D R A F T

Statement of Work

(SOW)

Systems and Parts

Acquisition for

Product Manager Small Unmanned Aircraft Systems (PdM SUAS)

2/12/15

UNCLASSIFIED

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1.0 SCOPE

This Statement of Work (SOW) describes the full spectrum of Small Unmanned Aircraft System (SUAS) and Parts required to support the SUAS Product Office (PdO) in CONUS and OCONUS, as well as its domestic and foreign customers.

1.1 Background and Project Description

The RQ-11B and RQ-20A SUAS are managed by the SUAS PdO, Redstone Arsenal, Alabama. The RQ-11B and RQ-20A are Reconnaissance, Surveillance, Targeting, Acquisition (RSTA) tools. The systems transmit live airborne video images, compass headings and location information to a Ground Control Station (GCS) and to a RSTA Laptop Computer. This capability enables operators to navigate, search for targets, recognize terrain, and record all information for analysis. A system generally consists of the following basic components: Unmanned Aircraft (UAs); GCS; Electro-Optic/Infrared (EO/IR) Payloads; RSTA Computer Kit and Field Repair Kit. An Initial Spares Package (ISP) is also fielded for support of the basic system. The SUAS Product Office currently fields the RQ-11B and RQ-20A primarily to the Army, and also to other DoD and Civilian Government Organizations. The need exists to maintain, sustain and upgrade the fleet; and procure future SUAS Systems as required by DoD, Other Government Agencies (OGA) and foreign countries. While the current systems fielded are the RQ-11B and the RQ-20A, alternative Medium Range, Long Range, Short Range, and Nano Unmanned Air Vehicles systems and associated spare/repair parts may be procured to meet the anticipated future requirements. Additionally SUAS PdO must maintain the capability to support current and future Warfighter needs for SUAS systems in CONUS and OCONUS. Due to the flexibility required for future purchase quantities; multi-award, Firm Fixed-Price Indefinite Delivery Indefinite Quantity (IDIQ) contracts are most appropriate to support this effort.

2.0 APPLICABLE DOCUMENTS

Applicable documents are cited in the Document Summary List (DSL) by number, title, date, and as otherwise specified in this contract. See attachment 1.

3.0 REQUIREMENTS

3.1 General Requirements

The contractor shall perform all tasks specified under this contract over the period of performance specified by the contract, three years basic contract period of performance and two one year options. The contractor shall provide all labor and materials in the performance of this SOW. The contractor shall manufacture and/or supply SUAS, parts and components in accordance with (IAW) schedules outlined in subsequent Delivery Orders.

The contractor, as an independent contractor and not as an agent of the Government, shall provide the necessary resources (except those furnished by the Government) to accomplish tasks of the type set forth below.

3.2 Systems, Parts, and Engineering Change Proposals (ECPs)

The contractor shall provide:

- *RQ-11B and RQ-20A future systems IAW the fielding plan in Attachment 3, and specific*

specifications provided with forthcoming Delivery Order(s) for the RQ-11B and/or RQ-20A.

- *Spares and repair parts for the currently fielded and future RQ-11B and RQ-20A systems IAW Attachment 2 to this SOW including TDP Acquired Avionics Cards and Direct Data Links (DDL) and Tactical Open Government Owned Architecture Controller's and RSTA's*

- *Alternative Unmanned Air Vehicle Systems (Long-Range, Medium, Short Range and Nano) that meet the Salient Characteristics of Attachments 4, 5, 6, and 7 to this SOW.*

- *Spares and repair parts for the alternative Long and Medium-Range, Short Range and Nano systems IAW Attachment 12 to this SOW.*

- *ECP Spiral upgrades for any SUAS to be made interoperable with existing fielded GCS and/or a Government owned controller (when provided with the GFI Interface Control Document (ICD)).*

The contractor shall be able to provide UAS systems, parts, pieces and components under one or more of the following groups: Systems, Power, Payloads and Avionics, Flight Surfaces, and Other components.

Systems

Long Range UAS is defined by the salient characteristics in Attachment 4

Medium Range UAS is defined by the salient characteristics in Attachment 5

Short Range UAS is defined by the salient characteristics in Attachment 6

Nano UAS is defined by the salient characteristics in Attachment 7

Power/Batteries – *A potential power or battery contractor will be able to demonstrate battery technologies that are either compatible with UAVs comparable to the existing RQ-11B or RQ-20A, or other battery technologies that have been proven at TRL 8 or above. The proper documentation for transportability must be complete (i.e. DoT testing), and the proper MSDS for documentation of potential hazardous materials must be available.*

Payloads and Avionics– *A potential payload contractor will be able to provide or demonstrate an effective payload requiring less than 600 grams for the operational enclosure and all functional components except data link. The current payload baseline is a gimbaled sensor with EO (electro-optical/color) camera, IR (infrared) camera, and ~850 nm laser illuminator with the ability to slew continuously and tilt 90 degrees. The current avionics and radio solutions include the ability to autonomously navigate to at least 4 waypoints; GPS loiter, pressure altitude hold, velocity hold, etc.; perform lost-link behaviors such as rally point, return home, and continue mission; and allow for manual control as required. In addition to the avionics, the contractor shall provide alternate radio solutions per subsequent delivery orders.*

Flight Surfaces– *A potential contractor for the production of current and/or future SUAS flying surfaces must be able to demonstrate experience and proficiency in the manufacture of production quality composite assemblies at TRL 8 or above . Test results must be provided for review that demonstrate the*

level of qualification the presented components have received, such as MIL-STD-810 for temperature, humidity, etc; tension, compression, and load testing; ASTM testing such as moisture absorption and flexural properties ;or comparable. Contractor needs to be capable of providing flight surfaces comparable to the existing RQ-11B or RQ-20A,

Other Components – *This group will comprise all remaining spare and repair parts not covered in the previous four groups.*

TOGA/RSTA – The TOGA controller is a government developed software implementation, based on the SPAWAR Multi-Robot Operator Control Unit (MOCU) code base. It uses a Linux based operating system and a service oriented architecture to allow for easier integration of new unmanned vehicles or components. Contractors will be required to provide the necessary software updates to the TOGA development team in order to integrate updated vehicles or components as procured. The TOGA hardware is also a government developed design, and modifications can be suggested by the contractor in order to allow for improvements or growth of capability for the overall system. The TOGA hardware may be procured through this IDIQ contract as a built-to-print against the Technical Data Package.

3.2.1 Upgrades and Modifications

In addition to the parts and components for RQ-11B, RQ-20B, and the alternative Unmanned Air Vehicles, the SUAS PdO will have requirements for development and procurement of upgrades, modifications or new payloads. The contractor shall be capable of providing full engineering support for development and fully capable of producing and delivering the resulting required product.

Upon receipt of a government provided Interface Control Document (ICD), the contractor may be required to execute an engineering change proposal (ECP) in order to make any SUAS interoperable with the Army's currently fielded GCS or Government owned controller (see Interoperability paragraph 3.2.2). This ECP will be a separately priced CLIN.

The contractor may be required to execute an engineering change proposal (ECP) in order to make any SUAS interoperable with the Army's currently fielded SAASM-compliant GPS solution (for the purposes of fielding said systems to DOD organizations). This ECP will be a separately priced CLIN.

The contractor may be required to execute an engineering change proposal (ECP) in order to make any SUAS interoperable with the One System Remote Video Terminal (OSRVT). This ECP will be a separately priced CLIN.

The contractor may be required to execute an engineering change proposal (ECP) in order to support SUAS Frequency Spectrum Reallocation effort. The current systems operate in 1755-1850MHz frequency range. Based on the Government's Radio Frequency Relocation Study, this range is subject to change. All systems and components will be required to operate in the newly designated spectrum.

The contractor may be required to provide a build to print capability for any items under the scope of this contract for which the government retains the rights to the technical data.

The contractor may be required to provide systems, components, or capabilities outside the salient characteristics provided in the Statement of Work as the Government's requirements evolve.

