

PERFORMANCE WORK STATEMENT (PWS)

As of 18 May 2021

Critical UPS & Battery Equipment Support (CUBES) Sustainment, Repair, & Maintenance (SR&M) Services For Uninterruptible Power Supply (UPS) Equipment Supporting Defense Information Systems Agency (DISA)

Contract Number:	XXX
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1. Contracting Officer Representative (COR).

a. Primary and Alternate CORs as specified by GSA.

2. **Contract Title.** Critical UPS & Battery Equipment Support (CUBES): Sustainment, Repair, & Maintenance (SR&M) Services for Uninterruptible Power Supply (UPS) Equipment

3. Background.

- 3.1 Defense Information Systems Agency (DISA) Enterprise Services Directorate (ESD) datacenters provide routine and mission-critical computer processing resources and support to numerous government agencies on a fee-for-service basis, 24 hours per day, 7 days a week.
- 3.2 The Uninterruptible Power Supply (UPS) systems and the associated Battery and Battery Monitoring Systems (BMS) provide backup to the commercial utility power system, allowing mission-critical information technology (IT) systems to continue operating without interruption in any reasonably likely contingency situation.
- 3.3 Maintenance of these systems is critical in ensuring that the systems will function as designed in a contingency situation. Repairs, including emergency repairs where components fail despite the best possible care and maintenance, are also required to keep these systems in fully functional condition. Lifecycle replacements of equipment subsystems are programmed and scheduled to ensure that current, sustainable, and maintainable UPS systems support the critical loads.
- 3.4 The CUBES contract provides a tailored, highly-flexible vehicle to support UPS systems installed in support of the DISA mission and the warfighter. The frequency of preventative maintenance services will, in general, be biannual (once every six months) for UPS maintenance and quarterly (once every three months) for battery maintenance.
- 3.5 Original Equipment Manufacturer (OEM) will be expected to perform all Preventive Maintenance (PM), repair, and installation for all equipment UPS and Battery Monitoring Systems (BMS).

4. Objectives:

- 4.1 This contract vehicle is designed to service critical power supply systems that are managed by the MPE1 Facilities Engineering office. This may, based on future military reorganizations, include facilities where DISA equipment is installed in other services' (owned/operated) datacenters, facilities that are transferred to DISA from other organizations, and shared operations facilities.
- 4.2 The objectives of the contract are to:
 - ⊗ Have continuous availability of installed UPS systems supporting the critical IT loads;
 - ⊗ All UPS preventative maintenance (PM) is to be performed by the UPS OEM.

- ⊗ Eaton will perform PM and repair on Eaton UPS
- ⊗ G.E. will perform PM and repair on G.E. UPS
- ⊗ APC will perform PM and repair on APC UPS
- ⊗ The UPS OEM will be the Contractor for the DISA sites where their equipment is located.
- ⊗ The OEM will achieve a complete, effective, structured preventative and predictive maintenance program on installed OEM UPS and battery systems;
- ⊗ Maximize equipment service life;
- ⊗ Rapidly return to service UPS systems and components that, despite proper maintenance, experience failure conditions;
- ⊗ Provide exceptional communication relating to work planned as well as accomplished; and,
- ⊗ Maintain configuration management information on all installed UPS equipment.
- ⊗ All Battery preventative maintenance (PM) and repair will be performed by qualified technicians (may not be OEM)
- ⊗ Battery Monitoring System (BMS) PM and repair will be performed by OEM certified technicians.

5. Scope. Provide UPS, BMS, and Battery maintenance (to include preventative and unscheduled /emergency) and operational modifications and repairs as required to provide uncompromised and uninterrupted technical power. The scope of this contract includes all DISA facilities that are or may become a DISA responsibility over the life of the contract. See PWS Section 9, Place of Performance, for explicit details and discussion on the locations and UPS and BMS brands covered by the contract.

5.1 OEM certified and only use OEM certified technicians when working on the equipment (see Para 6.1.1.2 and 6.1.2 for list of OEM's).

5.2 Use only OEM Licensed software.

5.3 Service Types. Provide Preventative Maintenance (PM CLIN), Emergency "Unscheduled" Maintenance (Emergency CLIN), and Modification & Repair (TR CLIN) services on the covered systems.

5.3.1 Preventive Maintenance (PM) Services. Operations tasks that keep the covered system(s) whole, aesthetic, and functioning. There are minimal parts and materials costs to conduct operations tasks. These tasks will include all recommended OEM preventive maintenance tasks and testing, detailed cleaning to maintain the system aesthetics and health, light bulb replacement, filter replacement, and similar tasks. Maintenance tasks involve scheduled work orders and will be included in the base bid of the contract. All scheduled work orders will include items to be replaced and maintained on a schedule throughout the contract time period. This will include breaker maintenance of all breakers within the UPS boundary, capacitor replacement, and similar tasks. Minor repairs during the course of scheduled work orders are included in maintenance services (at no additional cost) when the total cost of the minor repair does not exceed \$3,000. Battery string replacement and entire UPS system replacement will not be included in this task category. PM services will be scheduled and performed on a recurring calendar basis. In the context of CUBES, Operations services are a subset of PM services

5.3.1.1 PM includes all recurring work needed to (1) prevent breakdown of critical facilities, equipment, or utilities and (2) allow implementation of maintenance. These services shall include (but not be limited to) preventative, predictive, reactive, and corrective maintenance and will be included in the base bid contract.

- 5.3.1.2 These services shall be provided two times annually for UPS system maintenance and quarterly for BMS and battery systems. Once per year, the major/annual service for each system shall be scheduled and executed during these coinciding times. In order to ensure complete critical power system maintenance annually, the UPS, BMS, and battery services shall occur simultaneously, with close coordination and interaction required between the technician teams executing the work. Additional reporting requirements are required at these major/annual services times (see Sections 6.1.1.20 UPS Deliverables/ 6.1.2.7 BMS Deliverables/ 6.1.3.14 Battery Reports/ 6.1.4.1.3 Breaker Deliverables/ 6.2.4 Emergency Deliverables/ 6.3.9 O&M Deliverables/ 6.4.4 Warranty and Life cycle Deliverables/ 6.5.2 Critical Spares Deliverables)
- 5.3.1.3 All actions by the Contractor shall avoid HAZCONs when and where possible, as a primary goal and effect of the work accomplished under this contract. The Government understands the necessity of HAZCONs during major maintenance, repair, and replacement projects. Scheduled maintenance services include both preventative (PM) and predictive (PdM) components. In general, scheduled maintenance shall include periodic inspections; replenishing supplies; regular tests and analysis, and repair or replacement of parts due to normal wear and tear.
- 5.3.1.4 Scheduled, recurring circuit breaker PM is a requirement of the CUBES Contractor for all circuit breakers rated at or above 800 Amps within the site responsibility delineation boundary, for all circuit breakers requiring these services. This maintenance is to be included in the Firm Fixed price of the contract and will occur once every 5 years. The schedule must be coordinated with the Government and spread equally over a 5 year period. Current maintenance requirements for each specific make and model of UPS and Battery equipment shall follow specific OEM requirements.
- 5.3.1.5 Scheduled, recurring capacitor replacement is a requirement of the CUBES Contractor for all UPS systems. The replacement will occur once every six years and be included in the Firm Fixed price of the contract.
- 5.3.1.6 OEM preventative maintenance requirements for certain types of equipment is available. This information may not represent all equipment types installed at covered sites. The OEM preventative maintenance requirements are generally basic guides, and are generally at a significantly lower level of detail than DISA has determined necessary. Preventative maintenance services planned and executed by the Contractor shall contain all OEM-recommended minimum requirements.
- 5.3.1.7 Scheduled maintenance that may disrupt the site production or disturb site personnel for more than 10 minutes shall be scheduled for weekends or evenings. The Contractor shall submit a Utility Outage Request and Method of Procedure (MOP) together to the site Facility Manager at least 40 calendar days prior to the outage. The Contractor shall not proceed with the work until the MOP and outage has been approved by the Government.
- 5.3.1.8 The Contractor shall prepare a PM schedule detailing the periodic (daily/weekly/monthly, et cetera) work to be done on each piece of equipment and what type of Contractor resources (personnel, tools, consumables, subcontractors, et cetera) will be used. This schedule will be provided to DISA MPE1 Facility Engineer in an EXCEL format to cover scheduled PM's no less than one (1) year in advance. Any changes to this schedule will be conveyed to the DISA MPE1 Facilities Engineer as they are conformed.

- 5.3.1.9 The Contractor shall vet all software and software applications through the DISA DECC security office for each location where the software is used as applicable.
- 5.3.1.10 The vendor will provide annual on-site training to the operations personnel for the UPS and BMS systems annually. Training will include 2 hours for each system and will include normal operation procedures, and emergency operational procedures. The training will be in person and will be hands on as much as practical covering:
 - 5.3.1.10.1 Normal configurations.
 - 5.3.1.10.2 Bypass configurations.
 - 5.3.1.10.3 All Maintenance configurations and procedures.
 - 5.3.1.10.4 Emergency configurations for automatic and manual operations.

5.3.2 Emergency "Unscheduled" Maintenance. _Unscheduled maintenance & repair services are designed to correct problems that occur in the covered equipment despite the daily operations and regular scheduled maintenance applied. There are no limitations to the types of problems that may be encountered with the covered equipment and systems, and all of these require direct, rapid, effective action to keep the mission-critical loads operational. Unscheduled maintenance & repair services (a.k.a. "emergency services") shall include all troubleshooting and repair.

- 5.3.2.1 Processes to execute unscheduled (emergency) maintenance & repair services are detailed under Section 4.3 (Unscheduled (Emergency & Priority) Requirement Processing) of the current Technical Requirement (TR) Standard Operating Procedure (SOP), as detailed in PWS Section 16.
 - 5.3.2.2 Minor repairs during the course of unscheduled Work Orders are included in maintenance services (at no additional cost) when the total cost of the minor repair does not exceed \$3,000. Repairs in excess of this threshold must be completed under an "Operational Modification & Repair Task" TR.
 - 5.3.2.3 BMS systems are not considered mission-essential and therefore are not subject to "emergency" actions. Parts required in support of unscheduled service calls shall be obtained in the most expedient manner available.
 - 5.3.2.4 Operational Support. The Contractor may be required to provide on-site staff expertise to support HAZCON and contingency situations at a covered operational site in order to reduce risk (or the perception thereof) to the datacenter's critical power paths under an Unscheduled Repair tasking.
- 5.3.3 Operational Modification & Repair Tasks. Modification and repair tasks are designed to allow the Government to modify, add to, remove from, or otherwise change the configuration, functionality, installed equipment, or functionality of installed equipment and systems, or to allow repairs to installed equipment and systems in excess of \$2,500.
- 5.3.3.1 The types of modification, change, or major repair tasks that may be ordered under CLINs associated with this type of work must remain within the scope of this contract. No realistic estimate of the specific work or costs associated with such is possible in advance of individual requirements being identified. This portion of the work under this contract is anticipated to represent less than 5% of the overall contract ceiling value during the life of the contract.
 - 5.3.3.2 Representative examples of modification and repair tasks which may be ordered against CLINs established for this work category include, but are not limited to:

- ⊗ Replacement of individual battery jars;
- ⊗ Replacement (scheduled or unscheduled) of complete battery strings;
- ⊗ Replacement of battery spill containment equipment;
- ⊗ Reconfiguration of battery strings to accommodate physical restructuring of the facility;
- ⊗ Replacement or relocation of battery disconnect switches;
- ⊗ Major services on bypass module circuit breakers;
- ⊗ Replacement (unscheduled) of UPS module capacitors;
- ⊗ Repair or replacement of interface control screens; and,
- ⊗ Emergency and long-term rental or lease of equipment to supplement or replace nonfunctional, damaged, or destroyed equipment, or to provide temporary supplemental capacities.
- ⊗ Repair, Install, replace of BMS.

