use and dispose of the property in accordance with DoDGARs 34.21, subparagraphs (d) and (e).

Article 16. Standards for Financial Management Systems

The Recipient shall establish or use existing financial systems that comply with Generally Accepted Accounting Principles (GAAP) and DoDGARs 34.11.

Article 17. Audits

Recipients are subject to 2 CFR Part 200 Subpart F

Article 18. Profit or Fee

In accordance with DoDGARs 22.205(b), no fee or profit may be charged to this award.

Article 19. Payment

A. Requests for payment for this effort shall be submitted through the Department of the Treasury's Automated Standard Application Payments System (ASAP).

C. The following information is necessary to process SF 270 submissions:

DATA ELEMENT	LOCATION
AWARD NUMBER:	See Block 1 of the Award Form
TYPE OF DOCUMENT:	SF 270 Award Voucher
CAGE CODE:	See Block 8 of the Award Form
ISSUED BY AAC:	See Block 6 of the Award Form
GOVERNMENT PROGRAM	See Block 10 of the Award Form
PAY OFFICE DODAAC:	See Block 15 of the Award Form
APPROVAL OFFICE AAC:	140D04
SEND ADDITIONAL EMAIL NOTIFICATIONS	Administrator email on Block 15 of the Award Form

Article 20. Funding Increments and/or Options

The Recipient is advised that the AQD obligation to provide funding for increments and/or options included in the award is contingent on satisfactory performance and the availability of funds. Accordingly, no legal liability on the part of the AQD exists unless or until funds are made available to the AQD and notice of such availability is confirmed in writing to the Recipient and performance of the research is deemed satisfactory in the judgment of the Agreement Officer's Representative/Technical Monitor.

Article 21. Debt Collection

The establishment of debts owed by Recipients of awards and the transfer of debts to payment offices for collection shall be dealt with in accordance with DoDGARs §22.820.

Article 22. Program Income

All program income earned during the project period (except proceeds from license fees and royalties received as a result of copyrights or patents produced under the award) 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).

Article 23. Cost Sharing and Matching

A. Unless specified otherwise in the award, cost sharing, if any, is included in accordance with DoDGARs §34.13.

Article 24. Claims, Disputes, and Appeals

Claims, disputes, and appeals shall be processed in accordance with the procedures in DoDGARs §22.815.

Article 25. Patent Rights

A. The clause entitled "Patent Rights (Small Business Firms and Nonprofit Organizations (37 CFR 401.14)" is hereby incorporated by reference and the clauses in paragraph 401.14 are modified as follows: replace the words "agency," "Federal Agency" and "funding Federal Agency" with "government"; replace the word "contract" with "agreement"; delete paragraphs (g)(2), (g)(3) and the words "to be performed by a small business firm or domestic nonprofit organization" from paragraph (g)(1). Paragraph (L), Communication, point of contact on matters relating to this clause will be the Office of the Solicitor (SOL).

B. 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))

C. The Recipient shall document invention reporting in annual Performance Report(s). The Recipient shall file an Invention (Patent) Report on the DD Form 882, Report of Inventions and Subcontracts, within 90 days of completion or termination of this agreement. The Recipient shall submit the original in PDF to the award Agreements Officer and one copy to the Program Officer.

Article 26. Rights in Technical Data and Computer Software

Rights in technical data and computer software under this award shall be as described in the DODGARs §34.25(b). AQD does not waive any rights set forth in DoDGARs §34.25(b)(2).

Article 27. Foreign Access to Technology

Any transfer of technology developed under this award must be consistent with the U.S. export laws, regulations and policies [e.g., the International Traffic in Arms Regulation (22 CFR parts 120 through 130), the DoD Industrial Security Regulation (DoD 5220.22-R), and the Department of Commerce Export Regulation (15 CFR parts 730 through 774)], as applicable.

Article 28. Using Technical Information Resources

To the extent practical, the Recipient will use the technical information resources of the Defense Technical Information Center (DTIC) and other Government or private facilities to investigate recent and on-going research and avoid needless duplication of scientific and engineering effort.