3.2.2 Interoperability

The contractor shall upgrade or modify their SUAS or respective components to be controlled by the existing fielded GCS, in accordance with the AeroVironment "GCS to Air Vehicle" ICD, and/or the future Government developed GCS (TOGA) as determined by the timing of the specific delivery order. Additionally, the contractor shall participate in Interoperability initiatives as directed by the Government, such as the Interoperability Control Working Group (ICWG), etc. Current initiatives include: maximizing commonality among already-fielded SUAS ground equipment, incorporation of open architectures and solutions, and maximum adoption of interoperability standards. Furthermore, SUAS fielded to the DOD will be expected to incorporate a SAASM-compliant GPS solution, and when fielding to the Army, to become compatible interoperable with the One System Remote Video Terminal (OSRVT).

3.3 Program Management

The contractor shall establish and support maintenance of this SOW by direction and with coordination of the Procuring Contracting Officer (PCO). The contractor shall establish and maintain an Integrated Management Plan to support cost, schedule and performance aspects of the effort required by this contract. The contractor shall perform all the program management functions including contract, business, technical and logistics management functions that are necessary to execute the total effort required by this contract. The contractor shall provide all the planning, organizing, controlling, and staffing and direction functions to meet SOW requirements.

3.3.1 Management Structure

The contractor shall have a dedicated management team with defined roles and responsibilities. The management team shall execute the activities of this SOW and shall track an objective means to measure program success. The team shall enable direct involvement by Government personnel at the working level through the use of Integrated Product Teams. IPTs shall be used to resolve issues and conflicts and shall identify risk areas and develop solutions to mitigate these risks. Each IPT shall have joint Government/contractor team leads, and all contractor and Government representatives on the IPTs shall be identified by name. The IPT structure shall be composed of an overarching management IPT, a Supportability IPT; and a System Engineering IPT. All IPTs shall be empowered to form ad hoc IPTs and Process Action Teams as required to address detailed issues.

3.3.2 Meetings, Reviews, Cross-functional Integrated Product Teams (IPTs) and Reports

a. Start of Work Meeting: The start of work meeting shall be coordinated with the Contracting Officer's Representative (COR) to determine a mutually agreed upon date that shall occur within ten (10) days after contract award. The contractor shall prepare an agenda IAW DI-ADMN-81249 and shall prepare summary/minutes of the start of work meeting IAW DI-ADMN-81250.

b. Cross-Functional IPTs: Cross-functional IPTs are defined as non-reoccurring IPTs established to research, troubleshoot, brainstorm, investigate, or solve issues pertaining to any of the systems or subsystems. These IPTs may be short or long in duration and comprised of any mixture of expertise from this SOW.

c. Technical Reports: The contractor shall prepare Technical Reports IAW DI-MISC-80508.

d. Monthly Contractor Progress, Status and Management Reports: The contractor shall prepare a Monthly Status Report that includes a synopsis of contractor personnel activity for the previous month, including monthly accomplishments and discussion of anticipated activities for the following

month IAW DI-MGMT-80368.

3.3.3 Program Schedule

The contractor shall maintain an Integrated Master Schedule (IMS) IAW DI-MGMT-81650 that reflects the efforts identified in the delivery order SOW. The schedule shall include reviews, tests, and the tracking of delivered systems and parts.

3.3.4 Cost, Performance and Progress Reporting

The contractor shall prepare Status Reports IAW DI-MGMT-80368 covering the program progress and status on technical, price and schedule performance, tradeoffs and risk reduction activity. Additionally the report shall include the Prime's performance in meeting/exceeding small business goals outlined in the RFP and subsequent contract, and tracking of disbursements on Performance Based Payments IAW U.S. Army current disbursement goals.

3.3.5 Security Requirements

The contractor shall comply with the requirements of the Department of Defense (DOD) Contract Security Classification Specification (DD Form 254) and shall utilize the Security Classification Guide (SCG) Family of Small Unmanned Aircraft Systems and the Enduring Freedom and Operation Noble Eagle SCG for classification guidance. The contractor shall maintain facility clearance at the SECRET level for performance of duties under this contract. Significant upgrades and materiel procurement related to facility clearance shall be assessed and agreed upon jointly by the contractor and the Government. The contractor shall maintain sufficient number of employees with a Personnel Security Clearance at the SECRET level to perform classified tasks during the performance of this contract. All contractor personnel deploying shall be U.S. citizens and have a minimum of a SECRET Security Clearance, have an Army Knowledge Online (AKO) account and a Common Access Card (CAC).

The performance of this contract shall require access, generation, receipt, storage, and processing of Communication Security (COMSEC), Controlled Cryptographic Items (CCI) information, tactical ground control and airborne encryption equipment, and Secure Telephone Equipment necessary for secure communications. Access to COMSEC information and equipment requires a final United States (U.S.) Government security clearance at the appropriate level. Classified COMSEC material is not releasable to contractor employees who have not received a final U.S. security clearance at the appropriate security level. COMSEC access shall be in accordance with National Industrial Security Program Operating Manual (NISPOM) (DOD 5220.22-M) and Policy for Safeguarding and Controlling Communications Security (COMSEC) Material (AR 380-40). When access is required at Government facilities, contractor personnel shall adhere to COMSEC rules and regulations as mandated by Command policy and procedures. National Security Agency (NSA) Central Security Service (CSS), NSA/CSS Policy Manual No. 3-16 "Control of Communications Security (COMSEC) Material" applies to this contract.

The contractor may have access to Foreign Government Information in support of future foreign military sales. The contractor shall require access to For Official Use Only (FOUO) information. FOUO information shall not be disclosed by contractor without approval of UAS Project Office.

Contractor is authorized access and e-mail account to SECRET Internet Protocol Router Network (SIPRNET) at Government facilities only. Contractor employees requiring access to the SIPRNET must complete the SIPRNET Access Request Form and obtain government supervisor approval. The contractor shall not access, download or further disseminate any special access Data (Intelligence,

NATO, COMSEC, etc.) outside the execution of the defined contract requirements and without the guidance and written permission of the Contracting Officer. Contractor access to SIPRNET is restricted to sites directly related to meeting the requirements of this contract as validated by the Contracting Officer Representative

(COR) and/or the Scope of Work. The contractor shall not access INTELLINK-S, while on the SIPRNET without formal access authorization of the COR and AMCOM G-2 (Intelligence and Security). The contractor is authorized to subcontract access to SIPRNET at Government facilities to U.S. owned and operated subcontractors only.

In accordance with AR 381-12, Threat Awareness and Reporting Program (TARP) 4 Oct 10, contractor employees shall report threat-related incidents, behavioral indicators, and other matters of Counter Intelligence (CI) interest specified in AR 381-12, Chapter 3, to the Facility Security Officer (FSO), the nearest military CI office, the Federal Bureau of Investigation, or the Defense Security Service. Contractor employees working as an integral part of an Army organization shall complete annual Threat Awareness training in conjunction with Army personnel. Contractor FSOs shall ensure that all applicable AR 381-12 requirements are implemented for personnel who work at contractor facilities.

The performance of this contract shall require access, receipt, generation, and storage of classified information and equipment that has no-foreign stipulations at the SECRET level at contractor facilities in support of the work effort. Classified information is, and remains for the duration of the classification, the property of the U.S. Government, regardless of proprietary claims. Contractor is authorized to process classified information via accredited computer system in accordance with DOD 5220.22-M, NISPOM, Chapter 8. The contractor shall utilize the current Marking Classified National Security Information guide to ensure classified information generated is properly marked. At Government facilities, contractor shall follow AR 25-2 for guidance on classified computer processing. Contractor must provide adequate storage at their facility for classified material up to and including SECRET. All classified material must be accounted for on a DA Form 3964 or contract equivalent form throughout each phase of the contract.

In order to accomplish the technical tasks required under this SOW, the contractor shall maintain a valid U.S. COMSEC account throughout the period of performance of this contract. The contractor shall have access to COMSEC and Controlled Cryptographic Items (CCI) information and tactical ground control and airborne encryption equipment and Secure Telephone Equipment necessary for secure communications. Access to COMSEC information and equipment shall require a final U.S. Government security clearance at the appropriate level. National Security Agency (NSA) Central Security Service (CSS), NSA/CSS Policy Manual No. 3-16 "Control of Communications Security (COMSEC) Material" shall apply to this contract. All COMSEC/CCI equipment shall be controlled and chain of custody maintained through a Standard Form 153. The contractor shall be responsible for the protection of COMSEC equipment from the time of receipt of the equipment until transferred via the completion of an SF-153, inventory, confirmation of end item (COMSEC) and serial numbers on the SF-153 with signatures.