5.3.3.3 PWS Section 16 provides information on how tasks for operational modification and repairs will be ordered, costs negotiated, and work approved. Work required under these CLINs will include all necessary labor, parts, materials, equipment, and associated costs to provide turn-key project completion for the required modification or repair tasks.

5.3.3.4 All repairs, replacements, services and maintenance under this agreement will be accompanied by an MOP and will not proceed until the MOP is approved by the sites and DISA MPE1 Facilities Engineer. Unscheduled maintenance shall include all actions required to restore the end item to a serviceable condition, to prepare the end item for service (to include assembly), for first time maintenance, to prepare the end item for storage, to prepare the end item for shipment and to prepare the end item for turn in, including but not limited to unit assembly, unit disassembly, repairing, replacing, or rebuilding parts, assemblies, subassemblies, components, and end items, plus testing. Unscheduled maintenance due to its nature will not require an MOP, but will require site and DISA MPE1 Facilities Engineering approval. Testing of completed end item shall be in accordance with applicable technical data. Unscheduled maintenance shall include purging and preparation for storage/turn in. Re-assembly and maintenance upon receipt from shipment is required. Manufacturer's identification and/or data plates shall remain intact unless removal is necessary for cleaning or repair. The Contractor shall reinstall if removal is necessary.

5.4 In-Service Equipment Scope Overview. For each covered system the Government shall provide a technical exhibit showing (where possible) the UPS system one-line diagram with a bounding box indicating delineation of service responsibilities. In general, all components necessary for the function of the UPS system as designed are to be included in provided services under this agreement. These components typically include: UPS, Batteries, Rectifiers, Inverters, Capacitors, Modules, Static Switches, Controls, Chargers, Circuit Breakers, Disconnects, Bypass Panels, hot ties, enclosures, racks, spill containment, interconnecting and ancillary equipment. In some systems, specific components meeting the functionality of these general equipment types may have different manufacturer names (static bypass module, HBSS, or similar); these equipment types are included in the scope of all services to be provided.

5.4.1 In general, the scope for each system will include from:

- 5.4.1.1 The input circuit breakers and the input conductor where it transitions from external conduit/busway to the UPS system cabinets.
- 5.4.1.2 The output circuit breaker and the output conductors where they leave from the UPS system cabinets.
- 5.4.1.3 Environmental Conditioning – Inspection,, and recommendations to settings relating to such in physical plant areas containing covered equipment and systems.
- 5.4.1.4 Loading – Monitoring and trending of system loading, balanced loading, and recommendations relating to such.
- 5.4.1.5 Battery Monitoring – Physical and electrical monitoring of stored energy systems, to include operational use and maintenance of installed Battery Monitoring Systems (BMS) where available.

5.5 Equipment group identification acronyms.

- 5.5.1 BAT - Battery String
- 5.5.2 BDS - Battery Disconnect Switch (includes split string disconnects)
- 5.5.3 BMS - Battery Monitoring System
- 5.5.4 SBM - System Bypass Module
- 5.5.5 UPS - UPS Module
- 5.5.6 USWGR - UPS Switchgear, and similar
- 5.5.7 Refer to PWS Section 19, Definitions, for detailed definitions of what is included and excluded for each of these equipment groups.
- 5.5.8 Equipment typically excluded from the scope of each system includes switchgear and circuit breakers outside of UPS system boundaries, Hydrogen Detectors, and similar.

5.6 Partnering. In order to meet as many geographical and technical service requirements as possible, partnering of Contractors with other commercial providers is encouraged. Partnering arrangements describing which services and/or geographical areas will be provided by each partner in a team shall be provided to the Government in the technical proposal. In all cases, the Government shall have a single contract point of contact for all services awarded to a single partner team.

- 5.6.1 RAPIDGate. The Contractor shall utilize RAPIDGate for all DECC access as applicable. Sites with access are found at www.rapidgate.com.

5.7 Maintenance Impact Level (MIL) Codes. Scheduled maintenance tasks identified and placed into the PM schedule shall include a field identifying the level of impact of the maintenance task on the facility and a corresponding field for what level of notification and approval is necessary to conduct the scheduled work. This identifier shall be known as the Maintenance Impact Level or MIL code, and be rated from 1 to 4, with 1 having the highest potential impact.

- 5.7.1 MIL codes are assigned to *maintenance tasks*, not to *equipment*.
- 5.7.2 MIL code levels may be developed by the Contractor but are subject to change if site management has a differing perspective of the potential impact of services. This requirement is intended to allow coordination of high-impact maintenance events with IT and other operations. For example, load bank testing of the generators which may make the emergency

power generation system unavailable or cause IT personnel to think that the facility is operating on emergency power because a contingency event has occurred could be considered by site management to be rated “high impact” and thereby require a higher level of notification than a “moderate impact” service.

5.7.3 The MIL code for a service allows datacenter operations and management to de-conflict actions that the maintenance Contractor may not have visibility on; for example, if an outdoor change of command ceremony or activity lunch event were scheduled, the noise and smoke from a generator run would not be acceptable to site management.

5.7.4 The following impact criteria are specified:

5.7.4.1 MIL-1 (Maintenance Impact Level 1): **Potential for high impact on supported systems.**

5.7.4.1.1 The identified scheduled maintenance service reduces the system redundancy to a point that a single failure on other equipment would create a situation where the load exceeds the available support. Special contingency planning is required for all MIL-1 maintenance activities to manage potential risks. Compare to HAZCON in Section 01 42 16 of CSI 360-95-3 (Facilities Standards). Do not report this work as placing the facility in a HAZCON. For example, in a system with 3 chillers where 2 are necessary to maintain the critical load, maintenance on the 3rd chiller would be MIL-1. Scheduling of Impact Level 1 maintenance items requires notification and approval at the site Facilities Branch Chief (or site Director) level.

5.7.4.2 MIL-2 (Maintenance Impact Level 2): **Potential for moderate impact on supported systems.**

5.7.4.2.1 The identified scheduled maintenance service reduces the redundancy to a level where a single failure (in addition to the maintenance outage) creates a situation where the system is at N redundancy. No contingency planning is required for these activities. The scheduling of Impact Level 2 maintenance items requires notification and approval at the site Facility Manager level.

5.7.4.3 MIL-3 (Maintenance Impact Level 3): **Potential impact on supported systems is low.**

5.7.4.3.1 The identified scheduled maintenance service impacts operational equipment and, if performed incorrectly or if other systems are not operating properly, may create a failure situation for that equipment. Failure of this equipment is backed by other redundant, operational equipment. Most maintenance activities are MIL-3. For example, lubrication of operating pumping equipment or motors fit into this category. There are no specific notification or approval requirements for Impact Level 3 maintenance activities.

5.7.4.4 MIL-4 (Maintenance Impact Level 4): **No discernible impact on supported systems.**

5.7.4.4.1 The identified scheduled maintenance services would not conceivably have an impact on the mission. For example, taking readings from equipment gauges or meters, or performing simple operational checks (lamp test, functionality not affecting equipment readiness, et cetera). There are no notification or approval requirements for Impact Level 4 maintenance activities.

5.8 Response Times.

5.8.1 Response times for emergency “unscheduled” work are categorized with the severity of the impact/risk on mission. Three categories of response are:

- ⊗ Emergency (immediate impact on mission/data racks without power)
- ⊗ Hazardous Condition (potential impact on mission, degradation of redundancy)
- ⊗ Routine repair (potential degradation of redundancy)

5.8.2 Emergency response time. On site within 4 hours of initial notification. Power restored to mission within 6 hours of notification. Full power redundancy within 14 days of notification.

- 5.8.3 Hazardous Condition (HAZCON) response time. On site within 8 hours of initial notification (unless instructed otherwise). Full power redundancy within 14 days of notification.
- 5.8.4 Routine repair response time. On site within 24 hours of initial notification. Repair completed within 30 days of given Notice to Proceed (NTP) from Contracting.
- 5.8.5 Notification.
- 5.8.5.1 The Contractor shall maintain a toll-free 24x7 telephone help desk service to accept unscheduled or emergency response calls. This help desk shall be staffed 24x7 with personnel who speak fluent English.
- 5.8.5.2 Notification of the Contractor that an unscheduled or emergency response is necessary shall be accomplished by telephone contact to the 24x7 help desk. A client or customer representative (from MPE1 Facilities Engineering or the local site Facility Management team) will contact the 24x7 help desk and provide the following information:
- ⊗ Site Name & Physical Location
 - ⊗ Customer Contact Name, Desk Telephone, & Cellular Telephone
 - ⊗ Affected System (UPS A, SBM, battery string 4, et cetera)
 - ⊗ Brief Statement of Problem
 - ⊗ Statement that Onsite Response is/is not Necessary
- 5.8.5.3 The countdown clock for response times, as detailed above, begins at the time the notification telephone call is initiated. A summary of response times for each site will be included in the Contractor's annual report. The response times will include:
- 5.8.5.3.1 Time for initial response.
 - 5.8.5.3.2 Time for restoration of power to mission.
 - 5.8.5.3.3 Time for complete repair and all systems back to normal operations.

5.9 Technical Support.

- 5.9.1 The Contractor shall provide technical assistance where appropriate to allow onsite customer personnel including O&M Contractors and site Facility Managers to troubleshoot and resolve problems without an onsite response. The intent of this service is to provide appropriate support to meet contract objectives in the most economical fashion for both the Government and the Contractor.
- 5.9.2 Technical support shall consist of direct verbal or written communications between qualified Contractor personnel and personnel at the onsite location.
- 5.9.3 Technical support shall be initiated by the Contractor within thirty (30) minutes of notification. The initiation of technical support does not defer or delay the response time requirements for onsite maintenance and/or repair services, when requested.
- 5.9.4 If the initial notification call declares that onsite response is not necessary, and technical support determines that it is following initial troubleshooting, the countdown clock for response times, as detailed above, begins at the time that the Government representative determines and states that onsite response has become necessary due to the inability of technical support to resolve the issue(s).

