AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE	OF	PAGES
	1		11

2. AMENDMENT/MODIFICATION NUMBER	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQUISITION NUMBER	5. PROJECT NUMBER *(If applicable)*
Amendment One (1)	See Block 16C	N/A	

6. ISSUED BY CODE 210.I

NASA/Goddard Space Flight Center/Wallops Flight Facility
Wallops Island, VA 23337

7. ADMINISTERED BY *(If other than Item 6)* CODE

8. NAME AND ADDRESS OF CONTRACTOR *(Number, street, county, State and ZIP Code)*

To All Offerors

CODE FACILITY CODE

(X)

☒ 9A. AMENDMENT OF SOLICITATION NUMBER: NNG17611358R

9B. DATED *(SEE ITEM 11)*: 09/28/2017

☐ 10A. MODIFICATION OF CONTRACT/ORDER NUMBER

10B. DATED *(SEE ITEM 13)*

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 Offers ☒ is extended. ☐ is not extended.

Offers 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 3 copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or electronic communication 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 letter or electronic communication, provided each letter or electronic communication 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)*

N/A

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NUMBER AS DESCRIBED IN ITEM 14.

CHECK ONE	
☐	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: *(Specify authority)* THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NUMBER IN ITEM 10A.
☐	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES *(such as changes in paying office, appropriation data, 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.)*

This amendment revises 1. Provision L.14, Mission Suitability Volume Instructions (Competitive); 2. Provision L.15, Cost Volume Instructions; 3. Provision M.2, Mission Suitability Factor; 4. Enclosure 3, Representative Task Order (RTO) 1; and 5. Enclosure 5, RTO 3. Also, this amendment revises Standard Form 33, Block 9, proposal due date to 4pm local time on November 13, 2017.

Accordingly,

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)*	
		Bruce Tsai	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
(Signature of person authorized to sign)		Bruce Tsai *(Signature of Contracting Officer)*	10/17/2017

Previous edition unusable

STANDARD FORM 30 (REV. 11/2016)
Prescribed by GSA FAR (48 CFR) 53.243

1. Provision L.14 GSFC 52.215-210 MISSION SUITABILITY VOLUME INSTRUCTIONS (COMPETITIVE) (AUG 2016), is revised as follows:

   In Section (c), Subfactor A – Technical Approach, delete Paragraph A.6 in its entirety and replace with "Reserved"

2. Provision L.15 GSFC 52.215-222 COST VOLUME INSTRUCTIONS. (SEPT 2016), is revised as follows:

   In Section (b), subsection (9) replace the sentence, "The BOEs are to be submitted for each individual Representative Task Order at the lowest WBS Level only (WBS Level **3)**" with the following sentence, "The BOEs are to be submitted for each individual Representative Task Order at the lowest WBS Level only (not lower than WBS Level **3)**."

3. Provision M.2 GSFC 52.215-310 MISSION SUITABILITY FACTOR. (SEPT 2016**)**, is revised as follows:

   In Section (a), Subfactor A – Technical Approach, delete Paragraph A.6 in its entirety and replace with "Reserved"

4. Enclosure 3, RTO #1, Dual Mission: Sounding Rocket Campaign and Expendable Launch Vehicle (ELV), is replaced in its entirety with the following (changes marked in red font):

Enclosure 3

Representative Task Order 1
Dual Mission: Sounding Rocket Campaign and Expendable Launch Vehicle (ELV)

Background

NASA, specifically the Wallops Range (the Range) located at the Wallops Flight Facility (WFF), requires range maintenance, sustainment, and operations services in support of a dynamic and constantly changing number of projects and missions occurring at the Wallops Flight Facility and other sites worldwide. Operations and technical activities managed and/or supported by the Range can vary from large flight projects utilizing all elements of launch operations (from integration and testing to launch operations) to small, cutting-edge test or operational activities. These Representative Task Orders (RTOs) are an attempt to capture a broad spectrum of the work expected on the Range Operations Contract (ROC) II.

RTO 1

In recent years, WFF has demonstrated a unique ability to support diverse missions that are geographically separated but nearly concurrent. An example of this type of mission set is a sounding rocket campaign at Poker Flat Research Range (PFRR) in Fairbanks, Alaska, consisting of multiple rockets launched almost simultaneously, and an Antares mission launched at WFF.