Pending the risk determination, no action required by the contractor on TEMPEST. Control of Compromising Emanations (AR 380-27), available at http://armypubs.army.mil/epubs/380_series_collection_1.html. AKO account required; if the FSO does not have an AKO Account, contact the UAS Project Office Security Staff for a copy of AR 380.27 at UASSecurityStaff@PeoAvn.Redstone.Army.mil. TEMPEST information is not releasable to contractor employees who have not received a FINAL Security Clearance at the appropriate level.

Written concurrence of the Contracting Office is required prior to subcontracting TEMPEST Requirements.

There is no required OPSEC deliverable associated with this contract. However, the contractor shall adhere to all OPSEC requirements outlined in the Program Executive Office, Aviation (PEO AVN)

Policy Memorandum 07- 04, Operational Security (OPSEC) Plan dated 29 January 2007, National Security Decision Directive (NSDD) No. 298, "National Operations Security Program", dated January 22,
1988, Department of Defense Directive 5205.2, "DOD Operations Security (OPSEC) Program", dated November 29, 1999 and Army Regulation 530-1, "Operations Security (OPSEC)", dated 19 April 2007. Government Contracting Activity approval is required prior to imposing OPSEC requirements on a subcontractor. PEO AVN Policy Memorandum 07- 04, OPSEC Plan, will be provided under separate cover to the FSO.

Contractor shall be authorized to use the Defense Courier Service for keyed COMSEC. Contractor Courier account shall be established and maintained in accordance with Defense Courier Operation (DOD
5200.33).

All submittals for request for public release of information, articles, videos, etc., shall be submitted to the Public Affairs Officer, Program Executive Office (PEO) Aviation, (SFAE-AV-O), 5667 Wood Road, Redstone Arsenal, AL 35898-5020. No request shall be sent or handed directly to UAS PO personnel. The submissions shall include a letter of transmittal certifying review by the FSO that the material has been reviewed and it contains no classified information. The letter of transmittal shall include the contract number. A minimum of 15 working days is required to process and review the request. Information or material shall not be released until approval is granted.

The contractor shall document and verify the security clearance information as required for deployments (Continental United States (CONUS) and Outside Continental United States (OCONUS)), meetings, and conferences via the Joint Personnel Adjudication System (JPAS).

Contractor employees shall abide by Government Security Regulations (ARs 380-5, 380-10, 380-40, 381-12, 25-2, 25-55, 190-13, 530-1) and Security Standard Operating Procedures when working or visiting Government facilities and installations.

Contractor personnel requiring access to Army Computer Networks shall annually complete the DOD Information Assurance Awareness Training, and annually sign an Acceptable Use Policy (AUP). The Certificate and AUP shall be provided to the designated personnel at Government facilities.
Foreign subcontractors are restricted from access to protected subsystems or functional military exercises. Contractor personnel shall not be authorized to take pictures with any form of camera inside Government facilities or on military installations without prior coordination and approval of the Public Affairs office.
Contractor personnel utilizing AKO e-mail shall include the Contractor name following their name in signature block in all e-mail.

Contractor personnel shall utilize AKO or contractor company e-mail for transmitting official U.S. Government business. Official U.S. Government business shall not be transmitted via personal, private, and commercial e-mail accounts, i.e., YAHOO, HOTMAIL, GMAIL, JUNO, AOL, etc. U.S. Army UAS

information shall NOT be processed or stored on contractor employees' personal computer or any other personally owned electronic devices.

The UAS PO holds final determination on the approval for CACs. Consideration for a CAC will be addressed on a case-by-case basis. CACs will be considered for contractor employees that are deploying, that work full time on a military installation, and for contractor employees that require frequent access to multiple DOD installations in support of this contract. Justification, to include list of multiple DOD facilities, must be included with each request for a CAC. Contractor employees issued a CAC shall maintain possession of their CAC at all times. The CAC shall not be used in temporary badge exchanges. Contractor employees issued a CAC shall not share their CAC PIN with anyone. CAC shall not be left unattended in computer. CACs are the property of the U.S. Government and shall be given to the Contractor FSO upon termination of employment with the company, expiration of the CAC, replacement of a CAC, or upon contract completion. The FSO shall return the CAC to the UAS PO Government Contracting Officer Representative (COR) or the UAS PO Security Manager. The loss of a CAC shall be reported, on the first business day following the discovery of the lost CAC, to your chain of command, FSO, UAS PO COR, UAS PO Security Office (256-313-5330/256-876-7102), and to the issuing agency. Visit the Realtime Automated Personnel Identification System (RAPIDS) site at: http://www/dmdc.osd.mil/rsl/owa/home for issuing agency's telephone number. Unauthorized possession of a CAC can be prosecuted criminally under section 701, Chapter 33, Title 18, U.S. Code Part I. FAR 52.204-9 - Personal Identity Verification of Contractor Personnel (January 2011) applies to this contract. FAR 52.204-9 - Personal Identity Verification of Contractor Personnel (January 2011) applies to this contract.

Contracts requiring access to Army-controlled installations or facilities.

The company will have a law enforcement background check completed for all employees who will be entering Army-controlled installations or facilities. Documentation of these checks will be made available to the COR upon request. The company will provide to the COR, seven days in advance of the event, names and Social Security numbers (or equivalent identification numbers for non-U.S. citizens) of all employees who will be entering Army-controlled installations or facilities. The company will ensure that its employees entering Army-controlled installations or facilities have obtained access badges and passes in accordance with facility regulations and that these badges and passes are obtained in advance so as not to delay the accomplishment of contracted services. The company will return all issued U.S. Government Common Access Cards, installation badges, and/or access passes to the COR when the contract is completed or when a contractor employee no longer requires access to the installation or facility.

Photocopying of U.S. Government Identification (CAC) is a violation of Title 18, U.S. Code Part I, Chapter 33, Section 701 and punishable by both fine and imprisonment. Although the asking for military/government identification is totally permissible by commercial establishments, there is a prohibition on duplication of government identification. A state driver license or other form of photo identification should be provided to be photocopied if an establishment insists on a photocopy of the traveler's identification. Please ensure all employees are aware of this law.

3.3.6 Risk Management

The contractor shall establish, implement, and maintain a proactive, on-going Risk Management Process that identifies, assesses, mitigates, and appropriately reports technical, cost, and schedule risk on this contract. The contractor and Government will use program reviews, reports, and IPT meetings to track risks and mitigation progress across the entire program.

3.3.7 Contracting Officer's Representative (COR)

The COR is an individual designated IAW DFARS 201.602-2 and is authorized in writing by the contracting officer to perform specific technical functions. The contractor will receive a copy of the COR appointment letter after Delivery Order award that will specify the extent of the COR's authority to act on behalf of the PCO. ***The COR is not authorized to make any commitments or changes that will affect price, quantity, delivery or any other term or condition of a Delivery Order.***

3.3.8 Contractor Delivery Order Manager

The contractor shall designate in writing to the PCO a Delivery Order Manager, and an alternate, to act as the principal point of contact (POC) on all Delivery Orders for the PCO and the COR. The Delivery Order Manager will not be physically located at the Government site, but shall have the full authority to act for the contractor on all contractual matters in connection with Delivery Orders. All communications shall be directed through the COR and the Delivery Order Manager for contractual matters in connection with Delivery Orders.

3.3.9 Contractor Performance Assessment System

In order to ensure the timely completion of contractor performance reports/assessments within Contractor Performance Assessment Reporting System (CPARS), the following individuals are assigned these specific roles within the system: **NOTE: To be completed Post-Award**

Assessing Official Representative – Insert name, title, email address (the COR, PM, or other person from the requiring activity responsible for writing the CPAR/report and rating the contractor's performance).