Article 29. Subawards and Contracts/Subcontracts

The applicable Federal cost principles for subawards and contracts/subcontracts under this Award shall be those applicable to the type of organization receiving the subaward, contract or subcontract. The applicable cost principles are:

2 CFR Part 200 Subpart E: Cost Principles

2 CFR Part 200 Appendix III: Indirect (F&A) Cost Identification and Assignment, and Rate Determination for Institutions for Higher Education

2 CFR Part 200 Appendix IV: Indirect (F&A) Cost Identification and Assignment, and Rate Determination for Nonprofit Organizations

2 CFR Part 200 Appendix V: State and Local Government and Indian Tribe – Wide Central Service Cost Allocation Plans

2 CFR Part 200 Appendix VI: Public Assistance Allocation Plans

2 CFR Part 200 Appendix VII: State and Local Government and Indian Tribe Indirect Cost Proposal

2 CFR Part 200 Appendix VIII: Nonprofit Organizations Exempted from Subpart E: Cost Principles

2 CFR Part 200 Appendix XI: Hospital Cost Principles

Subpart 31.2 of the Federal Acquisition Regulation (48 CFR Subpart 31.2) applicable to commercial firms and those nonprofit organizations in Appendix VIII

Article 30. 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, and real property.

Article 31. Closeout

Except in cases of termination, closeout, adjustment and collection of amounts due shall be accomplished in accordance with DoDGARs 34.61 through 34.63 and DoDGARs 22.825. Final payment cannot be made nor can the agreement be closed out until the Recipient delivers to the Government all disclosures of subject inventions required by this agreement, an acceptable final report pursuant to the article entitled Performance Reports, and all confirmatory instruments. The Agreement Officer may make a settlement for any downward adjustments to the Federal share of costs after closeout reports are received.

Article 32. U. S. Flag Air Carriers

Recipient must comply with the Fly America Act

Article 33. Assurances

A. By signing or accepting funds under the agreement, the Recipient assures that it will comply with the applicable provisions of the following National policies:

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 U.S.C. part 195.
2. 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.
3. 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.

4. On the basis of sex or blindness, in Title IX of the Education Agreements of 1972 (20 U.S.C. §1681, et seq.), as implemented by DoD regulations at 32 CFR part 196.

Article 34. Certifications

By signing and submitting the proposal that resulted in the award of this award, the Recipient is providing the certification at Appendix A to 32 CFR Part 28 regarding lobbying.

Article 35. Environmental Standards

By accepting funds under this Award, the Recipient assures that it will, to the extent required by U.S. law:

A. 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 40 CFR Part 15. In accordance with the EPA rules, the Recipient further agrees that it will:

1. Not use any facility on the EPA's List of Violating Facilities in performing any award that is nonexempt under 40 CFR 15.5 (awards of less than $100,000, and certain other awards, exempt from the EPA regulations), as long as the facility remains on the list.

2. Notify the awarding agency if it intends to use a facility in performing this award that is on the List of Violating Facilities or that the Recipient knows has been recommended to be placed on the List of Violating Facilities.

B. Identify to the awarding agency any impact this award may have on:

1. The quality of the human environment, and provide any 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.

2. Coastal barriers, and provide any help the agency may need to comply with the Coastal Barriers Resource Act (16 U.S.C. 3501, et seq.), concerning preservation of barrier resources.

3. Any existing or proposed component of the National Wild and Scenic Rivers system, and provide any help the agency may need to comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271, et seq.).

Article 36. Live Organisms

By accepting funds under this Award, the Recipient assures that it will comply with applicable provisions of the following national policies concerning live organisms:

1. For human subjects, 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.

2. For animals, rules on 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. 2131-2159, as amended) , and guidelines in the National Institute of Health (NIH) Publication No. 86-23.

Article 37. 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", of July 5, 1994 (59 FR 34496), amended August 5, 1994 (59 FR 40170), amended April 27, 1995 (60 FR 20726), and such later revision of those guidelines as may be published in the Federal Register.

Article 38. Debarment and Suspension

Recipients shall comply with all the requirements of 2 CFR Part 200 Subpart C, 200.212: Suspension and debarment.

Article 39. Data Collection

Data collection activities, if any, performed under this award 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.

Article 40. Combating Trafficking in Persons

These General Terms and Conditions for Award, Awards to For-Profit Organizations, Incorporates by reference FAR Clause 52.222-50, “Combating Trafficking in Persons (Mar 2015).

Article 41. Drug Free Workplace

By accepting funds under this Award, the Recipient agrees to comply with the “Government –Wide Drug-Free Workplace (Financial Assistance)” requirements specified in 2 CFR Part 182, or in 32 CFR Part 26, which implements sec.5151-5160 of Drug-Free Workplace Act of 1988 (41 U.S.C. 701,et seq.).

Article 42. Controlled Unclassified Information

The parties understand that information and materials provided pursuant to or resulting from this Award may be export controlled, sensitive, for official use only, or otherwise protected by law, executive order or regulation. The Recipient is responsible for compliance with all applicable laws and regulations. Nothing in this Award shall be construed to permit any disclosure in violation of those restrictions.