The NASA Range and Mission Management Office (RMMO) has been tasked with range services and support in multiple areas for both missions. For the sounding rocket campaign, hardware is designed, fabricated, and tested at WFF then shipped to PFRR for final integration, assembly, and launch. For the Antares mission, the payload and launch vehicle are assembled, integrated, tested, and fueled at WFF facilities by the vehicle owner but with some ground and facilities operations support by RMMO, and then launched from the WFF Range with downrange support sites at Bermuda or other locations depending on the trajectory.

For the campaign mission, RMMO has been tasked as the range instrumentation, operations, and service provider. The campaign will be conducted at PFRR in Alaska and consists of four individual rockets containing payloads to study the aurora. Each rocket will launch sequentially, separated by 30 seconds.

The WFF Range is required to provide the full spectrum of range support, including pre-launch maintenance and sustainment, launch operations, and post-launch data processing and deliverables in the following areas:

- Radar services and operations (including tracking and surveillance)
- Telemetry services and operations

- Communications, timing, and command services and operations
- Surveillance services and operations
- Data handling services and operations (processing and displays)
- Optical services and operations (photo and video)

For the Antares mission, RMMO has been tasked as the range instrumentation, operations, and service provider. RMMO will support processing and integration facilities utilized by the Antares mission, as well as ordnance storage, fueling facilities, and various operational control centers. The Antares mission will be conducted at WFF. The mission consists of an Antares rocket carrying a Cygnus spacecraft loaded with cargo to resupply the International Space Station (ISS). RMMO will have to utilize both on-range and off-range assets to meet the operational support requirements. On-range at WFF, the full spectrum of range support will be required, including pre-launch maintenance and sustainment, launch operations, and post-launch data processing and deliverables in the following areas:

- Radar services and operations (including tracking and surveillance)
- Telemetry services and operations
- Command uplink services and operations
- Communications and timing services and operations
- Meteorological services and operations
- Surveillance services and operations
- Data handling services and operations (processing and displays)
- Optical services and operations (photo and video)
- Ground Operations including commodity services

RMMO will also setup an off-range site in Bermuda. In Bermuda, range support will be required, including pre-launch maintenance and sustainment, launch operations, and post-launch data processing and deliverables in the following areas:

- Radar services and operations
- Telemetry services and operations
- Command uplink services and operations

For purposes of this RTO, assume that this tasking is received in March of Year 2021, that the Antares launch is scheduled for October (the actual day is still shown as “TBD”) of Year 2021 and that the Antares launch window is linked tightly to the ISS operational schedule but is a ten day window with a specific 5 minute window on each day of the window. The Contractor is aware that launch dates for ISS Resupply missions have historically varied from initial schedule. The sounding rocket campaign mission window opens on January 10 of the following year (Year 2022) and, driven by a desire for heliophysics phenomena such as aurora effects, will have a launch window every night until all missions in the series are launched/completed. Optimum science conditions vary annually but are usually expected to begin around the January 10 date and, on average, start to diminish at the end of February, though some years have seen launch windows extend into mid-March.

The Contractor shall support the tasks above consistent with the requirements in the Statement of Work.

Period of Performance

The period of performance shall begin March 1, 2021 through March 15, 2022.

Task Requirements

The Contractor shall provide a detailed maintenance, sustainment, and operations schedule that demonstrates the ability to prepare for and meet both the Campaign mission and Antares mission requirements.

The Contractor shall provide a detailed maintenance, sustainment, staffing, and operations plan that describes how they will ensure that all range support is configured, tested, and ready for both the Campaign mission and Antares mission.
The Contractor shall provide a risk assessment plan that identifies contractor-perceived risks related to the plans developed to support these two missions and the approaches that will be used to mitigate these risks. Risk and mitigation assessments should include technical, schedule, personnel/staffing, logistical, and other factors that the Contractor sees as relevant given the scenario provided.