Accessing Official – Insert name, title, email address (Contracting Officer/contract specialist responsible to act as a check and balance and review, sign, and send the CPAR/report to the Contractor Representative).

Contractor Representative – Insert, name, title, email address (PM or other person from the contractor's office with the responsibility of receiving, reviewing and/or commenting on the reports/assessments).

Training for all persons responsible for the preparation and review of performance assessments is available online at

http://www.cpars.csd.disa.mil/allapps/cpartrng/webtrain/webtrain_all.htm.

3.3.10 System Safety

The contractor shall conduct system safety activities IAW AR 385-10 and MIL-STD-882. The contractor shall support and participate in semi-annual System Safety Working Groups (SSWGs) as required by the PMO UAS to assess on-going program flight and field operations regarding safety issues to include the review of operational instruction manuals, maintenance, and training procedures and documents, as well as conduct a system safety risk assessment to support material release

requirements. The contractor shall identify hazards, assess hazard risk, identify the hazard risk mitigation measures, eliminate hazards through design selection, incorporate safety devices / features, provide warning devices, and appropriately develop / update procedures and training. The contractor shall prepare the Safety Assessment Report (SAR) IAW DI-SAFT-80102. The contractor shall update the System Safety Hazard Analysis Report (SSHAR) IAW DI-SAFT-80101. The contractor shall prepare a Health Hazard Assessment Report IAW DI-SAFT-80106. The contractor shall reduce the identified mishap risk to acceptable levels per the PMO UAS System Safety Management Plan (SSMP) and provide verification of mishap risk reduction. The hazard analyses shall include software hazard analysis that addresses both the software requirements and design for a system / subsystem and the software test plans and procedures. The contractor shall participate fully in an IPT format with the Government to review and assess on-going program flight and field operations regarding safety issues to include reviews of operations, maintenance, and training procedures / documents. The contractor shall:

a. Ensure compliance with Government Flight Representative (GFR) requirements.

b. Coordinate and administer Accident / Mishap investigations, subject to Government mishap investigation boards for operational systems.

c. Serve as primary interface with Occupational Safety and Health Manager.

3.3.10.1 System Safety Program Plan

The contractor shall update and implement a System Safety Program Plan (SSPP) IAW DI-SAFT-81626. The SSPP shall demonstrate compliance with, and traceability to, the PM UAS System Safety Management Plan (SSMP). As an appendix to the SSPP, the contractor shall develop and provide a Software System Safety Program Plan (SwSSPP) that addresses integration of software safety within system safety and the software development process. The Software System Safety Program Plan (SwSSPP) shall comply with AMCOM Regulation 385-17. The contractor shall identify, track, and manage all safety critical software. The SwSSPP shall address all software used in the system, to include Non-Developmental Item (NDI), COTS, and reuse software. The SwSSPP identifies safety-critical software functions, software contributions to system level hazards, safety-critical software requirements necessary to mitigate hazards, and the safety verification process for software, to include regression testing for modified software. Software Hazard Risk Indexes (SHRI) will be identified for all hazards affecting safety-critical and safety-related functions. The contractor shall perform Software Hazard Analyses and document the analyses in an appendix to the Safety Assessment Report (SAR). The Software Hazard Analysis process includes verification that the actual design supports elimination or reduction of the hazards. The contractor shall prepare a SAR IAW DI-SAFT-80102 that includes Hazard Tracking System Logs and a Subsystem Hazard Analysis (SSHA) as attachments.

3.3.10.2 Hazard Tracking System

The contractor shall implement a PM UAS-approved Hazard Tracking System (HTS) Database to document, track, and manage all hazards identified during design, development, and test activities. All identified hazards shall be tracked in the HTS Database. The HTS shall address software's contributions to potential system level (including system of systems) hazard occurrence, or have references to the documented detailed description of software's contributions to hazards and how those

contributions are mitigated. The SSWG-approved hazards within the HTS shall be continuously updated and maintained throughout the life of the System and shall be accessible to PM UAS. The contractor shall be responsible for ensuring hazards of subcontractor systems and subsystems are addressed and incorporated in the HTS. Acceptance of hazards, mitigation, verification, and potential residual risk shall be IAW the SSMP. The content of hazard logs, procedures and process for review, concurrence, and closure of hazard logs shall be IAW the SSMP.

3.3.10.3 Mishaps and Accidents

For any mishap, the contractor shall prepare an Accident/Incident Report IAW DI-SAFT-81563. The contractor shall comply with AR 385-10 – The Army Safety Program and DA PAM 385-40 -- Army Accident Investigations and Reporting for mishap and accident investigation reporting. Contractors operating Government Owned Contractor Operated (GOCO) aircraft will report all incidents and accidents meeting the reporting criteria of AR 385-10 and DA PAM 385-40 to the appropriate PM UAS System Safety Engineer.

3.3.10.4 Environmental Safety and Occupational Health

The contractor shall prepare a Health Hazard Assessment Report IAW DI-SAFT-80106.

3.3.10.5 Hazardous Materials Management Program (HMMP)

All Contractor and subcontractor activities shall be in compliance with applicable federal, state, and local environmental laws and regulations. The Contractor shall ensure that design, maintenance, operation, manufacturing, programmatic decisions and trade-off studies strive to eliminate or reduce hazardous materials and waste. The contractor shall implement a Hazardous Material Management Program (HMMP) IAW National Aerospace Standard (NAS) 411. The contractor shall prepare a HMMP Plan IAW DI-MGMT-81398. The contractor shall not use any Class I Ozone Depleting Chemical/Ozone Depleting Substance (ODC/ODS) (identified at http://www.epa.gov/ozone/ods.html) or any ODC/ODS solvents (identified at http://www.epa.gov/ozone/snap/lists/index.html in the manufacture or support of items required by this SOW unless a waiver is obtained from the Army Acquisition Executive. Any ODC/ODS refrigerant alternatives used must appear in the EPA's Significant New Alternatives Policy (SNAP) list (identified at http://www.epa.gov/ozone/snap/lists/index.html and have received a toxicity clearance from the U.S. Army Public Health Command (USAPHC). The Contractor shall prepare annual HMMP Reports IAW DI-MISC-81397. The HMMP Reports shall provide the following information: (1) any of the following materials that are contained within a user end item: EPA 17 List materials (identified at http://www.epa.gov/opptintr/3350/33finb1.htm) , beryllium, coatings (identified by MIL SPEC), functional fluids (e.g. coolant, hydraulic fluid, petroleum products), energetics/solid rocket motor components (including Explosives Class Number), advanced composite materials (e.g. fabricated from silica, graphite, carbon, boron, fiberglass), batteries, Class I/Class II ODS/ODC materials, and asbestos; (2) A general description (to include a graphic or drawing) of where these materials are located within the end item; (3) Required maintenance/repair/support materials to include: EPA 17 List materials, sealants, adhesives, coatings (identified by MIL SPEC), and Class I/Class II ODS/ODC materials; and (4) any EPCRA 302/313 materials (identified at http://www.epa.gov/emergencies/docs/chem/title3_Oct_2006.pdf) utilized in the manufacturing process. The Contractor shall provide immediate notification of any proposed hazardous material mitigation/elimination efforts that may adversely impact schedules, cost and/or performance.

3.3.11 Warranty

The contractor shall warrant all items for a period of eighteen months, or twelve months from the date the item is placed into actual use, whichever is shorter in duration. The Government shall establish the date placed into use via COLTS for documentation and maintenance tracking purposes.

The warranty shall include replacement of defective components and/or systems and replacement of defective spare parts to include shipping costs associated with the replacement of defective components and/or systems, including spares. Any replacement of components or parts shall be accomplished with minimum interruption of system operation. If material has a shelf life the contractor shall provide warranty expiration dates based on shelf life. Warranty provisions as described in this paragraph shall apply to the Basic ID/IQ and all Delivery orders. Contractors are responsible for round trip shipping, packaging and handling costs of all items repaired or replaced under warranty.

3.4 General

Offerors shall agree to license or sell their systems, spares, software, documentation, etc. to one another within a commercial environment.