Article 43. Security

The Recipient shall not be awarded access to classified information under this Award. If security restrictions should happen to apply to certain aspects of the proposed research, the Recipient will be so informed. In the event that the scientific work under this Award may either need classification or involve access to or storage of any classified data, the Government shall make a decision on the need to classify, or require such access or storage within 30 days after receipt of a written notice from the Recipient. If the decision is affirmative, the

Government may invoke the Termination clause in 2 CFR Part 200, Subpart D, 200.339 or DoDGARs 34.51, as appropriate.

Article 44. Military Recruiting on Campus

Military Recruiting on Campus applies to domestic U. S. colleges and universities. In such cases, the Military Recruiting regulations are incorporated herein by reference.

Article 45. 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.

Article 46. Reporting Requirements for Subaward and Executive Compensation

The Recipient shall report on first –tier subawards and executive compensation in accordance with the Federal Funding Accountability and Transparency Act (FFATA) of 2006 and associated 2008 amendments. Reporting is required for awards equal to or over $25,000. If the initial award is below $25,000 but subsequent award amendments result in a total award equal to or over $25,000, the award will be subject to the reporting requirements, as of the date the award exceeds $25,000. If the initial award equals or exceeds $25,000 but funding is subsequently De-obligated such that the total award amount falls below $25,000, the award continues to be subject to the reporting requirements of the Transparency Act.

Article 47. Prohibition on Requiring Certain Internal Confidentiality Agreements or Statements

A. The Recipient shall not require employees, Recipients or Sub-Recipients seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting such employees, Recipients or Sub-Recipients from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

B. The Recipient shall notify its employees, Recipients, or sub-Recipients that the prohibitions and restrictions of any internal confidentiality agreements inconsistent with paragraph (a) of this award provision are no longer in effect.

C. The prohibition in paragraph A of this article does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department of agency governing the nondisclosure of classified information.
D. If the Government determines that the Recipient does not comply with this article, it:

(1) Will prohibit the Recipient's use of any FY 2017 or subsequent years funds under this award, in accordance with section 743 of Division E, Title VII of the Consolidated Appropriations Act, 2016, (Pub. L 114-113); and

(2) May pursue other remedies available for the Recipient's material failure to comply with award terms and conditions.

Article 48. System For Award Management and Universal Identifier Requirements

A. Requirement for System for Award Management (SAM): 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 system the

Federal Government specifies as the repository for information about its business partners (currently the SAM) 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 (unless you are subject to the requirements in paragraph d), 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 Sub-Recipients 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.

B. Definitions: For purposes of this award term:

(1) System for Award Management (SAM) 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 SAM Internet site (currently at http://www.SAM.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:

(i) A Governmental organization, which is a State, local government, or Indian Tribe;

(ii) A foreign public entity;

(iii) A domestic or foreign nonprofit organization;

(iv) A domestic or foreign for-profit organization; and

(v) A Federal agency, but only as a Sub-Recipient under an award or Subaward to a non-Federal entity.

(4) Subaward:

(i) 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 Sub-Recipient.

(ii) 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").

(iii) A Subaward may be provided through any legal agreement, including an agreement that you consider a contract.

(5) Sub-Recipient means an entity that:

(i) Receives a Subaward from you under this award; and
(ii) Is accountable to you for the use of the Federal funds provided by the Subaward.

D. If the total value of your currently active awards, cooperative agreements, and procurement contracts from all Federal agencies exceeds $10,000,000 for any period of time during the period of performance of this award, then during that period of time you must maintain in SAM the currency of information required by this article. Note that:

(1) This reporting is required under section 872 of Public Law 110-417, as amended (41 U.S.C. 2313).

(2) As required by section 3010 of Public Law 111-212, all performance and integrity information posted in the designated information system on or after April 15, 2011, except past performance reviews required for Federal procurement contracts, will be publicly available.

(3) Recipient information is submitted to the OMB-designated integrity and performance system through the SAM. The currently designated integrity and performance information system is the Federal Awardee Performance and Integrity Information System (FAPIIS).

Article 49. Incremental Funding

A. The Government's share for full performance of this award for the basic period is $6,365,803.00. Of this amount, only $4,656,050 is currently allotted and available for payment. 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 award. The Government anticipates that from time to time additional amounts will be allotted to this award by unilateral amendment, until the Government share is fully funded.

B. The Recipient shall notify the AQD Agreement Officer in writing whenever expenditures, including anticipated expenditures over the next 60 days, are expected to exceed 75% of the amount allotted (including the Recipient's cost share, if applicable). If additional funds are not allotted, after proper notification, the parties agree this award will be terminated.