5.10 Battery Replacement.

- 5.10.1 There is limited storage space available in a conditioned environment for replacement batteries, and for batteries being decommissioned. When batteries are replaced en masse, the Contractor shall schedule installation tasks and movement of the batteries to and from the site such that not more than one (1) replacement or decommissioned string is onsite at any given time.

- 5.10.2 Battery equalization shall be accomplished upon string replacement and afterwards on each string based on the battery manufacturer's recommendation or scheduled maintenance.
- 5.10.3 Installation shall be conducted IAW IEEE 450 and IEEE 1188 requirements, including measurement recording and battery equalization. Unless specifically ordered, there is not a requirement for load banking of battery strings. Once per year the Contractor shall:
 - ⊗ Torque the battery string terminations at the battery and disconnect for each string and batteries per OEM recommendations.
 - ⊗ Torque the battery string connections at the UPS termination point per OEM recommendations.
 - ⊗ DRO test the battery disconnects for all strings per OEM recommendations. Provide a written report to DISA Engineering.

5.11 Warranties

- 5.11.1 Manage and maintain warranties on all in-scope equipment at each covered site to include battery warranty applications and required battery data.
- 5.11.2 Provide all parts, labor, and workmanship warranties on all equipment installed under this contract. New equipment parts will be used unless otherwise accepted by DISA. All equipment, labor, and workmanship warranties shall be for not less than one (1) calendar year from date of equipment operational acceptance (not purchase or installation). "Operational acceptance" means when the equipment has been accepted for Substantial Completion as identified by DISA. In the event of an equipment failure for warranted equipment or parts, the Contractor shall, at his expense, repair, restore, or replace the covered equipment and bring the affected system back to full operational condition.
- 5.11.3 Existing Warranties.
 - 5.11.3.1 When maintenance and repair service coverage is awarded for a covered site, the Contractor shall assume responsibility for existing warranties on equipment, where those warranties may still be in effect. Provide maintenance and other related services to maintain any warranties for their full term, and, in the event of a covered equipment failure, repair, replace, have replaced, or otherwise bring back to full operational condition the warranted equipment.

5.12 Lifecycle Management.

- 5.12.1 Based on the installation and major component replacement dates of existing and new systems, the Contractor annual report shall include a schedule for recommended planning and programming involving major component replacements for the ten (10) year planning horizon beginning with the next fiscal year (1 Oct-30 Sep). This report shall be referred to as "Investment Recommendations for Major Component Replacement."
- 5.12.2 Contractor shall give a recommendation for each UPS and battery system for replacement date (in-service date of new equipment to replace existing) shall be made, based on an assumption of continuing maintenance and repair services at the level required by CUBES. The Government will use this information to assist in planning and programming for actual replacement requirement dates based on the *condition* of equipment, rather than solely on the length of time the equipment is in service.
- 5.12.3 For the purposes of these recommendations. The anticipated (planned) useful life of UPS system components is defined as 12 years for hardware, 10 years for flooded cell batteries,

and 5 years for sealed cell batteries. Unless otherwise specified by the specific equipment manufacturer and explicitly stated in the recommended investment schedule, plan to replace UPS module capacitors on a 6 year cycle based on the manufacturer's date code on the installed capacitors.

5.12.4 The Contractor annual report shall, for all sites covered, Contractor show the recommended investment plan for ten (10) fiscal years into the future to allow DISA to program adequate budgetary funding to accomplish the recommended investments.

5.12.4.1 The report shall include an overall summary of the performance of the UPS, Battery, and BMS systems. The report shall cover:

5.12.4.1.1 Annual response times, equipment down time, time to restore to normal operations.

5.12.4.1.2 A comparison of the actual down time per manufacturer advertised down time.

5.12.5 Report shall be due on or around 1 Nov of each year.

5.12.6 An example of content in this annual investment recommendation is shown below. Format for this investment recommendation is not specified. (All information shown below is hypothetical only.)

Fiscal Year	Site A	Site B	Site C	Site D	Recommended Annual Investment (Current \$\$)
FY23 (Current FY+1)	Replace 8 capacitor sets @ 6 years, \$140,000	(No planned investment)	(No planned investment)	(No planned investment)	\$140,000
FY24	(No planned investment)	Replace 6 battery strings @ 10 years, \$630,000	(No planned investment)	(No planned investment)	\$630,000
FY25	Replace 4 battery strings @ 10 years, \$420,000	(No planned investment)	(No planned investment)	(No planned investment)	\$420,000
FY26	(No planned investment)	(No planned investment)	(No planned investment)	(No planned investment)	\$0
FY27	(No planned investment)	(No planned investment)	(No planned investment)	(No planned investment)	\$0
FY28	Replace 4 battery strings @ 10 years, \$420,000	Design UPS system replacement (14 years), \$900,000	Replace 6 battery strings @ 10 years, \$630,000	(No planned investment)	\$1,950,000
FY29	(No planned investment)	Replace 6 UPS modules & 2 SBMs @ 15 years, \$9M	(No planned investment)	(No planned investment)	\$9,000,000
FY30	(No planned investment)	(No planned investment)	(No planned investment)	(No planned investment)	\$0
FY31	(No planned investment)	(No planned investment)	(No planned investment)	Replace 8 battery strings @ 10 years, \$840,000	\$840,000
FY32	(No planned investment)	(No planned investment)	(No planned investment)	(No planned investment)	\$0

5.13 Critical Spares:

5.13.1 Conduct an inventory at each UPS PM with the Facility Manager of all existing Government-owned spare parts and/or spares kits at each covered site. Critical spare

equipment shall be physically stored at a covered Government facility. Spare parts revision codes will be checked at inventory by the Contractor and updated as recommended by the OEM based on the update compatibility with the exiting revisions in the UPS systems.

- 5.13.2 Make recommendations to the Government regarding additional spare parts, spare kits, and critical spare parts necessary to ensure that UPS equipment is continuously available to support the critical IT loads. Recommendations are anticipated to be more extensive in OCONUS areas where transportation of equipment following a contingency might result in an extended equipment outage.
- 5.13.3 Critical spares are those which have the potential to cause significant equipment HAZCON or outage time if they fail, and are not readily available from a local source. Major system components such as capacitor panels and individual batteries are not, in general, economically or feasibly stored as critical spares.
- 5.13.4 Critical spares shall be initially acquired using an "Operational Modification & Repair Task" Technical Requirement, as detailed in PWS Section 16. Replacements of critical spares under the \$3,000 threshold shall be completed as those items are expended during unscheduled maintenance activities. Replacements exceeding the \$3,000 threshold shall be completed using an "Operational Modification & Repair Task" Technical Requirement, as detailed in PWS Section 16.

5.13.5 Availability of Critical Spares:

5.13.5.1 Requirements for availability will vary based on factors such as covered site geographic category, relative location of other covered sites with pooled spare resources, travel and shipping time to the covered site, design (redundancy & contingency operating paths) of the critical power system at the facility, and similar. The guideline deciding whether critical spares will be purchased and stored at the site is generally

5.13.5.1.1 "If the part/material/tool is unavailable during a failure at the response time requirement for the facility, and based on this unavailability the site is unable to provide uninterrupted, conditioned critical power to the supported load, then the part/material/tool shall be made available through the critical spares program."

5.13.5.1.2 The decision to stock or not stock individual critical spares is the responsibility of the Government. The Contractor shall be responsible to advise the Government on the necessity of individual critical spare parts/materials/tools.

5.13.6 Pooling of Critical Spares:

5.13.6.1 Pooling (sharing between multiple covered sites) of critical spare equipment for covered equipment, if availability is not compromised for the facility(ies) that are not the primary storage location, is authorized. Reference the response time requirements for each facility and the ability to have material transferred, as needed, from one facility to another in proposing any pooling solution.

5.13.7 Rotation & Maintenance

5.13.7.1 Identify within the inventory report all critical spares that can degrade or require routine maintenance shall be included in the Contractor's PM program. Operational rotation of appropriate components that reduces maintenance downtime or increases the expected reliability of the supported equipment is authorized.

5.13.7.2 Critical Spares will be inventoried and the part revision number checked with the manufacturer on an annual basis for obsolescence. Obsolete revisions will be updated at the recommendation of the OEM to be compatible with the existing revision of the equipment the spare supports.

- 6. **Performance Requirements:** Furnish all materials and test equipment to perform the required tasks. Coordinate scheduled services and facility access with local site Government representatives in advance.

6.1 Preventative Maintenance

6.1.1 UPS Preventative Maintenance

6.1.1.1 Operate power distribution systems correctly, power outages are minimized, repairs made immediately, and power restored as quickly as possible, and progressive effort made to keep system efficient and technology current.

6.1.1.2 The UPS OEM brands are located at the following sites. See section 9.0 for the physical address of the site:

00 DISA XX

02 DISA XX

03 DISA XX

04 DISA XX

06 DISA XX

08 DISA XX

09 DISA XX

10 DISA XX

11 DISA XX

6.1.1.3 The following subtask listing is a general and generic (not manufacturer-specific) set of tasks that are expected to be performed during UPS maintenance service in addition to all OEM recommended maintenance actions. Some tasks may not be applicable to all equipment types; some installed systems may have components or by manufacture may require additional, specific services to those listed. This performance-based contract requires that the vendor maintain the covered equipment appropriately, in order to meet lifecycle cost and performance thresholds. The tailored maintenance services to be provided for each system should, at a minimum, strongly resemble these general and generic task lists.

6.1.1.4 This is not intended to be a chronological checklist; different systems will require portions of the work to be conducted in a particular sequence in order to complete all work on the system efficiently. The Contractor shall determine the most appropriate work structure that includes, at a minimum, these components, in order to meet the performance objectives associated with them.

6.1.1.5 Provide a PM schedule with OEM recommended PM requirements/Checklist for government review.

6.1.1.6 Specific mandatory references providing additional technical requirements for the maintenance of these systems are found in NFPA 70B, "Electrical Equipment Maintenance" (Chapters 8, 25, and others as applicable to the specific equipment installed at each site).

6.1.1.7 Provide fully-qualified OEM trained and certified technical service representatives to perform the required tasks in conformance with the Government approved PM requirements/Checklist referenced above.