3.4.0 Procurement of RQ-11B and RQ-20A SUAS and Spares

The contractor shall provide all labor and material (with the exception of Government Furnished Equipment (GFE)) necessary to provide RQ-11B and RQ-20A systems, spares and repair parts. GFE, when provided, shall consist of GFE as called out in Attachment 10.

3.4.0.1 Manufacture of SUAS and Spares

The contractor shall provide all labor and material (with the exception of Government Furnished Equipment (GFE)) to produce Long, Medium, Short Range and Nano Unmanned Air Vehicles and Spares. The contractor shall provide all labor and material to produce initial spares and depot stock to support these systems. The initial spares shall be produced concurrently with Long, Medium, Short Range and Nano Unmanned Air Vehicles. The contractor shall work jointly with the Government IPTs to identify and effect changes in the content and quantities of the Long, Medium, Short Range and Nano Unmanned Air Vehicles and Spares based on field usage and spiral development.

Systems and support components shall be compliant with the configuration defined in the Baseline Description Document.

3.4.1 Long-Range, Medium-Range, Short-Range, and Nano SUAS

The contractor shall produce and deliver complete Long-Range, Medium-Range, Short Range Micro and Nano Air Vehicles IAW delivery schedules provided in subsequent DOs.

3.4.2 Initial Spares Packages (ISPs)

The contractor shall produce and deliver complete Long-Range, Medium-Range, Short Range Micro and Nano Air Vehicle ISPs IAW the contract delivery schedule provided in subsequent DOs. The ISP configurations are to be defined in the system specification and baseline description document. The contractor shall estimate and recommend adjustments to the ISP contents based on availability and reliability analysis.

3.4.3 System Level Components

The contractor shall produce and deliver Long-Range, Medium-Range, Short Range Micro and Nano Air Vehicle System-level components IAW the contract delivery schedule provided in subsequent DOs. An example of anticipated System-level components include the following items, however actual components proposed may differ depending on what system are proposed by the contractor. This requirement is exclusive of RQ-11B and RQ-20B whose configurations are already determined.

1) Air Vehicles

2) EO & IR Gimbaled Payloads

3) Ground Control Stations

4) Remote Video Terminals

5) Field Repair Kits

6) Ancillary equipment

7) System Software Installer

8) Battery Chargers

9) Simulator Hardware

10) System Documentation

11) Air Vehicle Batteries

12) GCS Batteries

13) Transportation and Storage Cases

3.4.4 Repair Parts

The contractor shall provide Long-Range, Medium-Range, Short Range Micro and Nano Air Vehicle System Line Replaceable Units (LRU), Shop Replaceable Units (SRU) and consumables repair parts IAW future delivery orders to supply the Government's Inventory Control Point (ICP).

The contractor shall provide RQ-11B and RQ-20A LRUs, SRUs and consumable repair parts IAW future delivery orders to supply the Government's Inventory Control Point (ICP).

3.4.4.1 Parts Obsolescence

The contractor shall assume full responsibility for Parts Obsolescence problems, resolutions, and implementation for the term of the contract. Through the period of performance of the contract, the contractor shall: (1) identify alternate sources, replacement parts, or optional part numbers for parts and materials that become obsolete or damaged and need repair, and (2) revise applicable engineering drawings, schematics, and specifications to incorporate the new information. The parts obsolescence program and procedures shall be made available for review by Government IPT members.

3.4.5 Manufacturing and Planning Control

The contractor shall maintain internal manufacturing planning and control documents and make them available for review by the Government IPT members.

3.4.6 Quality Program

3.4.6.1 Quality Control Program

The contractor shall implement and maintain an effective Quality Control Program to ensure services are performed IAW this SOW.

The contractor shall develop and implement procedures to identify and prevent non-recurrence of defective parts.

The contractor's Quality Control Program shall be used as the means of assuring the workmanship complies with the requirement of this SOW.

The contractor shall prepare a Quality Program Plan (QPP) IAW DI-QCIC-81722.

After acceptance of the QPP by the Government, the contractor will receive acceptance in writing by the Procuring Contracting Officer (PCO). Also, PVT testing, FAT and a COC will be utilized to evaluate product conformant to the contract specification.

3.4.6.2 Factory Acceptance Test (FAT)

The contractor shall prepare a Factory Acceptance Test (FAT) Plan and Procedures for all equipment that is procured or goes through final assembly at the contractor's facility prior to being delivered to the Government. The contractor shall prepare a Factory Acceptance Test Plan IAW DI-QCIC-80553 and conduct acceptance testing of the following components including but not limited to; Complete Systems, Air Vehicles, EO/IR Payloads, GCS/RVT and Battery Chargers, as directed by the government. The contractor shall maintain a Database of acceptance test results. Final inspection and acceptance testing shall be performed by the contractor at a contractor-provided test facility, and verified/observed by DCMA and/or SUAS-PdO personnel. Under certain circumstances, final inspection and testing will be conducted by SUAS PdO personnel at the destination, however, this will be specified within an individual Delivery Order when required.

3.4.6.3 Certification of Conformance (COC) IAW FAR 52.246-15

The contractor shall prepare a plan to issue a COC on all equipment, systems or materials that are not accepted via PVT or FAT procedures.

3.4.6.4 Product Verification Testing (PVT)

The contractor shall prepare a Product Verification Test Plan that includes systems or material that must pass PVT before delivery of (products other than the current RQ-20A and RQ-11B systems) Long-Range and Medium-Range, Short-Range, and Nano SUAS, IAW DI-QCIC-80553. Federal Acquisition Regulation (FAR) clause 52.246-2, "Inspection of Supplies—Fixed Price," and ANSI/ASQC Z1.4-1993, Sampling Plan and Tables for Inspection by Attributes, which are in effect on the date of award resulting from this Request for Proposal and the date of award for all other delivery order actions shall apply. The contractor is responsible for ensuring that supplies are manufactured, produced, and subjected to all tests required by applicable material specifications/drawings specified in the purchase description of the IDIQ contract and subsequent delivery orders. Notwithstanding any other clause to the contrary, and/or in addition thereto, the Government reserves the right to conduct PVT to ascertain if any or all requirements of the purchase identification description contained elsewhere herein are met prior to final acceptance.

Testing will consist of various tests, to include but not limited to the following tests which the Government deems necessary: flight safety; personnel safety; mechanical/dimensional conformance; environmental IAW MIL-STD-810 (e.g.: Salt Fog, Shock, Vibration, Moisture and Humidity, Sand and Dust, Fungal, Rapid Decompression); spectrum analysis; Electromagnetic Testing (MIL-STD-461 and MIL-STD-464); HERO, HERF, HEMP; endurance, range, navigation modes and lost link behaviors, sensor fidelity and tracking, and IOP compliance.

When material under the contract is designated by the Contracting Officer/Administrative Officer for each test, the Government inspector will select a random sample from the contract or production lot, for testing. The contractor shall produce systems and parts that will be tested to verify performance and to ensure the effectiveness of the manufacturing process, equipment and procedures. The first production lot of ten or less systems shall be subjected to Production Verification Testing. PVT shall be successfully completed prior to the manufacturing of any future production lots.

For planning purposes, contractors can expect PVT to require 3-4 engineers, for 3 weeks at White Sands Missile Range (WSMR) and an additional 4 weeks at Redstone Arsenal (RSA).

3.4.6.4.1 Production Verification Tests, Procedures and Reports

The contractor shall prepare detailed test plans and procedures for each contractor test as identified in the Production Verification Test section of the SPS to demonstrate performance requirements. The contractor shall prepare Test Plans/Test Procedures IAW DI-SESS-81704. The PVT tests will be conducted at Government facilities. The contractor shall provide all necessary equipment and manpower necessary to facilitate the conduct of testing. The Contractor shall prepare and submit Test/Inspection Reports IAW
DI-NDTI-80809.

3.4.6.4.2 Government Test Support

The contractor shall support Government conducted PVT-2 (Operational Testing), described in the Production Verification Test (PVT) section of the SPS, to demonstrate system effectiveness and suitability in the field. Prior to PVT-2, the contractor shall develop and deliver a System Support Package as described in the Components List IAW DI-MISC-80508.