C. The Recipient is not obligated to continue performance or otherwise incur costs in excess of the current amount allotted (including the Recipient's cost share, if applicable). When the amount allotted is increased, expenditures incurred to the date of increase shall be allowable to the same extent as if incurred after award, unless the Agreement Officer issues a termination or other notice and directs that the increase in allotment is solely to cover termination or other specified expenses.

Autonomous Therapeutics, Inc.
PREEMPT Program – Cooperative Agreement D19AC00004
Quarterly R&D Status Report

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0140

Period Covered by the Report: [Date] through [Date]

Date of Report:

Project Title Platform Technologies for Enzootic Confinement of Pandemic Threats
Total Dollar Value: $8,746,209.00
Program Manager: Bradley R. Ringeisen, DARPA

Submitted by:
[PI Name]
[Institution]
[Address]

Telephone:
Email:

Subcontractors: [Co-PI name(s) and institution(s)]

Attachment 1 to Exhibit A

TABLE OF CONTENTS

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0142

General notes:

- **Contact the program manager and team to report any financial or technical issues** (i.e., please do not wait until a report is due to bring up major issues).
- Clearly indicate if funding from another federal agency (e.g., NIH) has been used to support any data presented.
- Clearly indicate if any content is pre-publication sensitive or proprietary.
- Delete all instructional text from this document before submitting your report.
- Support your claims with data, images, and other evidence.
- Please update the header of each report with the respective quarterly period.
- Please use the following naming convention for report filenames: QR – PI institution – period covered (e.g., QR – University of XYZ – 01OCT2018 to 31DEC2018).
- Quarterly reports are due within 30 days of the quarter end date. For example, if the period ends on March 31, the report must be submitted by April 30.
- Monthly progress updates via conference calls will be scheduled with the program manager and his team.

Definitions:

- **Functional block diagram:** describes the functions and interrelationships of a system in a flock-block diagram style so that one can easily and thoroughly understand the system and the relationship of each of the parts to the whole. If the hardware evolves throughout your project, please provide a block diagram for each evolution (example included).
- **Work Breakdown Structure (WBS):** a hierarchical and incremental decomposition of the project into phases, deliverables and work packages. It is a tree structure that shows the subdivision of effort required to achieve an objective (example included).
- **Deliverable:** a measurable and verifiable outcome or object that a project team must create and deliver according to the terms of an agreement. An intangible deliverable is a particular outcome that the team achieves. A tangible deliverable is a concrete or material object created by the team.
- **Milestone:** a milestone describes the status of the project as represented by an event or moment at which one or more project activities are complete. Milestones can represent the completion of key project tasks, conclusions reached, or questions answered that affect project schedule significantly.
- **Major finding:** data with significant impact (positive or negative).
- **Metrics update:** progress (including delays and issues) toward achieving pre-established metrics of success.
- **SETA:** Science, Engineering, and Technical Assistant (internal DARPA term for technical support staff).

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0143

1 Progress Summary

1.1 Major Findings

Briefly describe the most significant and salient accomplishment(s) achieved during the ***most recent quarter***. How has this compared to the original project plan?