The Contractor shall provide the following deliverables for each mission, Campaign and Antares, in accordance with the Task Description:

- Mission Requirements Review products
- Mission Operations Plan
- Mission Test and Verification/Validation Reports
- Mission Readiness Review products
- Weekly Status Reports (includes accomplishments, risks/issues, and costs)

Task Parameters

The following Range instrumentation will be provided by NASA (both mobile and fixed):

- Telemetry systems
- Timing systems
- RF monitoring and communications systems
- Voice and data communication systems
- Command systems
- Radar systems (precision tracking, surveillance, meteorological)
- Data processing and display systems
- Meteorological systems
- Optical systems (photo and video)
- Power systems

For additional details on Range instrumentation, see the Wallops Range Users Handbook located here: https://sites.wff.nasa.gov/code840/

NASA will provide all institutional facilities for this effort at no cost to the contractor.

RMMO will provide a Project Manager for the Campaign mission and a Project Manager for the Antares mission.

NASA Provided Documents (provided at task initiation)

- Operational Requirements Document
- Ground Safety Requirements Document
- Flight Safety Requirements Document

Assumptions

The Government will not provide an assumption for Travel, Material, and/or Other Direct Costs. The Offeror will determine whether Travel, Material, and/or Other Direct Costs are necessary to perform the task order and propose these costs accordingly.

5. Enclosure 5, RTO #3, Wallops Range Operations, is replaced in its entirety with the following (changes marked in red font):

Enclosure 5

Representative Task Order 3
Wallops Range Operations

Background

The Wallops Research Range routinely supports simultaneous projects. In some cases, these simultaneous projects can strain the existing resources required to meet customer requirements. History has shown that simultaneous demanding projects may require support from the Wallops Research Range in the same time period. This creates the need for creative and innovative staffing approaches, and increases the need for higher quality program and range projects management due to the added risk associated with limited resources.

RTO 3

Under this RTO, the contractor shall provide range systems operations; systems maintenance, personnel training, process improvements and process control services during operations periods; command, control, communications, wide area network communications services, information and computer systems operations; testing, modifying, and installing communications and electronic systems, launch control centers and test facilities required to meet the mission set and deliverables defined in this RTO. The contractor shall also provide qualified personnel, equipment, tools, materials, vehicles, supervision, and other services to meet the mission set and associated requirements detailed or referenced in this RTO and required to meet the performance metrics defined in the Statement of Work (SOW).

~~The Period of Performance of this Task is one year with this single year's support requirements defined in this RTO. It shall be assumed that the mission set below is repeated in each contract year for cost estimation purposes.~~ Below is the Mission Set for the flight projects and systems to be supported and flight/launch/test dates. Note that some missions have multiple dates indicating they occur multiple times within the two-year period.

Period of Performance

The period of performance shall be two years with the Contractor proposing the exact start date and end date.

Mission Set

Mission: Unmanned Aircraft System (UAS) Missions
July 15, 2019
October 15, 2019
March 15, 2020
May 15, 2020

June 15, 2020

The BAT 4 UAS platform will conduct First Flight testing and Operational Test/ Evaluation Flights originating from Wallops Island (WAL) Airport. The platform will then proceed to R6604 to conduct general and Beyond Visual Range (BVR) operations and testing. Upon completion of testing, the BAT-4 will return to WAL and land.

UAS Flight Operations requirements are as follows:

REQUIREMENT	NEED
MOVE communications system	Required
Hand-held LMR radios	Required
CNE/Guest Wi-Fi access (N-159 and Mobile Operation Station)	Required
Meteorological Balloon	Required at 60 minutes prior to take-off for each flight.
Weather brief	Required. Weather brief provided at end of day debrief (normal business hours) for next day mission.
Hanger space for UAS	Required
Ramp operations area for Mobile Operation Station	Required
Access to Runway 04/22	Required
Control Tower Operator	Required
Automated Surface Observation System (ASOS)	Desired
WFF Crash, Fire, Rescue	Required
SureTrak/STING	Required
ASR 8	Required
Still Photography	Only one day's worth of photos required. Date picked by ROC Optics department for most feasible/supportive light and weather conditions
Video	Required
Projector and screen	Required
Printer access	Required
R-6604 Airspace	Required

Table 1. UAS Flight Operations Requirements

Mission: Patuxent River Naval Air Station Aircraft Operations Support (daily operations)

Patuxent River NAS (Pax River) Atlantic Test Range (ATR) uses airspace and surface target areas for test and evaluation of aircraft and for warfighter training missions. In addition to radar and optical tracking systems, fixed and mobile assets provide the necessary capabilities for diverse testing and training scenarios. ATR has real-time connectivity to NASA Wallops Flight Facility.