For planning purposes, contractors can expect PVT-2 to require 2 flight instructors for 2 weeks of operator training at RSA, and 3 engineers, for an additional 2 weeks of testing at RSA.

3.4.6.4.3 Failure Analysis and Corrective Action Report (FACAR)

The contractor shall notify the Government within 48 hours of each failure that occurs during Production Verification Test and PAT (first lot only) and shall prepare an FACAR IAW DI-SESS-81315. The FACAR shall include a summary of the analysis, identify the root cause(s), describe the corrective action(s) taken to prevent recurrence, identify if any delivered products or spares are affected, specify if Training Packages or Technical Manuals require update, provide notification for potential delivery schedule impact, and define cut-in points for related design and/or process improvements. The FACAR shall not be considered closed until the Government has approved the FACAR.

3.4.6.4.4 Product Demonstration Procedures

Product demonstration is defined as a demonstration of the contractor's product capabilities and

maturity. The Product Demonstration and shall take place during the RFP phase of the effort in order to minimally qualify proposals and allow for submittal of a complete RFP.

For the purposes of the Product Demonstration (PD), offerors shall demonstrate a Long Range, Medium Range, Short Range and Nano Air Vehicle System as well as those components deemed major components. They shall include all items and components necessary to meet the performance requirements of the Product Demonstration Evaluation Checklists the Systems.

Each requirement will be graded as "Met" or "Not Met." Met is defined as the system meeting the requirement; Not Met is defined as the system not meeting the requirement. If the system does not meet a requirement, the system will fail the PD; however, the contractor will have an opportunity to continue the PD with the Government continuing to record the results for the run.

See Product Demonstration Procedures Attachment 11 for a list of items requiring a Product Demonstration and Product Demonstration Procedures.

3.4.7 Reliability

The contractor shall establish and implement a reliability program to the lowest level of assembly. Reliability models, allocations, and predictions (using physics of failure predictions where feasible) shall support the reliability requirements. Modifications to system shall not degrade the reliability below existing specification requirements.

3.4.8 Failure Modes, Effects, and Criticality Analysis (FMECA)

The contractor shall maintain an FMECA Database IAW best commercial practices, representing the baseline Air Vehicle and GCS. The contractor shall update the FMECA to reflect the effects and criticality of hardware and software failures, safety hazards, the impact of engineering design changes, results of corrective actions, and approved design changes. The contractor shall make the FMECA available to the Government engineering IPT. The contractor shall prepare and submit an FMECA Report IAW DI-ILSS-81495.

3.4.9 Failure Reporting and Corrective Action System (FRACAS)

The contractor shall implement a closed-loop FRACAS to ensure all failures are analyzed and corrective actions are developed and implemented. All failures experienced during contractor or Government testing and fielding shall be classified and tracked as part of the FRACAS. The contractor shall prepare a Failure Summary and Analysis Report. The contractor shall coordinate with the Government to ensure that each Government-generated Incident Report is traceable to a FRACAS Report. The contractor shall establish a Failure Review Board, with Government participation, for review, disposition and closure of LONG- RANGE and MEDIUM-RANGE SUAS failures.

3.4.10 Item Unique Identification (IUID)/Radio Frequency Identification (RFID)

Items delivered as part of this contract shall be marked IAW MIL-STD-130 according to the criteria in DFARS clause 252.211-7003, 252.711-7006. The PCO may designate additional items that shall be included for UID/RFID marking. The Baseline Description document delivered as part of this effort shall include identification of items designated for UID/RFID marking. All items designated for UID/RFID marking including embedded items shall be reported IAW DI-MGMT-81804 upon completion of contract delivery.

3.4.11 Flight Operations

The contractor shall support production flights and acceptance test flights for the Long-Range and Medium Range, Short Range and Nano SUAS. The contractor shall coordinate procedures and scheduling with appropriate Government and local area personnel to ensure flight procedures comply with local and area requirements and appropriate flight regulations. The contractor shall support documentation required for Government request of FAA COA or other flight range requirements as described in the engineering Data efforts of this SOW.

3.4.12 Packaging, Shipping

The contractor shall package and ship all equipment, systems and materials IAW standard commercial practices and standards, or as specifically defined in individual Delivery orders.

3.4.13 Kitting

In some Delivery orders, the contractor shall be required to assemble kits containing materials and equipment for modification, Engineering Change Proposals (ECPs), etc. Special instructions for packaging and shipment shall be provided in individual Delivery order for the specific kits.

3.5 Systems Engineering

3.5.1 Engineering Management

The contractor shall prepare, maintain and update a System Engineering Management Plan (SEMP) IAW DI-SESS-81785. The contractor shall implement and maintain a Systems Engineering Program in accordance with the SEMP for the period of performance of the contract. The contractor shall establish and maintain System Engineering Processes following best commercial practices in accordance with the
SEMP for the tasks defined by this SOW. The SEMP shall establish and track the spiral development path for the Long-Range and Medium-Range systems by prioritizing the trade space requirements and implementation as to provide the best value to the Government. The contractor shall work with the Government IPT to plan and support spiral development and technology insertion.

3.5.2 Configuration Management (CM)

The contractor shall establish and update the Long-Range, Medium-Range, Short-Range, and Nano Baseline Description Document IAW DI-CMAN-81121. The Baseline Description Document shall be updated as changes and spiral developments are incorporated into the system configuration. The contractor shall perform CM tasks pertaining to the hardware and software components in this SOW IAW the contractor's CM plan for production business practices. The contractor shall be responsible for maintaining established baselines and the entire CM through the program life cycle for the Long-Range, Medium-Range, Short-Range, and Nano SUAS. The contractor shall prepare Class I Engineering Change Proposals (ECPs) IAW DI-CMAN-80639 and section H of the contract for any configuration change that impacts form, fit or function to the contractor's production baseline or result in the necessity for changes to the system Technical Manuals. All ECPs shall be processed through the Joint Configuration Control Board (JCCB). The JCCB shall consist of Government and contractor(s) personnel. Class I changes shall not be incorporated unless approved by the Government.

3.5.3 Configuration Status Accounting

The contractor shall establish and maintain a Configuration Status Accounting (CSA) program IAW the contractor's standard operating procedures. The contractor shall maintain current and historical records for the baseline technical Data, changes, critical nonconformance actions, and new and updated documentation, including identification of all as-built configurations and incorporation status. The status accounting system shall provide for generating indentured parts lists, where-used lists, drawing tree, and other Data necessary to provide the complete and accurate configuration history and status. The contractor shall prepare CSA Information (CSAI) IAW DI-CMAN-81253.

3.5.4 Configuration Change Control

All hardware and software changes shall be processed IAW the contractor's CM plan for production programs. Any changes to the system baseline shall be coordinated with the SUAS PdO. The contractor shall participate in a System Engineering Integrated Product Team, with Government participation, to provide insight and resolution of configuration and design matters.

3.5.5 Physical Software Control

For all software changes, the contractor shall ensure that the physical software baselines are controlled and tested at the computer software configuration item level. The contractor shall ensure each software baseline is identified, tracked within the contractor's CM Plan guidelines and has the necessary number of backup copies. Any changes to the system baseline shall be coordinated with the SUAS PdO.

3.5.6 Technical and Engineering Support Data

3.5.6.1 LONG-RANGE, MEDIUM-RANGE, SHORT-RANGE, and NANO SUAS Specification

The contractor shall prepare and update SUAS System Performance Specifications IAW DI-MGMT-81431 and in coordination with the Government over the period of performance of the contract. Changes to the performance specification shall be made as ECPs and spiral developments are incorporated into the system configuration.

3.5.6.2 Interface Control Documents

The contractor shall publish and revise a GCS Interface Control Document (ICD) IAW DI-CMAN-81248. The contractor shall publish and revise a Modular Payload Interface (MPI) ICD IAW DI-CMAN-81248
to facilitate future payload development by the contractor and other DoD contractors selected by the Government. The Contractor shall publish and revise an over-the-air- messages ICD IAW DI-CMAN-81248 to facilitate interoperability and incorporation of Long-Range, Medium-Range, Short-Range, and Nano SUAS interface capability in other US Army SUAS systems. As required in the Delivery Order, the Contractor shall publish and revise an avionics ICD IAW DI-CMAN-81248 to facilitate the incorporation of future technologies that require be controlled by the avionics module. The Contractor shall publish and revise an air vehicle ICD IAW DI-CMAN-81248 to facilitate incorporate additional technologies that require interoperability with the aircraft.