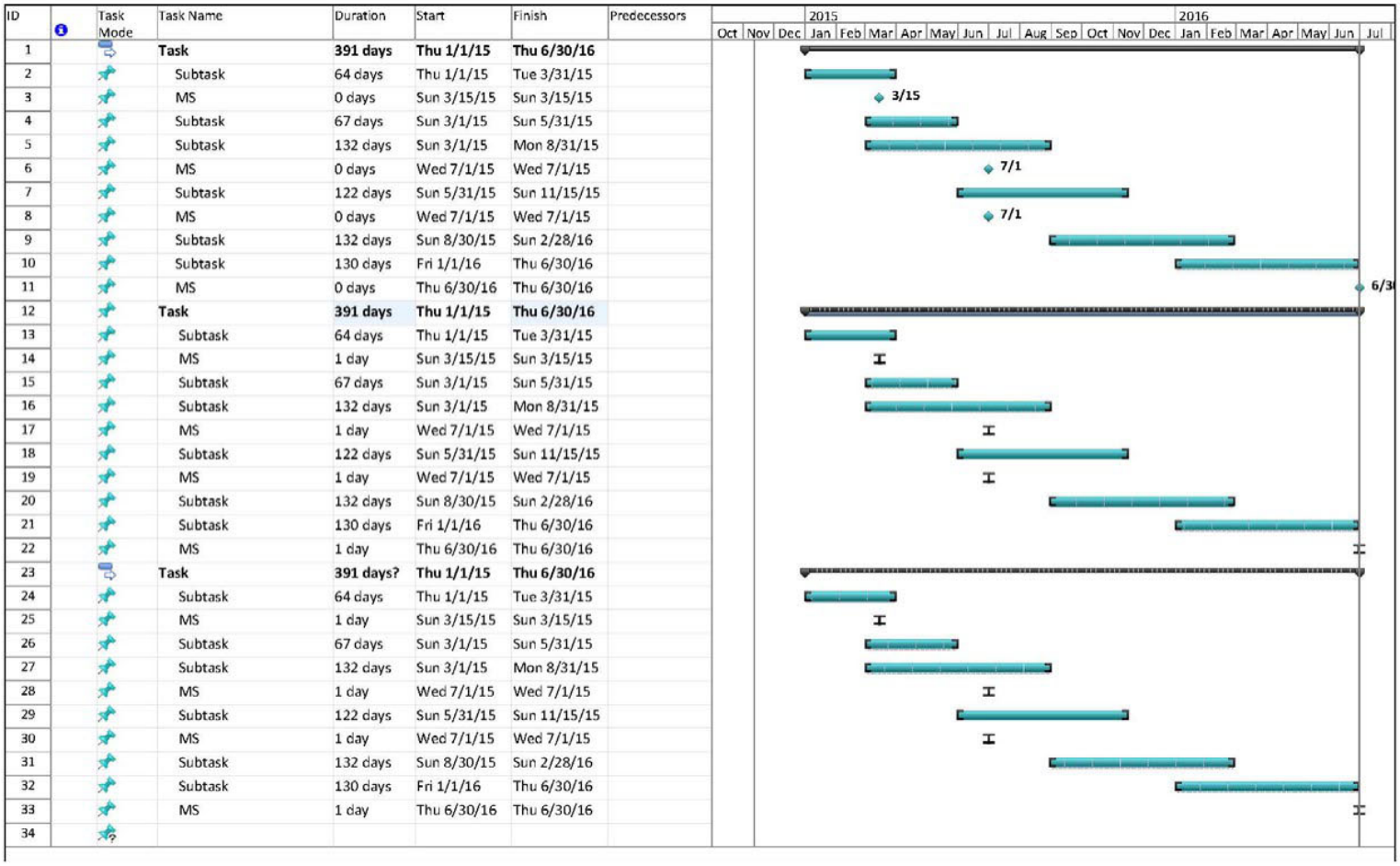
1.2 Metrics Update

Accomplishment *Include associated task #*	**Month** *Planned vs. achieved*	**Update** *Provide current status, explain any schedule discrepancies, list next steps*

2 Schedule – Milestones and Deliverables

Provide a high-level Gantt chart for Phase I that includes all milestones and deliverables for each task. An example of an acceptable chart is shown below.

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors
1		**Task**	**391 days**	**Thu 1/1/15**	**Thu 6/30/16**	
2		Subtask	64 days	Thu 1/1/15	Tue 3/31/15	
3		MS	0 days	Sun 3/15/15	Sun 3/15/15	
4		Subtask	67 days	Sun 3/1/15	Sun 5/31/15	
5		Subtask	132 days	Sun 3/1/15	Mon 8/31/15	
6		MS	0 days	Wed 7/1/15	Wed 7/1/15	
7		Subtask	122 days	Sun 5/31/15	Sun 11/15/15	
8		MS	0 days	Wed 7/1/15	Wed 7/1/15	
9		Subtask	132 days	Sun 8/30/15	Sun 2/28/16	
10		Subtask	130 days	Fri 1/1/16	Thu 6/30/16	
11		MS	0 days	Thu 6/30/16	Thu 6/30/16	
12		**Task**	**391 days**	**Thu 1/1/15**	**Thu 6/30/16**	
13		Subtask	64 days	Thu 1/1/15	Tue 3/31/15	
14		MS	1 day	Sun 3/15/15	Sun 3/15/15	
15		Subtask	67 days	Sun 3/1/15	Sun 5/31/15	
16		Subtask	132 days	Sun 3/1/15	Mon 8/31/15	
17		MS	1 day	Wed 7/1/15	Wed 7/1/15	
18		Subtask	122 days	Sun 5/31/15	Sun 11/15/15	
19		MS	1 day	Wed 7/1/15	Wed 7/1/15	
20		Subtask	132 days	Sun 8/30/15	Sun 2/28/16	
21		Subtask	130 days	Fri 1/1/16	Thu 6/30/16	
22		MS	1 day	Thu 6/30/16	Thu 6/30/16	
23		**Task**	**391 days?**	**Thu 1/1/15**	**Thu 6/30/16**	
24		Subtask	64 days	Thu 1/1/15	Tue 3/31/15	
25		MS	1 day	Sun 3/15/15	Sun 3/15/15	
26		Subtask	67 days	Sun 3/1/15	Sun 5/31/15	
27		Subtask	132 days	Sun 3/1/15	Mon 8/31/15	
28		MS	1 day	Wed 7/1/15	Wed 7/1/15	
29		Subtask	122 days	Sun 5/31/15	Sun 11/15/15	
30		MS	1 day	Wed 7/1/15	Wed 7/1/15	
31		Subtask	132 days	Sun 8/30/15	Sun 2/28/16	
32		Subtask	130 days	Fri 1/1/16	Thu 6/30/16	
33		MS	1 day	Thu 6/30/16	Thu 6/30/16	
34						



USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0144

Include a corresponding table that provides:

- Short text-identifier for each milestone/deliverable
- Team members associated with each
- Schedule status (provide explanation if behind schedule or significantly ahead of schedule)
- Description of how the milestone/deliverable is contingent or dependent on other parts of the effort (if applicable)

Milestone/ Deliverable	**Team member(s)**	**Due date**	**Date initiated**	**Date completed**	**Status**	**Dependencies** *Across tasks & team members*

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0145

3 Task Progress, Accomplishments, and Plans

*Please provide updates from the **most recent quarter**, not a cumulative discussion of the project to date. Support all claims with data. Highlight major accomplishments. Provide explanations and/or justifications for any deviation from the negotiated schedule and spending plan.*

Identify the following for each major task in your SOW; this section will form the bulk of your report:

- Task number (from SOW)
- High-level task description
- Completion status (e.g., ongoing, delayed, etc.)
- Funding associated with the task (spent to date vs. remaining to spend); explain any deviations from your original spend plan

Task #/Title	Brief Description	% Complete	Total $ for task	Spent	Remaining	Explain deviations from planned expenditures

- **Describe planned vs. actual progress towards the goals, milestones, and deliverables of the task; discuss why planned expectations were met, not met, or exceeded; highlight significant accomplishments**
- List next steps
- Support claims with data, images, or other evidence
- Identify and describe all significant challenges and risks encountered during work towards the goals of this task, including:
  - Critical dependencies across tasks and teams
  - Mitigation plan
  - Level of risk (high, medium, or low)
  - Changes in risk status since proposal or last report
  - Anticipated date risk will be resolved

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0146

4 Project Coordination, Dissemination, and Translation

4.1 Project Coordination

- Summarize key project planning and coordination over the quarter, including:
  - Meeting date(s), location, purpose
  - Attendees
  - Meeting outcomes, action items

4.2 Dissemination and Translation (if applicable)

- List any new partnerships, collaborators, users, etc.
- Describe potential commercialization pathways/partners

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5 Publications and Presentations

Please provide a cumulative update on current and upcoming publications.

Title, Authors	Description/Type	Status
	Presentation to Conference Name	Published
	Paper, Name of Journal	Submitted
	Letter to the Editor, Scientific Organization	In preparation

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6 Patents, Invention Disclosures, IDEs, etc…

Please provide a cumulative update of current or upcoming patents, inventions, Investigational Device Exemption (IDE), etc. Examples are listed in the table below.

Title, Authors	Description/Type	Status
	Patent; Name of Patent	Accepted
	FDA IDE	Filed/submitted
	Invention Disclosure	In preparation

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Appendix I – Project Context

For future reports, only update this section if any information changes. Please indicate changes using red font.

Teaming and Personnel

Organizational Chart

Insert an organizational chart for your entire team

Contact Information

Please populate the following table with contact information for each team member. Please provide general area of expertise each will provide (e.g., microfluidics). In the last column, list tasks or otherwise briefly describe each individual's involvement in the effort.