6.1.1.8 Perform detailed Visual Inspections (Twice Annually).

6.1.1.8.1 Conduct overall visual inspection of UPS area. Note any unusual conditions, including those which could be hazardous to operators, maintenance personnel, or the reliability of the equipment. Identify any abnormal operating noises, smells, and vibrations.

6.1.1.8.2 UPS and Battery visual inspections will be per the OEM recommended practice and will be listed by item in the PM reports as pass/fail.

6.1.1.8.3 The Visual Inspection will cover all items in the Contractor boundary.

6.1.1.9 Report Internal Operating Parameters (Twice Annually).

6.1.1.9.1 Measure and record each of the following operating parameters (condition or value)

6.1.1.9.2 Internal Operating parameters will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.1.9.3 The Contractor will determine if each operating parameter is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.1.10 Report External Operating Parameters (Twice Annually).

6.1.1.10.1 Measure and record each of the following operating parameters (condition or value).

6.1.1.10.2 External Operating parameters will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.1.10.3 The Contractor will determine if each operating parameter is within normal ranges and note this in the PM report with a recommendation for correction

6.1.1.11 Environmental Parameters (Twice Annually).

6.1.1.11.1 Measure and record each of the following operating parameters (condition or value).

6.1.1.11.2 Environmental Parameters will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.1.11.3 The Contractor will determine if each Environmental Parameters is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.1.12 Battery System Parameter Checks (Twice Annually).

6.1.1.12.1 These tasks will duplicate basic inspection tasks conducted during battery maintenance.

6.1.1.12.2 Battery System Checks will be per the OEM recommended practice and will be listed by item in the PM reports

6.1.1.12.3 The Contractor will determine if each Battery System Parameter Check is within normal ranges and note this in the PM report with a recommendation for correction. .

6.1.1.13 Monitoring System Parameters (Twice Annually).

6.1.1.13.1 Monitoring of System Parameters will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.1.13.2 Test UPS alarm to the Building Automation System (BAS) level and verify the Network Operations Center (NOC) receives the alarms. The test will be coordinated with the Facility Manager.

6.1.1.13.3 The Contractor will determine if each System Parameters is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.1.14 Cleanup (All services).

6.1.1.14.1 Leave the facility in exemplary condition at the end of the service.

- 6.1.1.14.2 Remove all large pieces of debris, trash, consumable containers and packaging, removed components, and similar from area to designated waste or recycling receptacles. Some recycling tasks may require transport of the components off-site by the Contractor.
- 6.1.1.14.3 Clean all small debris, including papers, electrical wire trimmings, plastic wrappers and packaging, spillage & drips from consumables, and similar in the operational area. Sweep the operational area as necessary.
- 6.1.1.14.4 Dust all equipment to remove any built-up dust, dirt, grime, or similar.
- 6.1.1.14.5 Clean equipment screens/soles to remove dust, streaks, fingerprints, and similar.
- 6.1.1.15 Reporting (Twice Annually).
 - 6.1.1.15.1 Verify with customer that system has been restored to fully automatic operational state.
 - 6.1.1.15.2 Conduct a customer consultation in the UPS area. Physically show the local Government POC the work completed, not completed, deferred, and similar.
 - 6.1.1.15.3 Provide verbal recommendations to the local Government POC regarding operation, maintenance, repairs, or environmental condition based on the maintenance and inspections performed.
 - 6.1.1.15.4 Provide written field service reports to include general observations regarding the UPS system.
 - 6.1.1.15.5 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating service personnel involved and time and date of service completion.
- 6.1.1.16 Major UPS Service Checks & Services (Annual)
 - 6.1.1.16.1 Major UPS Service Checks & Services will be per the OEM recommended practice and will be listed by item in the PM reports to include.
 - 6.1.1.16.2 Verify proper load sharing among UPS modules.
 - 6.1.1.16.3 Perform operational integrity verification, transfers, and battery discharge. Exercise UPS circuit breakers and contactors.
 - 6.1.1.16.4 Perform and verify correct UPS operation by simulated system input failure. (This subtask is designated a MIL-1 service.)
 - 6.1.1.16.5 Test UPS switchgear transfer logic.
 - 6.1.1.16.6 Perform UPS calibrations and load sharing adjustments per operational specifications of the OEM.
 - 6.1.1.16.7 The OEM Contractor will arrange with the site to be present at a generator Dark Start or equivalent test to observe the UPS, switchgear and battery systems in an actual commercial power loss test. The battery strings will be monitored by the BMS before and after the test. The Contractor will provide a report based on test results as to the capacity of the battery strings, UPS's and switchgear operation.
 - 6.1.1.16.8 Perform a sequence of operations test for the UPS to verify the bypass, hot tie (as applicable), and transfer from the A and B buss are functioning correctly. This will be coordinated with the Facility Manger.
- 6.1.1.17 UPS check and balance with load Bank (1 time every 2 years)
 - 6.1.1.17.1 Provide all necessary test equipment to perform a system design load bank test for the UPS.

6.1.1.17.2 The test will not include a load on the batteries, but will only use and test the UPS system.

6.1.1.18 Capacitor Replacement (1 time every 6 years)

6.1.1.18.1 Provide replacement of UPS capacitors every 6 years from last replacement. Date and past schedule of capacitor change is located in Attachment 2.

6.1.1.19 Visual & Physical Inspections.

6.1.1.19.1 Visually inspect power and control wiring for damage, worn insulation and signs of excessive heat or arcing.

6.1.1.19.2 Check power and control lugs and connections. Torque all mechanical and electrical power connections to OEM recommend levels including battery connections at the UPS buss and connections at the battery disconnect switches.

6.1.1.19.3 Visually inspect UPS switchgear components for signs of damage.

6.1.1.19.4 Visually inspect UPS switchgear power and control wiring for damage, worn insulation and signs of excessive heat or arcing.

6.1.1.19.5 Thermographic inspection of internal components and connections. Conduct IR thermography while system components in the energized state under load. Wear appropriate PPE for arc flash hazard(s) present in each system component.

6.1.1.20 Deliverables.

6.1.1.20.1 Quality Assurance (QA) Surveillance Report (following all services – two times annually unless otherwise specified). The Contractor maintenance personnel shall provide a physical written filled-out copy of the QA surveillance form to the Quality Assurance Personnel (QAP) at the time of service for signature. This documents the date and time of service, that the QAP was consulted as required by the Reporting subtask above, and allows surveillance observations to be recorded for every service.

6.1.1.20.2 Service Report (following all services – two times annually unless otherwise specified) covering all tasks 6.1.7-6.1.15.). The Contractor maintenance personnel shall provide a physical written copy of the service report signed and dated by the field technicians indicating measurement recordings, observations, notes, and recommendations to the QAP at the time of service. Provide a list of any and all OEM recalls/repairs for existing equipment and parts as well as a plan to perform the correction.

6.1.1.20.3 Electronic Service Report (following all services – two times annually unless otherwise specified). The Contractor shall provide an electronic copy of the QA surveillance form from 1. and the service report from 2., with an analysis of conditions that have changed from previous services, and in-depth recommendations (including cost). This report shall be provided to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR, not more than ten (10) business days following the completion of the service.

6.1.1.20.4 Service Life Assessment (following major/annual service). The Contractor shall provide a written assessment of the equipment condition and recommendation for the equipment/system replacement date.

6.1.1.20.5 Investment Recommendations for Major Component Replacement (following major/annual service).

6.1.1.20.6 PM Schedule. Provide annual schedule of PM tasks within 30 days after award or execution of option period.

6.1.1.20.7 TR report. Provide TR report of all active TRs on a quarterly basis. A conference call will be scheduled with this report for review and follow-up.

6.1.1.20.8 Root cause report. Provide a root cause report for any and all issues affecting the UPS system.

6.1.2 Battery Monitoring System (BMS) Preventative Maintenance

6.1.2.1 OEM-specific BMS systems are located at the following sites. See section 9.0 for the physical address of the site:

02	DISA XX
03	DISA XX
04	DISA XX
06	DISA XX
09	DISA XX
10	DISA XX
11	DISA XX

6.1.2.2 Data Validation with Battery Monitoring System (BMS) (Quarterly).

6.1.2.2.1 Prior to battery maintenance visit, obtain information from the local Government POC regarding cells that may need replacement from the installed Battery Monitoring System (BMS), if installed. Have replacement batter(ies) available (on-hand or able to be delivered during onsite service) for any batter(ies) for which reports indicate potentially degraded condition that would reasonably negatively affect other batteries in the string or the ability of the string to carry the design load in a contingency situation.

6.1.2.2.2 Data Validation with Battery Monitoring System will be determined per the OEM recommended practice and will be listed by item in the PM reports.

6.1.2.2.3 Determine if each battery string is within normal ranges and note this in the PM report with a recommendation for correction. .

6.1.2.3 Battery Monitoring System (BMS) Operation and Maintenance (Annual)

6.1.2.3.1 BMS Preventative Maintenance Services will be determined per the OEM recommended practice and will be listed by item in the PM reports. The Contractor will determine if each BMS Preventative Maintenance Services is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.2.4 BMS Software/Firmware Updates/Upgrades

6.1.2.4.1 BMS Software/Firmware Updates/Upgrades will be performed per the OEM recommended practice and will be listed by item in the PM reports.

6.1.2.4.2 The Contractor will determine if each BMS Software/Firmware Updates/Upgrades functions within normal ranges and note this in the PM report with a recommendation for correction.

6.1.2.5 Installation of Interactive Battery Maps:

6.1.2.5.1 Battery mapping involves complete integration of the installed BMS with the local Building Automation System (BAS).

6.1.2.5.2 Installation of Interactive Battery Maps will be performed per the OEM recommended practice and will be listed by item in the PM reports This work is intended to allow an associated BAS to access the visual representation and database of the BMS for complete integration.

6.1.2.5.3 Determine if each Installation of Interactive Battery Maps functions within normal ranges and note this in the PM report with a recommendation for correction. .

6.1.2.6 System Hardware & Software Modifications:

6.1.2.6.1 The Government may order system modifications based on changes to installed battery systems, changes in available BMS technology, or for other technical reasons. The Contractor shall respond to these orders promptly and professionally. All work ordered shall be accomplished by Technical Instruction.

6.1.2.6.2 BMS software shall be installed on stand-alone computer(s) (not networked to Government networks, and with no connectivity to the outside world) only. Integration with Building Automation System (BAS) systems may be required. This work shall be accomplished by Technical Instruction (TI) with extensive coordination between the Contractor and BAS enterprise vendors.

6.1.2.7 Deliverables

6.1.2.7.1 Quality Assurance (QA) Surveillance Report (following all services – quarterly unless otherwise specified). The Contractor maintenance personnel shall provide a physical written filled-out copy of the QA surveillance form to the QAP at the time of service for signature. This documents the date and time of service, that the QAP was consulted as required by the Reporting subtask above, and allows surveillance observations to be recorded for every service.