The contractor shall publish and revise an ICD IAW DI-CMAN-81248 for Long-Range, Medium-Range, Short-Range, and Nano SUAS Simulator Interface software protocol to facilitate interoperability and incorporation of Long-Range, Medium-Range, Short-Range, and

Nano SUAS simulation capability in other US Army systems.

3.5.6.3 Value Engineering Change Proposal

Contractors shall propose Value Engineering Change Proposal (VECP) wherever applicable and share in the benefit 50%-50% with the Government. Also, the contractor shall extend the VECP opportunities for up to a maximum of three years after the contract Period of Performance has expired. A VECP does not require a change in a specification; it requires only a change in the contract. The change could be a contract modification for a business arrangement authorizing the VECP and agreeing on sharing future savings without any technical change to the configuration baseline. While there are often multiple contract modifications made on the contract before a single VECP is accepted, the process is relatively straightforward. The first modification may be an approval to begin work. The second may be the settlement of all instant, concurrent, and possibly future savings shares (often called the definitization modification). The third modification may be the record ECP that changes the configuration. In addition, as new contracts are awarded, there may be further modifications to provide the contractor with its share of future savings.

3.5.6.4 Spectrum Support

The contractor shall prepare DD Form 1494 in support of spectrum certification activities for the Long-Range, Medium-Range, Short-Range, and Nano SUAS Data link. This shall include documentation of Data link characteristics and test reports as required. The contractor shall provide DD Form 1494 Data to the SUAS PdO in support of spectrum supportability requests in foreign host nations. DD Forms 1494 supporting spectrum certification activities shall be IAW DI-MISC-81174. The contractor shall support spectrum certification activities for spiral developments.

3.5.6.5 Technical Manual/Complete Training Package

The contractor shall prepare Level step-by-step inspect and repair instructions IAW DI-TMSS-80527. The contractor shall prepare a Long-Range, Medium-Range, Short-Range, and Nano SUAS Operator's and Maintenance manual IAW DI-TMSS-80527. The content of the manual shall include operator-level operation and maintenance of the system, checklists, emergency procedures and logistics procedures. The manual shall have step-by-step instructions for replacement of LRUs, operator-level inspections and repairs. The manual shall include emergency maintenance procedures, which provide general guidance beyond O-level to be accomplished when no other maintenance alternatives are available. The contractor shall also prepare a complete Depot-Level repair/maintenance manual. This manual shall include Depot- updates to the manual as required for upgrades and changes to the system as well as in response to user feedback.

3.5.6.6 Airworthiness Data Support

The contractor shall provide Data in support of Government application for Federal Aviation Administration (FAA) – Certificate of Authorization (COA) for operation of Long-Range, Medium-Range, Short-Range, and Nano SUAS in designated areas of the National Airspace System (NAS).The contractor shall provide Data in support of Government range safety approval process for Government test ranges.

3.5.6.7 Aeronautical Design Standards Verification and Analysis

The contractor shall conduct a Hazards of Electromagnetic Radiation to Personnel (HERP) verification IAW paragraph 3.6.3 of Aeronautical Design Standard (ADS-37APRF).

The contractor shall conduct a Hazards of Electromagnetic Radiation to Ordinance (HERO) verification IAW paragraph 3.6.1 of Aeronautical Design Standard (ADS-37APRF).

The contractor shall conduct a Hazards of Electromagnetic Radiation to Fuel (HERF) verification IAW paragraph 3.6.2 of Aeronautical Design Standard (ADS-37APRF).

3.5.6.8 Spiral Evolutionary Development Program

The contractor shall develop and update a spiral evolutionary development program. The contractor shall incorporate technology developments focused on the following items:

1) Reduced acoustic, visible and electronic signatures;

2) Increases range and endurance;

3) Incorporation of digital Data links;

4) Improved payload capability. Payload improvements shall utilize an open architecture approach while increasing the required standoff range from the target;

5) Improved system reliability and maintainability;

6) Ground control station enhancements;

7) Embedded Simulator enhancements.

Approved changes will be incorporated through ECPs, to be separately priced by individual Delivery Order.

4.0 GENERAL INFORMATION

4.1 Travel

Travel, if required under this contract, shall be IAW the Joint Travel Regulation (JTR) Volume 2. The JTR is updated monthly by the Defense Travel Management Office, and is located online at http://www.defensetravel.dod.mil/site/travelreg.cfm. The contractor shall acquire prior approval for all travel from the COR. The contractor shall submit a Trip Report summarizing the trip IAW DI-MISC-
80508. The Trip Report shall include the purpose, discussions, resolutions, actions, and the cost of the trip. In addition to the JTR allowances, the Government allows approved General and Administrative (G&A) costs, but not Overhead (OH) or Profit for travel costs. All travel shall be pre-coordinated and approved by the COR prior to making reservations.

4.1.1 Medical Requirements

Contractor medical requirements for deployment through CONUS Replacement Center (CRC), Camp Atterbury:

Offerors shall provide medically and physically qualified contingency personnel to perform duties in applicable contingency operations as outlined in this SOW. Any CAAF deemed unsuitable to deploy during the deployment process due to medical or dental reasons will not be authorized to

deploy.

Contractor personnel must have complete and legible documentation from a competent medical authority for each individual's physical evaluation, test results, immunizations, labs and eye prescriptions to provide the required Government furnished equipment or services.

Detailed medical requirements can be found at the Camp Atterbury website:
http://www.campatterbury.in.ng.mil/CivilianContractorDeploymentRedeploymentInfo/tabid/1101/Default
.aspx

Upon receiving certification that the Offeror's employees meet deployability requirements, the Contracting Officer will digitally sign the Letter of Authorization (LOA). The LOA will be presented to the officials at the deployment center.

4.2 Release of Data and Information

The contractor shall not release any information or Data to third parties without the express written approval of the PCO. Release of information, to include this RFP and related documents, to contractor's domestic suppliers is authorized, only for the purposes supporting this effort. The contractor shall abide by the International Traffic in Arms Regulations (ITAR) in doing so.

4.3 Common Access Card

The contractor shall complete a background security check of all personnel (SF-85P) requiring a Common Access Card (CAC). Execution of SF-85P is a requirement for contractor personnel to receive a Common Access Card (CAC). This must be done prior to employees reporting for duty. Reference DFARs clause
252.227-7025 for further description. The contractor shall flow down this requirement to all subcontractors and vendors requiring access to Government facilities.

4.4 Invoicing

The contractor shall submit all invoices through Wide Area Work Flow (WAWF) upon acceptance and inspection by the Government.

4.5 Performance Payments

The contractor shall negotiate with the Government on each individual delivery order for performance based payments terms on each Delivery order.

5.0 Data Requirement and Data Rights

5.0.1 Non-Disclosure Agreement and Transfer of Information

- *Offerors shall execute a Non-Disclosure Agreement (NDA) (similar to DFARS 227.7103-7, but in offeror's format), with each fellow offeror prior to the Product Demonstration (PD) for the interchange of Government Rights data. The NDA shall be enforceable throughout the IDIQ contract Period of Performance unless revoked in writing by both parties in the agreement. The NDA shall be executed and provided to the Government within the Administration Volume. . The NDA shall*

outline the agreed upon procedures between the two companies detailing how data shall be securely transferred between them post PD. All offerors participating in the PD shall be notified of the status of all other offerors at the conclusion of the PD. Upon notification, offerors shall begin inter-transfer of information and complete the task NLT Contract Award date. Any offeror not completing these instruction tasks on-time may be eliminated from the competition as non-responsive. At a minimum, the following data shall be shared amongst the contract awardees:

- *Over the Air (OTA) ICD*
- *Ground Control Station (GCS) ICD*
- *Payload ICD*

5.0.2 Documents with Data Rights

In addition to CDRLs required throughout this SOW, the contractor shall deliver the following items with Government Purpose Rights, marked Distribution C:

- *Operators Manuals (DI-TMSS-80527C)*
- *Full Operator (O) Level Repair Manual (if separate from Operators' Manual) (DI-TMSS-80527C)*
- *Full Depot (D) Level Repair Manual (DI-TMSS-80527C)*
- *System Performance Specifications (DI-ISPC-81431A)*
- *Baseline Description Documents (DI-CMAN-81121)*
- *Acceptance Test Plans (DI-QCIC-80533A)*
- *Frequency Allocation Data (DI-MISC-81174)*

The contractor shall deliver full Interface Control Documents (ICDs) with Government Purpose Rights, marked Distribution C, for the following elements:

- *Payload*
- *GCS*
- *Over-the-air Messages*
- *Air vehicle battery*
- *GCS battery*
- *Avionics*
- *Air Vehicle*
- *Simulator Interface software protocol*

All ICDs will be delivered IAW DI-CMAN-81248A.