Prime Team Members and Contact Information: [Institution]

Role	Full name	Phone and email	Areas of Involvement
PI		(888) 888-8888 XXX@univ.edu	
Co-PI (expertise)		(888) 888-8888 XXX@univ.edu	
Postdoc (expertise)		(888) 888-8888 XXX@univ.edu	

Subcontract Team Members and Contact Information: [Institution]

Role	Full name	Phone and email	Areas of Involvement
PI (expertise)		(888) 888-8888 XXX@univ.edu	
Co-PI (expertise)		(888) 888-8888 XXX@univ.edu	
Postdoc (expertise)		(888) 888-8888 XXX@univ.edu	

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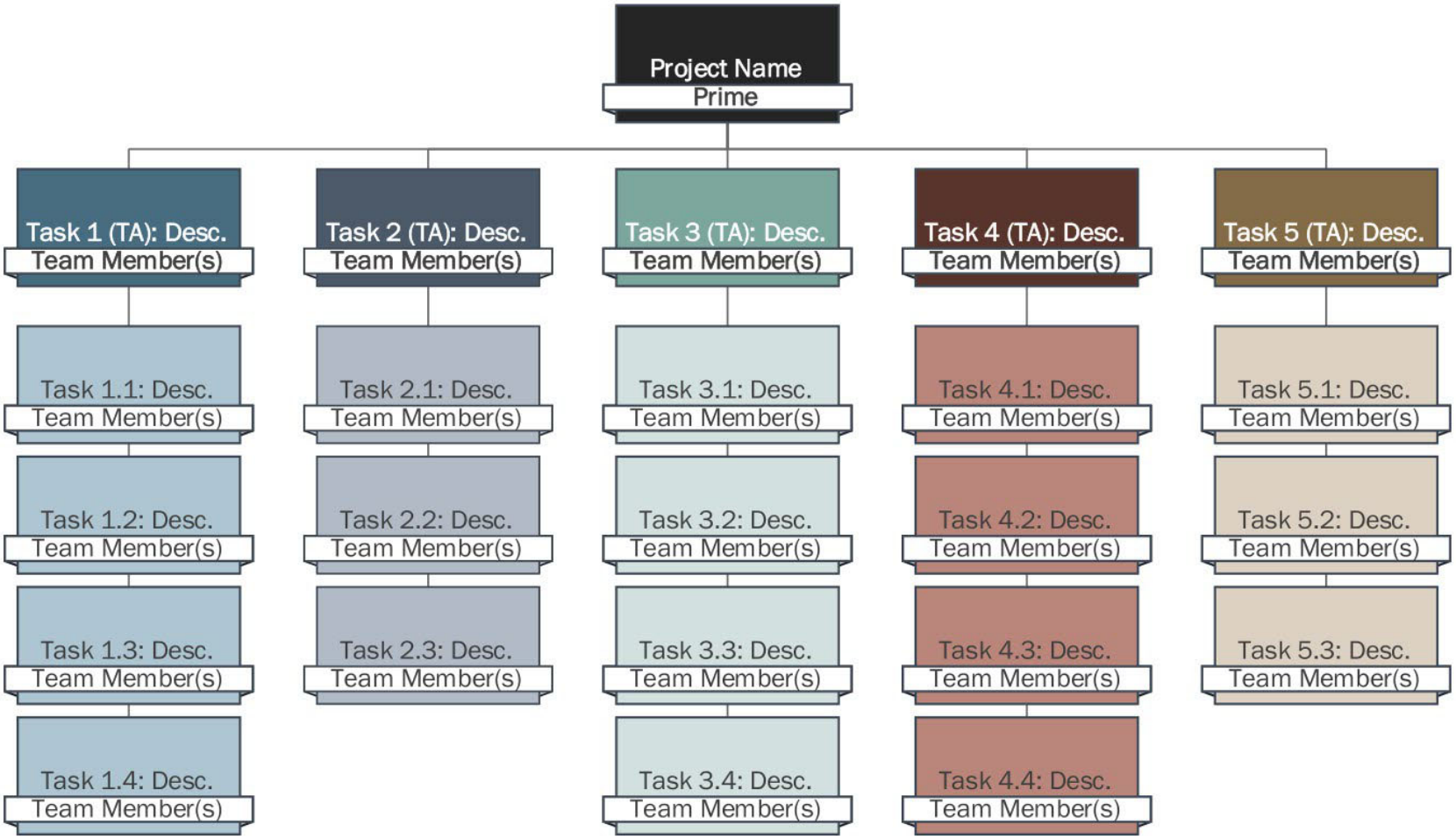
Work Breakdown Structure

Provide breakdown of tasking and assigned team members as per the template shown below



Attachment 1 to Exhibit A

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0151

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0152

Monthly Financial Report Template

LINK TO TEMPLATE (click here)

Please use this template to provide monthly financial updates to the PREEMPT team. As you input your data, the graph will automatically update. ***Please keep past reports in this file and create a new tab each month. We want to see all reports in the same file. Title tabs "Phase-Month-Year, " e.g., "Base - January - 2015"***

LINK TO EXAMPLE (click here)

An example of a completed template is also provided. The example graph illustrates a scenario where the performer is under spending. It is designed to show how this template will make it easy for INTERCEPT performers to clearly communicate the status of their effort to DARPA so that both can plan for and initiate contractual actions quickly and effectively.