6.1.2.7.2 Service Report (following all services – quarterly unless otherwise specified) covering all tasks 6.2.5-6.2.13.). The Contractor maintenance personnel shall provide a physical written copy of the service report, measurement recordings, observations, notes, and recommendations to the QAP at the time of service. Posting of the service report on an OEM Website is not acceptable. The report must be delivered to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR not more than 10 days after the service.

6.1.2.7.3 Electronic Service Report (following all services – quarterly unless otherwise specified). The Contractor shall provide an electronic copy of the QA surveillance form and the service report with an analysis of conditions that have changed from previous services, and in-depth recommendations (including cost). This report shall be provided to the client Electrical Engineer assigned as the

technical representative for the contract, as well as to the assigned COR, not more than seven (7) calendar days following the completion of the service.

6.1.2.7.4 Service Life Assessment (following major/annual service). The Contractor shall provide a written assessment of the equipment condition and recommendation for the equipment/system replacement date.

6.1.2.7.5 PM Schedule. Provide annual schedule of PM tasks within 30 days after award or execution of option period.

6.1.2.7.6 Root cause report. Provide a root cause report for as applicable for all anomalies or issues with the BMS systems.

6.1.3 Battery System Preventative Maintenance:

6.1.3.1 The following subtask listing is a general and generic (not manufacturer-specific) set of tasks that are expected to be performed during a battery maintenance service. Some tasks may not be applicable to all equipment types; some installed systems may have components or by manufacture may require additional, specific services to those listed. This performance-based contract requires that the vendor maintain the covered equipment **appropriately**, in order to meet lifecycle cost and performance thresholds. The tailored maintenance services to be provided for each system should, at a minimum, strongly resemble these general and generic task lists.

6.1.3.2 This is not intended to be a chronological checklist; different systems will require portions of the work to be conducted in a particular sequence in order to complete all work on the system efficiently. The most appropriate work structure shall be determined that includes, at a minimum, these components, in order to meet the performance objectives associated with them.

6.1.3.3 Specific mandatory references providing additional technical requirements for the maintenance of these systems are found in NFPA 70B, "Electrical Equipment Maintenance" (Chapters 8, 25, and others as applicable to the specific equipment installed at each site) and IEEE450 and IEEE1188.

6.1.3.4 Provide fully-qualified technical service representatives to perform the required tasks. The Contractor shall furnish all materials and test equipment to perform OEM recommended PM requirements. The Contractor shall coordinate scheduled services and facility access with local site Government representatives in advance.

6.1.3.5 Provide the OEM recommended PM requirements/Checklist for governmental approval.

6.1.3.6 Measure and record the impedance, temperature, and specific gravity as applicable. (Bi-annual)

6.1.3.7 Measure and record operating parameters (Quarterly)

6.1.3.8 Measuring and recording of operating parameters will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.3.8.1 Determine if each Operating Parameter is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.3.9 Conduct visual inspections of the following for condition and appearance (Quarterly).

6.1.3.9.1 Visual Inspections will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.3.9.2 Fill flooded batteries with appropriate water per OEM specifications.

6.1.3.9.3 Determine if each Visual Inspection is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.3.10 Maintenance Cleaning (Quarterly).

6.1.3.10.1 Maintenance Cleaning will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.3.10.2 Determine if each item cleaned results in normal cleaning and note this in the PM report with a recommendation for correction.

6.1.3.11 Data Validation with Battery Monitoring System (BMS) (Quarterly).

6.1.3.11.1 Data Validation with Battery Monitoring System will be per the OEM recommended practice and will be listed by item in the PM reports.

6.1.3.11.2 During onsite services, compare measured battery parameters cell-by-cell and string-by-string to recorded and trended parameters from the installed Battery Monitoring System (BMS), if installed.

6.1.3.11.3 Note any discrepancies from measured and BMS-recorded values or conditions.

6.1.3.11.4 Determine if each battery/cell is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.3.12 String Integrity (Quarterly).

6.1.3.12.1 String Integrity will be determined per the OEM recommended practice and will be listed by item in the PM reports.

6.1.3.12.2 Determine if each battery string is within normal ranges and note this in the PM report with a recommendation for correction.

6.1.3.13 Cleanup (All Quarterly services).

6.1.3.13.1 Leave the facility in exemplary condition at the end of the service.

6.1.3.13.2 Remove all large pieces of debris, trash, consumable containers and packaging, removed components, and similar from area to designated waste or recycling receptacles. Some recycling tasks may require transport of the components off-site by the Contractor.

6.1.3.13.3 Clean all small debris, including papers, electrical wire trimmings, plastic wrappers and packaging, spillage & drips from consumables, and similar in the operational area. Sweep the operational area as necessary.

6.1.3.13.4 Dust all equipment to remove any built-up dust, dirt, grime, or similar.

6.1.3.13.5 Clean equipment screens/soles to remove dust, streaks, fingerprints, and similar.

6.1.3.14 Reporting (Quarterly).

6.1.3.14.1 Verify with customer that system has been restored to fully automatic operational state.

6.1.3.14.2 Conduct a customer consultation in the battery area. Physically show the local Government POC the work completed, not completed, deferred, and similar.

6.1.3.14.3 Provide verbal recommendations to the local Government POC regarding operation, maintenance, repairs, or environmental condition based on the maintenance and inspections performed.

6.1.3.14.4 Provide written general observations regarding the battery system.

6.1.3.14.5 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating time and date of service completion.

6.1.3.14.6 PM Schedule. Provide annual schedule of PM tasks within 30 days after award or execution of option period.

6.1.3.14.7 Root cause report. Provide a root cause report as applicable for all anomalies or battery system.

6.1.4 Breaker Preventative Maintenance

6.1.4.1 Secondary Breaker Maintenance (once every 5 years)

6.1.4.1.1 Scheduled, recurring circuit breaker maintenance and repair is a requirement of the CUBES Contractor for all circuit breakers at or above 800 Amps within the site responsibility delineation boundary, for all circuit breakers requiring these services. This maintenance is to be included in the Firm Fixed price of the contract and will occur once every 5 years. The schedule must be coordinated with the Government and spread equally over a 5 year period.

6.1.4.1.2 Reporting (All services).

6.1.4.1.2.1 Verify with customer that system has been restored to fully automatic operational state.

- 6.1.4.1.2.2 Conduct a customer consultation in the affected service area. Physically show the local Government POC the work completed, not completed, deferred, and similar.
- 6.1.4.1.2.3 Provide verbal recommendations to the local Government POC regarding operation, maintenance, repairs, or environmental condition based on the services performed.
- 6.1.4.1.2.4 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating time and date of service completion.
- 6.1.4.1.3 Deliverables.
- 6.1.4.1.3.1 Quality Assurance (QA) Surveillance Report. The Contractor maintenance personnel shall provide a physical written filled-out copy of the QA surveillance form to the QAP at the time of service for signature. This documents the date and time of service, that the QAP was consulted as required by the Reporting subtask above, and allows surveillance observations to be recorded for every service.
- 6.1.4.1.3.2 Service Report. The Contractor maintenance personnel shall provide a physical written copy of the service report, measurement recordings, observations, notes, and recommendations to the QAP at the time of service. Posting of the service report on an OEM Website is not acceptable. The report must be delivered to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR not more than 10 days after the service.
- 6.1.4.1.3.3 Electronic Service Report. The Contractor shall provide an electronic copy of the QA surveillance form and the service report with an analysis of conditions that have changed from previous services, and in-depth recommendations (including cost). This report shall be provided to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR, not more than seven (7) calendar days following the completion of the service.
- 6.1.4.1.3.4 Service Life Assessment. The Contractor shall provide a written assessment of the equipment condition and recommendation for the equipment/system replacement date.
- 6.1.4.1.3.5 PM Schedule. Provide annual schedule of PM tasks within 30 days after award and execution of option period.
- 6.1.4.1.3.6 Root cause report (as applicable). Provide a root cause report for as applicable for all anomalies or issues with breakers.
- 6.1.4.1.3.7 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating service personnel involved and time and date of service completion.

6.2 Emergency Maintenance – Provide UPS and Battery System Emergency Maintenance. BMS systems are not considered mission-essential and therefore are not subject to “emergency” actions.

6.2.1 Services as required. Specific services will vary based on equipment condition.

6.2.1.1 Response times to service calls per Section 5.8.

6.2.1.2 Verify the proper operation of all equipment and systems following conclusion of necessary maintenance or repairs.

6.2.1.3 Establish appropriate monitoring measures to prevent recurrence of conditions or events which initiated the contingency situation.

6.2.1.4 Calibrate repairs and equipment to meet all UPS operational configurations.

6.2.1.5 Cause no subsequent outage from improperly calibrated and/or balanced equipment.

6.2.1.6 Provide accurate assessment and repair the first time.

6.2.2 Cleanup (All onsite services). Leave the facility in exemplary condition at the end of the service.

6.2.2.1 Remove all large pieces of debris, trash, consumable containers and packaging, removed components, and similar from area to designated waste or recycling receptacles. Some recycling tasks may require transport of the components off-site by the Contractor.

6.2.2.2 Clean all small debris, including papers, electrical wire trimmings, plastic wrappers and packaging, spillage & drips from consumables, and similar in the operational area. Sweep the operational area as necessary.

6.2.2.3 Dust all equipment to remove any built-up dust, dirt, grime, or similar.

6.2.2.4 Clean equipment screens/soles to remove dust, streaks, fingerprints, and similar.

6.2.3 Reporting (All services).

6.2.3.1.1 Verify with customer that system has been restored to fully automatic operational state.

6.2.3.1.2 Conduct a customer consultation in the affected service area. Physically show the local Government POC the work completed, not completed, deferred, and similar.

6.2.3.1.3 Provide verbal recommendations to the local Government POC regarding operation, maintenance, repairs, or environmental condition based on the services performed.

6.2.3.1.4 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating time and date of service completion.

6.2.4 Deliverables.

6.2.4.1.1 Quality Assurance (QA) Surveillance Report (at the conclusion of service).

6.2.4.1.2 Maintenance personnel shall provide a physical written filled-out copy of the QA surveillance form to the QAP at the time of service for signature. This documents the

date and time of service, that the QAP was consulted as required by the Reporting subtask above, and allows surveillance observations to be recorded for every service. This report shall be provided to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR, not more than ten (10) business days following the completion of the service.