For daily Pax River operations support, the following are required:

- 1 telemetry antenna (at minimum) to track aircraft flying offshore of Wallops Island
- Optical tracking systems
- NASCOM support
- Arresting gear (The contractor is not responsible for arresting gear requirements)
- Aircraft fueling services (The contractor is not responsible for Aircraft fueling services)

For special Pax River mission events occurring one per month, the following are required in addition to daily operations requirements:

- 1 radar system (at minimum) to track aircraft
- Optical tracking systems
- Meteorological balloon releases as needed

Mission: Navy Target Operations
January 25, 2020
September 25, 2020

The Fleet Tracking Exercise Aegis Readiness Assessment Vehicle-A mission will test the updated capabilities of the U.S. Navy Aegis Ballistic Missile Defense Program using three Terrier-Orion target vehicles launched nearly simultaneously from the NASA Wallops Flight Facility. The launches will be conducted from the MRL, ARC, and Super HAD launchers on Pad 2 on Wallops Island. During the operation, U.S. Navy vessels will simulate track and intercept for completion of system testing.

Navy Target Operational Requirements are as follows:

- 3 C-band Radars
- 3 Telemetry Antennas
- 2 lift-off Cameras
- 2 tracking Cameras
- Range Communications (MOVE, LMR radios, frequencies for surveillance operations)
- Range Control Center Systems
- RADAC System DQCA or DQCB
- Range Timing
- Frequency Monitoring
- Meteorological Operations (Met balloon launches, forecasts, weather monitoring)
- Launchers on Pad 2 – MRL, ARC, and Super HAD

- Blockhouse 2 firing console
- Test Rocket build-up, loading onto launcher, and launch operation
- Surveillance Systems and Operations (surveillance vessels and aircraft, ASR-8, WISSRDS, STING, Ship Surveillance System)

Note: See SOW Sections 5 through 11 for more information on systems listed above.

Mission: National Weather Service Balloon Soundings (daily operations)
The contractor shall release balloons from Wallops twice daily and acquire data and forward to National Weather Service. Balloons are launched every day at 0000Z and 1200Z. The data acquisition system exists at Wallops.

RTO 3 Task Requirements

The contractor shall develop a task plan to address support of the mission requirements defined in this RTO. The contractor shall use the SOW to aid in development of the task plan.

The task plan shall clearly define risks associated with the operations schedule and mission requirements.

The task plan shall include details of mission support implementation approaches required for these complex missions including management and logistics services required to provide comprehensive range operations services for the entire task.

The task plan shall detail how requirements will be managed and controlled from the identification phase to the implementation phase along with detailed systems support architecture, testing approach, identification and management of issues and risks, and detailed implementation, test, and operations schedules given the launch/flight dates defined in this RTO.

The task plan shall define how maintenance and sustainment of systems will be managed, contingency plans implemented, and how personnel proficiency training and process improvements will be implemented during time periods between mission operations.

The task plan shall include a staffing approach with mitigations as necessary (including subtask leads, roles and responsibilities, reporting structure, and formal reporting process).

The task plan shall include optional approaches based on cost, risk, and other factors.

The task plan shall define how the contractor will meet the quality assurance requirements as defined in SOW Section 3.

The list of required reports, plans, procedures, and other deliverables in support of the RTO requirements is included in the table below. These deliverables are further detailed in the SOW to provide information related to content and purpose. The task plan shall account for the development, review, and approval of below deliverables.

Assumptions:
Travel: $1,000
Materials/~~ODCs~~ Other Direct Costs: $100,000

Assume that the Travel, Materials and Other Direct Costs provided are complete and will be straight-lined across the Period of Performance

RTO 3 Deliverables:

Deliverable	**Schedule/Due**	**Format**	**Notes**
Range Readiness Review Package	For Every Mission (except daily operations)	MS PowerPoint	All at L – 2 Weeks
Weekly Activity Report	Weekly	MSWord	Noon on Thursdays
Monthly Status Report and Data	Monthly	MS PowerPoint	By 5th of each month
Post Mission Services Report	Two weeks post mission	MSWord	
Preventative Maintenance Procedures and Data	Upon Request	MSWord	
Mission Quick Look Data	One hour after mission	Varies	

6. All other terms and conditions remain unchanged and in full force and effect.

(End of Amendment 1)