5.1 Software

A fully pre-paid, non-revocable license shall be provided for all commercial software, and Government Purpose Rights for non-commercial software.

5.1.1 Software Development

These should include at a minimum:

(a) Requirements documents

(b) UML use cases, activity diagrams, sequence diagrams, Database ERDs (entity relationship diagrams), etc.
(c) HCI (Human Computer Interface) prototypes

Database Development

In order to ensure continued exchange of technical information, hand-over all Database development materials for DM (i.e. content that would constitute a Database Developer's Manual).

Software Project Management

Software Design

Documentation Software

Systems Engineering

The System/Subsystem Design Description (SSDD) needs to be updated to reflect the current configuration of Combat Outpost Surveillance and Force Protection Systems (COSFPS) software products, so as to provide for proper requirements traceability to the COSFPS System/Subsystem Specification (SSS). This document should clearly show those requirements that intended for the current software build and those that have been postponed for future builds/spirals.

A straw man for the Computer Resources Life-cycle Management Plan (CRLCMP) should be developed and should be completed. This document should answer many questions with regards to ILS software transition requirements.

Recommend Developer be tasked to provide input to those sections dealing specifically with the JFPASS software computer software configuration item (CSCI), in terms of software specifics (i.e. languages used, lines of code, interface protocols, software development documentation, software user's documentation, tools created to support Database development, etc.)

A revision to the Software Version Description (SVD) needs to be started for the patch that is described in the software control document (SCD).

The Configuration Management Plan should be completed and updated consistently.

Technical Data Management Plan be written is required from the contractor in order to capture the full extent of requirements necessary to select and implement a product Data management system.

5.1.2 Units of Measure

The data shall be based on U.S. customary linear units (decimal inch) as the basic unit of measure.

5.1.3 Supplemental Requirements

The following are supplemental requirements for the data:

5.1.3.1 Indentured Data Lists

Data option selection worksheet-product drawings and associated lists identifies in Block 6 (e) a requirement for an indentured Data list, (excludes nationally recognized military and industry specifications and standards). This list shall include:

(a) a sequence of both part numbers and associated drawing numbers comprising the end item in a lateral and descending family tree/top down breakdown;

(b) a top down breakdown of the end item including all lower level items, listing every assembly, subassembly and part;

(c) every item listed in its relationship to the end item, subassembly, assembly or system of which it is a part;

(d) a relationship as shown by means of physical indenture or numeric sequence, with the indenture indicating that the item is a part of the preceding item;

(e) all drawings shall be of level III quality and specificity.

5.1.3.2 Circuit Card Assemblies (CCA) Drawings

CCA drawings shall include specific input and output requirements, design specifications and acceptance test requirements. The acceptance test requirements shall not require use of the ATE specified in the contract.

5.1.3.3 Source Control (SC) Drawings

SC drawings shall include the description, manufacturer, cage code, OEM part number, unit of issue, material composition, weight, dimensions, color, hardware version, software version, firmware version, library versions, additional notes, or any other information that identifies the item and its performance specifications.

5.2 Preparation and Management Responsibility

5.2.1 Drawing Revisions

Revisions to the data shall comply with ASME Y14.35M. data elements or sub-elements, when found to be defective and/or rejected as unacceptable by the Government, shall not be permitted for use in formal Government technical audits, logistics conferences, or technical manual final inspection.

5.2.2 Conferences, Reviews, and Audits

The Contractor shall host and participate in data guidance conferences, in-process reviews, Physical Configuration Audits (PCA), and final technical review for digital data.

5.2.2.1 Data Rights Guidance Conference

The Government may convene the Data Rights guidance conference ninety (90) days after contract award at
the Contractor's facility to discuss in detail the data requirements. The Contractor shall discuss their approach for the preparation and management of the data. The data guidance conference will, as a minimum, include
the following discussion topics:

(a) identification of contract end items, the Data elements, and associated management Data

(b) requirements for data elements contained in Statement of Work (SOW), Contract Data Requirements Lists (CDRLs), Data Item Descriptions (DIDs), and applicable specifications and standards

(c) quality assurance procedures relating to Data, including control of subcontractor and vendor data elements

(d) Data review and inspection requirements and schedules

(e) data delivery requirements and schedules

(f) review Data drafting practices and formats

(g) review Data document numbering systems

(h) Data rights marking procedures and policies

(i) subcontractors or vendors roles in delivering data under the contract

(j) distribution statements marking and control

(k) Data configuration management system, including methods for releasing data elements, data validation requirements, approving data, and incorporating changes into the data package

(l) organization for developing, releasing, and controlling data elements

(m) control of data elements in digital form, include updates and transfer, and identification of exchange protocols required by the contract

(n) review of corrective action procedures to arrive at corrected data submittal, as outlined in this for documented discrepancies

(o) establish most efficient media types and initial sample candidates for in-process review and final submittals

(p) review of design disclosure criteria and related interface with design compliance documents

5.2.2.2 In-Process Review

Periodic in-process reviews will be conducted during the development of the data as specified in the Contractors Master Schedule. These reviews are team meetings during which an evaluation of progress on data documentation is held. Reviews may be held at the Contractor's facility or conducted off-site by the review activity.

5.2.2.3 Physical Configuration Audit (PCA)

The PCA shall be conducted as defined by General Acceptance Test Procedures (GATP). Data supplied for PCA shall have no outstanding, unincorporated engineering change orders.

5.2.2.4 Final Technical Review for Digital Deliveries

This review evaluates the final form data elements for contract compliance for digital deliveries.

The following statements provide verification requirements.

(a) When final delivery of the product definition Data elements is to be in any other non-standard digital format, a sample (identify at guidance conference) shall be sent to the procuring activity along
with a hard copy of the Data files provided on digital media. These Data should contain sample Data and drawing files in the formats scheduled for delivery. The procuring activity and the Fleet Support Team (FST) will verify the sample digital delivery against the hardcopy to verify that the test media accurately depicts the original Data files and that the delivery media will work successfully on Government equipment.

(b) A Product definition Data file containing multiple file formats for defining an item or system shall contain a Data index file to catalog and label each separate file format, including an association list to link the file formats together.

5.2.2.5 Data Discrepancy Notification and Correction

Written description and notification of data discrepancies uncovered and noted during, or as a result of, formal reviews and audits will be provided by the Government. Documented discrepancies shall be corrected and presented to the Government for comparison prior to the next data in-process review or audit.

5.2.2.6 Data and Equipment

The following Data and equipment shall be made available for inspection or select item builds to support each conference, review, or audit.

(a) Appropriate data elements

(b) Engineering Change Notices

(ECNs) (c) Deviations and waivers

(d) Hardware items

(e) Quality assurance Data

(f) Minutes of previous data reviews

(g) Outstanding discrepancies from previous reviews (action

items) (h) Subcontractor and vendor Data

(i) Applicable company standards, policies, procedures, and records

(j) Various measuring equipment necessary for the

PCA. (k) Software source code

(l) Software Interface Control Documentation
(m) Software acceptance testing documentation

(n) DIACAP certification and other DOD certifications

(o) Software licenses