6.3 Operational Modification & Repairs – Provide Operational Modifications & Repairs on UPS, BMS, and Battery Systems.

- 6.3.1 Services and corrective maintenance as required.
- 6.3.2 Response times to service calls per Section 5.8. Specific services will vary based on equipment condition.
- 6.3.3 Obtain unique Technical Requirement number for the task from the client Electrical Engineer assigned as the technical representative for the contract.
- 6.3.4 Verify the proper operation of all equipment and systems following conclusion of necessary maintenance or repairs.
- 6.3.5 Establish appropriate monitoring, operation, and/or maintenance procedures.
- 6.3.6 Cleanup (All onsite services).
 - 6.3.6.1 Leave the facility in exemplary condition at the end of the service.
 - 6.3.6.2 Remove all large pieces of debris, trash, consumable containers and packaging, removed components, and similar from area to designated waste or recycling receptacles. Some recycling tasks may require transport of the components off-site by the Contractor.
 - 6.3.6.3 Clean all small debris, including papers, electrical wire trimmings, plastic wrappers and packaging, spillage & drips from consumables, and similar in the operational area. Sweep the operational area as necessary.
 - 6.3.6.4 Dust all equipment to remove any built-up dust, dirt, grime, or similar.
 - 6.3.6.5 Clean equipment screens/consols to remove dust, streaks, fingerprints, and similar.
- 6.3.7 Software/Firmware Updates
 - 6.3.7.1 Firmware releases by the manufacturer for any system hardware shall be installed within 30 days of firmware release date (not necessarily coinciding with other scheduled maintenance services). Software patches, updates, and new releases for all installed software on all IT equipment shall be tested for stability and correct operations during all PM services. Under no circumstances shall installed software on system equipment be allowed to not have the most current updates or security patches at the completion of a PM service.
 - 6.3.7.2 The contractor is responsible for ensuring the operating system , anti-virus programs, and all installed applications are kept up-to-date- with current updates, security patches and similar.

- 6.3.7.3 As applicable, all software will include a Premium Software Support agreement with the system software manufacturer. All necessary licenses shall be included in the agreement. Only fully trained and certified personnel are to operate and maintain the operating systems. The installation of patches shall be fully tested on a non-critical test system prior to operational deployment at any DECC to ensure they are compatible with the STISs on the operational hardware.
 - 6.3.7.4 Managers shall be trained when software is updated during ongoing PM services and training shall be conducted at the time of the installation.
 - 6.3.7.5 Security Technical Implementation Guide (STIG) Requirements – All computer equipment, operating systems, applications, and peripheral devices installed to support operating systems must meet any applicable STIG requirements (<http://iase.disa.mil/stigs/Pages/index.aspx>). All proposed equipment and systems will meet all current STIG requirements to the satisfaction of the site manager prior to installation.
- 6.3.8 Reporting (All services).
- 6.3.8.1 Verify with customer that system has been restored to fully automatic operational state.
 - 6.3.8.2 Conduct a customer consultation in the affected service area. Physically show the local Government POC the work completed, not completed, deferred, and similar.
 - 6.3.8.3 Provide verbal recommendations to the local Government POC regarding operation, maintenance, repairs, or environmental condition based on the services performed.
 - 6.3.8.4 Obtain signature from local Government POC with concurrence that work was completed satisfactorily, on a suitable form indicating time and date of service completion.

6.3.9 Deliverables.

- 6.3.9.1 Specific deliverables for project-based work may include additional items, depending on the scope of the Operational Modification or Repair task.
- 6.3.9.2 Cost & Technical Proposal. Provide a detailed written cost and technical proposal detailing the work to be performed, why it meets client requirements or objectives, and alternatives (with costs) to the lowest lifecycle cost solution that are technically superior to the proposed solution. The proposals shall be delivered to the Contracting Office within the time required by the Technical Requirement (TR) Standard Operating Procedure (SOP).
- 6.3.9.3 Quality Assurance (QA) Surveillance Report (at the conclusion of service). Maintenance personnel shall provide a physical written, completed copy of the QA surveillance form to the QAP at the time of service for signature. This documents the date and time of service, that the QAP was consulted as required by the Reporting subtask above, and allows surveillance observations to be recorded for every service. This report shall be provided to the client Electrical Engineer assigned as the technical representative for the contract, as well as to the assigned COR, not more than ten (10) business days following the completion of the service.

6.4 Component & System Warranties & Lifecycle Management.

- 6.4.1 Manage warranties. Ensure that existing warranties are maintained, and that customer and client personnel are kept informed regarding warranty status of all covered equipment.

- 6.4.2 Manage lifecycles. Track equipment lifecycle status (including unexpected conditions) to allow accurate planning and programming for necessary upgrades and replacements.
- 6.4.3 Present an annual report showing UPS/Battery conditions, warranty status, past year response times and 10 year life cycle plan to DISA MEP and contracting personnel.
- 6.4.4 Deliverables.
 - 6.4.4.1 Warranty Report. The Contractor shall provide the expiration date of each warranty on each piece of equipment (if applicable). This warranty information should be provided on the Service Report provided at each scheduled maintenance service.
 - 6.4.4.2 Investment Recommendations for Major Component Replacement (following major/annual service). The Contractor shall provide this report as part of the major/annual service electronic service report provided in PWS Section 5.12.

6.5 Critical Spares.

- 6.5.1 Manage critical spares. Maintain and rotate spare stock as appropriate. Ensure that the Government has been notified of all applicable recommendations.
- 6.5.2 Deliverables.
 - Critical Spares Report. The Contractor shall provide recommendations for critical spare equipment on each piece of equipment (if applicable). This critical spare information should be provided on the Service Report provided at each scheduled maintenance service.

7. Performance Standards (see QASP in Attachment 1).

Task	Performance Standard	Acceptable Quality Level (AQL)	Method of Surveillance
Task 6.1.1 – UPS Preventative Maintenance			
Subtask 6.1.1.1, Operate Electric Power Distribution System	Operate power distribution system correctly, power outages are minimized, repairs made immediately, and power restored as quickly as possible. System kept efficient and technology kept current.	0% Mission outage.	100% Inspection
Subtask 6.1.1.8 – 6.1.1.15, Semi-annual PM services	Complete 100% of semi-annual PM services (one time 6 months from annual) for each UPS	100% of requested task performed by OEM.	100% Inspection
Subtask 6.1.1.20, PM schedule	Provide list of planned PM tasks 30 days after award or execution of a option period	100% of requested task performed	100% Inspection
Subtask 6.1.1.16 – 6.1.1.19, Major UPS Service checks, and dark start coordination	Complete one annual PM Major service and coordinate dark start (per site, 6 months from semiannual PM)	100% of requested task performed.	Periodic Inspection – Annual

Subtask 6.1.1.20.1 – 6.1.1.20.8, PM Reports	Within seven (7) calendar days of a site visit, provide PM Reports under Deliverables	100% of requested task performed.	100% Inspection
Subtask 6.1.1.20.1, PM QA Report	Within seven (7) calendar days of a site visit, provide signed QA Surveillance Form	100% of requested task performed	100% Inspection
Task 6.1.2 - Battery Monitoring System (BMS) Preventative Maintenance			
Subtask 6.1.2.2, Quarterly	Quarterly data valuation with BMS (quarterly, except when coincides with annual PM)	100% of requested task	100% Inspection
Subtask 6.1.2.3, BMS Annual Operation and Maintenance	Complete one annual BMS Operation and Maintenance, to include Software updates, and battery mapping.	100% of requested task performed	Periodic Inspection – Annual
Subtask 6.1.2.7, PM Reports	Within seven (7) calendar days of a site visit, provide PM Reports under Deliverables	100% of requested task performed	100% Inspection
Subtask 6.1.2.7.1, PM QA Report	Within seven (7) calendar days of a site visit, provide signed QA Surveillance Form	100% of requested task performed	100% Inspection
Task 6.1.3 - Battery System Scheduled Maintenance			
Subtask 6.1.3.7 – 6.1.3.13, Quarterly PM services	Complete 100% of quarterly PM services (1 time per quarter except the quarter for Annual PM) for each UPS	100% of requested task performed	100% Inspection
Subtask 6.1.3.14, PM Reporting	Within seven (7) calendar days of a site visit, provide PM Report	100% of requested task performed	100% Inspection
Subtask 6.1.3.14.6, PM schedule	Provide list of planned PM tasks 30 days after award or execution of a option period	100% of requested task performed	100% Inspection
Task 6.1.4 - Breaker Maintenance			
Subtask 6.1.4, Breaker Maintenance	Secondary Breaker Maintenance for all breakers within the site responsibility delineation boundary, once every 5 years.	100% of requested task performed	100% Inspection
Task 6.2. - Emergency Maintenance			
Subtask 5.8, Response Times	On site within 4hours, power restored within 6hours	100% of requested task	Random Inspection
Subtask 6.2.4, QA Report	Within seven (7) calendar days of a site visit, provide signed QA Surveillance Form	100% of requested task performed	100% Inspection
5.7 - MIL Code Assignment and Notification			
Subtask 5.7.4 - MIL code impact criteria	Appropriate MIL codes are assigned to specific maintenance tasks. Notification and approval for specified MIL code tasks are obtained.	100% of all MIL -1 and MIL-2 tasks conduct appropriate coordination and obtain necessary approvals.	Random Inspection

Task 6.3 – Operational Modification and Repairs			
Subtask 6.3.1, Corrective Maintenance	All system components are in good working order. Service calls are handled appropriately and professionally. Customers are satisfied with system operations. Any repairs are made immediately. Contractor makes progressive effort to keep system efficient and technologically current. Cause no additional outage during or after repair due to negligence and/or improper calibration.	90% timely response and completion of service calls.	Random Inspection
Subtask 6.3.4, Complete repair	Complete repair so the repair corrects the issue.	1 misdiagnosed repair allowed per site per contract period.	100% Inspection
Subtask 5.8, Contractor Response time	Respond to all service calls within designated response times.	95% of services begin within the specified timelines.	Random Inspection
Task 6.4 - Component & System Warranties & Lifecycle Management.			
Subtask 6.4.4.1, Warranty Report	Provide expiration date of each warranty on each piece of equipment.	95% Accuracy	100% Inspection
Subtask 6.4.4.2, Investment recommendation	Provide 10 year life cycle plan for all UPS components.	95% Accuracy	Random Inspection
Task 6.5, Critical Spares			
Subtask 6.5.1, Manage Critical Spares	Critical and noncritical spare parts are replenished in a timely manner. The Government is notified in service reports of equipment consumed/used and recommendations made to include costs proposed to replace.	100% Accuracy	Random Inspection
Task 8, Non Performance or Outages			
Subtask 8.1, Failure/Delay/Correct Response	Accurately respond within time specified. Accurately assess and correct the condition.	100% Accuracy	Random Inspection
Task 14.1, Safety Requirements			
Subtasks 14.1.1, Electrical Safety Standards	Workers performing work in a potentially hazardous environment are provided with and properly utilize Personal Protective Equipment (PPE) appropriate to the hazard, as required by OSHA. All accidents and incidents are reported. All OSHA and similar safety reporting requirements are met. Preventable accidents are avoided through ongoing focus on safety awareness.	100% of requested task performed	Random Inspection

Subtask 14.1.2 Data Center Cleanliness	Electrical plant (UPS) environments are maintained to a high standard by enforcement of clean-as-you-go work standards.	100% Accuracy	Random Inspection
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8. Non-Performance or Outages.