Spend Plan Data	
Period of Performance	The financial report will only cover the current phase (e.g., Base, Option 1, etc.). Use a format similar to "Sep-2013," not "Month 6." In order to plan for continuing resolution requests, DARPA may reach out to you separately to request your projected spend rate for future phases.
Phase Total	Total for current phase *(Example Graph - total is $1,000,000)* .
Funds Received	Funds awarded to date; most efforts are funded incrementally *(Example Graph - this effort received an increment for $500,000 in Oct-2012 to exercise the base, and received the remainder of their base period funding in Mar-2013 (remaining $500,000))* .
Spend Plan	Projected Expenditures must cover the entire phase.
Actual Expenditures (est.)	Actual Expenditures should not be solely based off of invoices you have submitted or received to date. Instead, it should be an accurate (to the extent that is possible) account of the expenses you have actually incurred to date. For example, if a subcontractor has incurred but hasn't invoiced $100,000 worth of work, include the $100,000 in your actual expenditures. Or a large amount of equipment valued at $50,000 that hasn't yet been invoiced should also be factored in to the actual expenditures.
Invoiced to Date	Report the invoices you have submitted to date *(Example Graph - the scenario used in the example graph submits invoices quarterly)* .
Issues/Updates Summary (if applicable)	
Use this section as an opportunity to bring issues, concerns, or updates to the attention of DARPA. For example, you can summarize reasons for over/under-spending, potential no-cost extension requests, invoicing problems, etc.	

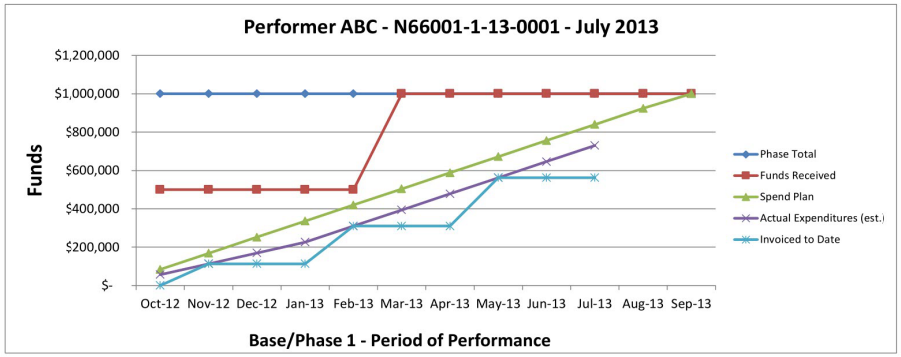
***Amounts for Spend Plan, Actual expenditures, Invoiced to Date are cumulative.

Attachment 2

Spend Plan Data												
Period of Performance (Current Phase Only)												
Phase Total												
Funds Received												
Spend Plan												
Actual Expenditures (est.)												
Invoiced tc Date												

Issues/Updates Summary (if applicable)

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0153



Spend Plan Data

Period of Performance (Current Phase Only)	Oct-12	Nov-12	Dec-12	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13
Phase Total	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Funds Received	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 500,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000	$ 1,000,000
Spend Plan	$ 84,000	$ 168,000	$ 252,000	$ 336,000	$ 420,000	$ 504,000	$ 588,000	$ 672,000	$ 756,000	$ 840,000	$ 924,000	$ 1,000,000
Actual Expenditures (est.)	$ 56,500	$ 113,000	$ 169,550	$ 226,100	$ 310,100	$ 394,100	$ 478,100	$ 562,100	$ 646,100	$ 730,100		
Invoiced to Date	$ -	$ 113,000	$ 113,000	$ 113,000	$ 310,100	$ 310,100	$ 310,100	$ 562,100	$ 562,100	$ 562,100		

Issues/Updates Summary (if applicable)

We anticipate that we will need to request a four-month no cost extension (NCE). The NCE is necessary due to delays we experienced while getting Subcontractor #1 under contract. Although our effort's period of performance began in October 2012, the subcontract was finalized and fully-executed in February 2013, which resulted in a four-month delay from the intended start date. Subcontractor #1 is conducting a 12-month study, and cannot speed up their experiments. We would, however, like to begin work on Option 1. We intend to perform these tasks in parallel to the extended Base Period tasks (which are primarily performed by Subcontractor #1).

USRTK v DARPA / 22cv7377(DoD 21-L-0645) / 0154