8.1 Failure to Respond/Delayed Response/Correct Response.

- 8.1.1 Should the Contractor fail to respond to an unscheduled or emergency work request within the specified time requirements for the geographic category of the covered facility (see PWS Section 5.6.2), the Government shall reduce the invoiced amount for the service by \$500 per incident.
- 8.1.2 Should the Contractor not have technical support available within the specified time requirements (see PWS Section 5.6.3), the Government shall reduce the invoiced service by \$500 per incident.
- 8.1.3 Should a repair not be effective to repair the problem or cause additional mission outage, the contractor shall rework or correct the deficiency at no cost to the government.

9. Place of Performance.

9.1 The Place of Performance includes the following locations. Mission need may require the elimination and/or addition of locations during the performance period. The Contractor may be able to readjust costs to meet adjusted mission locations as required within the terms of the contract. The Place of Performance data is considered Sensitive and is For Official Use Only (FOUO). This information should not be released to the public through FedBizOpps (FBO) or other public sources.

- 00 DISA XX
- 02 DISA XX
- 03 DISA XX
- 04 DISA XX
- 06 DISA XX
- 07 DISA XX
- 08 DISA XX
- 10 DISA XX
- 11 DISA XX

9.4. Travel and Other Direct Costs (ODCs).

The Government does not anticipate finding a single or set of Service Providers that will have the technical resources at each operational location necessary to perform the full spectrum of services at all locations. As such, travel by members of the Service Provider team(s) is expected to be necessary and routine. Travel for all Service Provider personnel under this contract shall follow guidance in the Joint Travel Regulation (JTR), and be at the lowest cost available to successfully complete contracted missions.

Travel costs associated with scheduled and unscheduled maintenance services shall be reimbursed on the CLIN established specifically for travel, at cost. Reimbursement for travel services will be paid IAW the Federal Travel Regulations.

Air travel shall be booked in the most economical (lowest overall cost) manner for all Service Provider personnel. Under no circumstances shall air travel in a non-economy class (business, first, et cetera) be authorized or reimbursed by the Government (free upgrades for personnel, where the Government reimburses only for the lowest available economy class fare, are authorized).

n CONUS and OCONUS Industrialized regional areas, rental vehicles larger than compact or economy will not be reimbursed unless three (3) or more Service Provider personnel are traveling together in the vehicle.

Service Provider personnel may be reimbursed on a regular-time basis for travel time incurred in getting from their home station airports to the DISA work location only.

Exceptions to these policies shall be granted on a limited basis by the Contracting Officer, in writing only, prior to the execution of travel that is not in accordance with these policies.

9.4.1. Scheduled Service Travel.

The contractor shall obtain pre-approval by the COR and CO for travel in support of scheduled services (major and minor preventative maintenance services and non-emergency scheduled work). Travel shall be requested via a Travel Authorization Request (TAR) prior to traveling and approved by the CO. Travel shall be billed in accordance with FAR Part 31. Travel costs shall not exceed the amount specified in the Task Order and shall be billed against the appropriate T&M CLIN.

9.4.2. Emergency Travel.

Travel in support of emergency services (those unscheduled services necessary to restore operational function to a covered system, designated as emergency by the Contracting Office) shall be conducted in the most expeditious manner possible to meet response time requirements and goals.

10 Hours of Operation.

10.1 Regularly scheduled work shall be performed during the following hours: Monday through Friday, 6:30 a.m. to 4:00 p.m., unless otherwise coordinated with the site Facility Manager, with prior approval of the COR and Contracting Officer, work hours may be extended to ensure timely completion of work at no additional cost to the Government. Some scheduled work and regular services (including but not limited to system upgrades or modifications requiring utility outages) may be required during non-normal business hours.

10.2 Normal hours are those local to the covered site. For example, a facility located in Perth, Australia would have local hours at GMT+8. Note that facilities in some locations may or may not experience daylight savings time (DST), and that the schedule for DST may vary from country-to-country.

10.3 Non-Normal Business Hours.

10.3.1 Work may be required to be performed during non-normal hours including holidays and weekends, for all emergency calls and for emergency repair work. If the work is for preventive maintenance, and adversely affects the normal operations of the using activities, Contractor such adverse maintenance shall be scheduled at least 21 calendar days prior to the work commencing to obtain approval from the Government representative. The Site Government representative will reply either orally or written on the authorizations or non-authorization of this request. Unscheduled services, emergency call responses, and services requiring 24x7 staffing are exempt from non-normal hours limitations.

10.4 Recognized Holidays.

10.4.1 Scheduled services are not required to be performed on the following holidays: New Year's Day, Martin Luther King Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, and Christmas Day. If the holiday falls on a Saturday, it is observed on Friday. If the holiday falls on Sunday, it is observed on Monday. Unscheduled services, emergency call responses, and services requiring 24x7 staffing are exempt from any recognized holidays. Recognized holidays may be added, removed, or changed by Executive Order or other means; in these events, the holiday schedule prescribed for the Government shall be followed. Contractor

10.5 Emergency Services.

10.5.1 On occasion, services may be required to support a contingency outside the normal duty hours described above.

11 Delivery Schedule.

PWS Task	Deliverable Title	Format	Due Date	Distribution/ Copies	Frequency & Remarks
5.12, 6.4.4.2	Life Cycle Management Report	Contractor format	On or around 1 Nov	B	Provide annually
6.1.1.20, 1.6.1.2.7 .1, 6.1.3.14, 6.1.4.1.3 .1, 6.2.4.1, 6.3.9.3	Quality Assurance (QA) Surveillance Report	QA electronic submission	7 days following each service	B	Provided at every scheduled and unscheduled (emergency) service
6.1.1.20, 2.6.1.2.7 .2, 6.1.3.14, 6.1.4.1.3 .2	Service Report	Contractor format	Date of scheduled service	1 copy to onsite QAP	Provided at every scheduled service
6.1.1.20, 6.1.2.7, 6.1.3.14, 6.1.4.1.3 , 6.2.4.	Electronic Service Report	Contractor format	10 days following each service	B	Provided following every scheduled service
6.4.4.1	Warranty Report	Contractor format	10 days following each service	B	Part of electronic service report
6.5.2	Critical Spares Report	Contractor format	10 days following each service	B	Part of electronic service report
6.4.4.2	Investment Recommendations Report	Contractor format	10 days following major (annual) service	B	Part of major (annual) electronic service report
6.3.9.2	Cost & Technical Proposal	Contractor format	Within time required by current TR SOP	A	When requested through a Technical Requirement
Distribution A: 1 copy to KO, 1 copy to COR Distribution B: 1 copy to MPE1 BOS Electrical Engineer, 1 copy to COR, 1 copy of transmittal letter only to KO					

The Quality Assurance (QA) Surveillance Form referenced in the TR Manual shall be used by the QAP to record observations and certify that all onsite services are completed as required at every onsite service.

12. Security.

The work to be performed under this contract is UNCLASSIFIED.

1. Security Classification Requirements:

Performance under this contract will involve access to and work in a secure area. The work to be accomplished in this contract is unclassified. Although there will be no generation, creation, processing, storage of, or access to classified material, performance under this contract may involve occasional contact with said material based on the performance location of contract tasks.

2. Facility Access:

Unescorted access to the facilities is strictly limited to Contractor personnel who have a valid contract and a favorably completed NACLIC with at least an Interim Secret security clearance, or a finalized Secret security clearance (or higher). Unescorted access, and therefore facility and personnel security investigations, shall not be ordered for convenience purposes to support the performance of this contract.

3. Contractor personnel without a *favorably completed* NACLIC shall NOT be granted access to the access-controlled locations without a Government-assigned escort.

- The Government customer will assign an escort for uncleared Contractor personnel.
- Security escorts are not available for support of this contract. All Contractor personnel must be cleared for unescorted access.
- Security escorts are temporarily available for support of this contract. All Contractor personnel must be cleared for unescorted access.
- The Contractor shall be responsible to possess a National Agency Check with Local Record Check (NACLC) or security clearance for *each* Contractor employee representative that will perform work under this contract, to provide for any required Computer Room and Building access. A representative of the Government shall be on the premises during the Contractor's performance of contract services.

4. Contractor Facility Security Clearance (FCL):

If an FCL and personnel clearances are required and the Contractor does not currently hold such, the costs for obtaining these shall be paid or reimbursed by the Government with no markup (for example, using a dedicated cost reimbursement CLIN). Individual clearance investigations are intended to develop long-term, stable employee relationships. The costs for individual clearance investigations for Contractor personnel who are no longer assigned to contract performance within 1 calendar year of submittal of investigation paperwork to the clearing agency (except due to death) will be the responsibility of the Contractor and shall be recovered by the Government through reduction of payments.

- No FCL is necessary for this effort. The Government shall assign security escort personnel for Contractor personnel as needed to support the work described.
- An FCL at the Secret level is necessary for this effort. The Government shall assign security escort personnel for Contractor personnel as needed to support the work described until an active FCL and contractor clearances can be obtained. The Contractor shall immediately pursue the Facility Security Clearance at time of award.

5. "RAPIDGate" access will be utilized by the contractor and the cost will be included in the Firm Fixed Price of the contract.

12.1 Statement for Position of Trust Sensitivity Designation:

If this is a classified contract with FCL and personnel clearance requirements, the following sample statement is applicable. *"This contract provides the following contracted personnel unescorted access to a DISA facility to perform various services. All persons performing these types of services under this contract require a favorably completed National Agency Check with Local Record Check (NACLC) and an Interim Secret clearance granted prior to performance. Required requests for investigation, for each employee without a current, favorable NACLC, will be submitted within 15 calendar days after award of the contract to the local DISA Security Manager for Interim building access determination prior to performance."*

12.2. Visit Requests:

The Contractor shall forward a Visit Authorization Letter (VAL) to the Government Representative for all employees prior to the beginning of performance. The VAL shall be on company letterhead or pre-fabricated form and contain the following information:

- a. Contract number with start and end dates
- b. Company Point of Contact (POC) and telephone number
- c. Government Task Monitor name and telephone number
- d. Complete legal name of employee(s)
- e. Social Security Number
- f. Security Clearance level, date granted, and
- g. Adjudication facility name, i.e. DISCO
- h. Type of Personnel Security Investigation (PSI) pending or completed
- i. Date PSI completed

12.3. Physical Security:

To control unauthorized entry/penetration during the performance of this contract, the Contractor shall not prop doors open at the perimeter of the computer room controlled area. With the award of this contract, the Contractor accepts responsibility to protect the physical security of the building and prevent unauthorized entry, when prevention of such violation is under the Contractor's control. A Security Pre-Brief of the Contractors responsibility will be provided upon contract award.

The Contractor shall be responsible for safeguarding all Government property provided for Contractor use. At the close of each work period, Government facilities, property, and materials shall be secured.

12.4. Personal Electronic Devices (PEDs).

PEDs are prohibited in datacenter (raised floor) areas and in some DISA facilities entirely. This group of equipment includes cell phones, video/camera cell phones, PDAs (Personal Digital Assistants i.e. digital organizers such as Palm Pilots), wireless PDA/ telecommunications hybrid devices such as the Blackberry, pagers, any camera or video camera, digital and conventional sound recording devices (digital voice recorders, iPods, Dictaphones, et cetera), personal entertainment devices such as CD/MP3 players, miniature televisions, eavesdropping, listening devices and the like. It is also understood to include newly developed devices employing any form of technology which provides any device with similar image recording, eavesdropping/listening and communications capabilities.

13. Government-Furnished Equipment (GFE) & Supplier-Furnished Equipment/Services.

1. Government-Furnished Property.

The Government shall provide, without cost, the facilities, equipment, materials, and/or services listed below. Items will be provided based on modifications for TR's that are issued.

2. Facilities.

The Government shall furnish and/or make available facilities as described in the Site Data Sheets (will be provided to contractor at award) Government facilities have been inspected for compliance with the Occupational Safety and Health Act (OSHA). No hazards have been identified for which workarounds have been established. Should a hazard be subsequently identified, the Government corrects OSHA hazards in accordance with Government developed and approved plans of abatement taking into account safety and health priorities. A higher priority for correction will not be assigned to the facilities provided hereunder merely because of a contracting initiative. The fact that no such conditions have been identified does not warrant or guarantee that no possible hazard exists, or that workaround procedures will not be necessary or that the facilities as furnished will be adequate to meet the responsibilities of the Contractor. Compliance with the OSHA and other applicable laws and regulations for the protection of employees is exclusively the obligation of the Contractor, and the Government will assume no liability or responsibility for the Contractor's compliance or noncompliance with such responsibilities, with the exception of the aforementioned responsibility to make corrections in accordance with approved plans of abatement subject to base-wide priorities. Prior to any modification of the facilities performed by the Contractor at his or her expense, the Contractor must furnish the Contracting Officer documentation describing, in detail, the modification requested. No alterations to the facilities shall be made without specific written permission from the Contracting Officer; however, in the case of alterations necessary for OSHA compliance, such permission shall not be unreasonably withheld. The Contractor shall return the facilities to the Government in the same condition as received, fair wear and tear and approved modifications excepted. These facilities shall only be used for performance of this contract.

3. Government Furnished Equipment (GFE).

The Government shall provide the property listed in the site data sheets for each covered site (Site Data sheets will be provided to the contractor at award). The Contractor, upon completion of the inventory and condition assessment, assumes responsibility for the maintenance of said equipment for the period of contract performance.

4. Inventories of Government-furnished equipment (covered equipment and facilities) shall be conducted in conjunction with the site Facility Manager at the time of the first onsite service, prior to the initiation of any maintenance services. The Contractor and the site Facility Manager shall conduct a joint inventory record of all Government furnished equipment listed and the Contractor shall sign the inventory record for all equipment provided by the Government. The Contractor and the site Facility Manager shall jointly determine the working order and condition of all equipment. Items of equipment missing or not in working order shall be recorded and the Contracting Officer notified in writing. The Government will replace missing items and repair all items not in working order or the Contracting Officer will direct the Contractor to replace the missing item(s) or accomplish the repair and the Contractor will be reimbursed accordingly. The site Facility Manager shall certify their agreement as to the working order of the equipment. If the Contractor does not participate in the inventory, the Contractor must accept as accurate the listing and stated condition of equipment provided by the Government. If the Contractor participates in the inventory, but does not agree with the site Facility Manager's determination as to the working order of the equipment, this failure of the Contractor to agree on working order and defectives shall be treated as a dispute.

5. Contractor Furnished Items and Services.

All necessary labor, supervision, electronics and productivity equipment, transportation, material, apparatus, chemicals, tools, software, permits, et cetera shall be furnished to accomplish all tasks described herein.

13.1. Dedicated Staffing.

1. A single primary point of contact shall be identified to be responsible for all awarded tasks to be conducted under the CUBES service contract. This primary point of contact shall be authorized to make business decisions on behalf of the Contractor. The primary point of contact shall be natively fluent in and able to effectively communicate (reading, writing, speaking, & hearing) in English.
2. A secondary point of contact shall be identified for instances when the Contractor's primary point of contact is unavailable (due to holiday, vacation, illness, or similar), the Contractor's secondary point of contact shall be familiar with all awarded tasks and similarly authorized to make business decisions normally made by the primary point of contact.

13.2. Representation of Client and Customer.

1. Conduct all necessary coordination with the host installation, local, state, and federal agencies, external commercial contractors, site facility management staff, MPE1 Facilities Engineering staff, and others as needed to perform the defined and covered services.

13.3. Disposition of Property.

1. All software, database tools and records developed by the contractor during the performance of this CUBES service contract shall be the property of the Government and will be delivered to Government upon the termination of the contract. All installed equipment and parts, as well as purchased bench stock, spare, and critical spare items not yet installed, become property of the Government at the termination of the contract.

13.4. Minimum Experience (Past Performance).

1. A minimum of three years verifiable and equivalent experience in providing UPS system maintenance services at datacenter and datacenter support facilities or other Level I or Level II mission critical facilities is required. In order to be awarded a task order to provide UPS maintenance at a covered site, Contractor documentation must be provided to demonstrate servicing personnel have factory certification (or equivalent) to perform the level of services required.
2. Maintenance and repair staff shall be factory-trained and factory-certified (or equivalent) to provide the services for which they are dispatched.

13.5. Test Equipment.

1. Contractor Test equipment shall be calibrated annually (or as required), and calibration methods shall be in accordance with those of the Bureau of National Standards.

13.6. Parts and Materials

1. All replacement parts shall be original manufacturer or equal to and shall fit the equipment without modification.

13.7. Delivery of Equipment, Materials, and Supplies.

1. The Contractor shall be responsible for the loading, transporting and unloading of all equipment, materials, and supplies to be used in performance of this contract.

14. Other Pertinent Information or Special Considerations.

1. Relationships.

There are three parties to a CUBES service contract agreement:

- The Contractor, who is the "Provider;"
- DISA Facilities Engineering (MPE1), who is the "Client;" and
- The Site Commander and subordinate end-users at each covered site, who are the "Customers."

2. The Client provides comprehensive engineering support to the Customers to support their end-missions. These end missions generally involve operation of the computer and communications equipment in the datacenters in order to provide services to the warfighter. There is no reciprocal relationship.

3. The Provider works directly for the Client. All direction on technical matters pertaining to the contract shall be negotiated between the Provider and the Client (through the Contracting Officer and COR).
4. The Provider works at the Customer location, but **is not** employed by the Customer. The Provider shall perform all contracted functions to support the Customer directly, and may report conditions, status, and situations to the Customer. The Provider shall not take direction from the Customer on any technical matter, nor shall the Provider change operations, priorities, or alter standards or specifications based on direction from the Customer. The Provider shall comply with Customer administrative and security requirements in order to conduct work at the Customer location.
5. All direction from the Customer to the Provider on any technical (not administrative, contracting, or security) matter shall be immediately directed to the Client for resolution. All Customer requests for changes in operations shall be directed to the Client for analysis and decision. Only the Client (through the Contracting Officer and COR) may provide direction the Provider.
6. Contractor Personnel employed by the Provider who violate these relationship guidelines will be removed from the Customer location.

14.1. Safety Requirements.

- 14.1.1 All electrical work shall follow the guidance in the DISA MPE1 Electrical Safety Program in Section 26 01 00 (Operation and Maintenance of Electrical Systems) of CSI 360-95-3, DISA Facilities Standards. All work shall be supported by an "Energized Electrical Work Permit" signed by the site Director (or his/her appointed designee) prior to any energized work. Ongoing, similar, and repetitive electrical work may be covered by an ongoing Permit at the discretion of the site Director.
- 14.1.2. In performing any work under this agreement, the Contractor shall have an ongoing Safety Program in place and shall:
 - 14.1.2.1. Conform to the safety requirements contained in the contract for all activities related to the accomplishment of the work.
 - 14.1.2.2. Take such additional immediate precautions as the Contracting Officer may reasonably require for safety and mishap prevention purposes.
 - 14.1.2.3. Follow "Lock Out-Tag Out" (LOTO) procedures.
 - 14.1.2.4. Provide protection to Government property to prevent damage during the period of time the property is under the control or in possession of the Contractor.
 - 14.1.2.5. Include a clause in all subcontracts to require subcontractors to comply with agreement safety provisions.
 - 14.1.2.6. Record and report promptly (within one hour) to the Contracting Officer or designated Government QAP all available facts relating to each instance of damage to Government property or injury to either Contractor or Government personnel.

14.2. Mandatory Safety Briefing Components.

14.2.1. Prior to performing maintenance or repair work under this contract, Contractor personnel shall review a briefing on the hazards of the general (and, if applicable, specific) systems being serviced, and sign a notification that they have done so. This signed form shall be provided to the local Government POC when the Contractor personnel arrive at the site to perform any maintenance or repair service, prior to entering the work area.

14.2.2. Remember that the UPS system is designed to supply power EVEN WHEN DISCONNECTED FROM THE UTILITY POWER. UPS system module interiors are unsafe until the UPS system is shut down (inverter output and bypass), bypass power is disconnected, the DC power source is disconnected, and the electrolytic capacitors are discharged. After disconnecting the utility power and the DC power, authorized service personnel should wait at least five minutes for capacitor bleed off before attempting internal access to UPS modules (including bypass and static switch modules).

14.2.3. Because each battery string is an energy source in itself, opening the battery disconnect circuit breaker does not de-energize the voltage within the battery string. DO NOT ATTEMPT TO ACCESS ANY INTERNAL AREA OF THE BATTERY STRING. VOLTAGES ARE ALWAYS PRESENT IN THE BATTERY STRING.

14.2.4. Observe these precautions when working on or around batteries:

- Remove watches, rings, or other metal objects.
- Use tools with insulated handles.
- Wear appropriate PPE.
- Do not lay tools or metal parts on top of batteries.
- Disconnect the charging source prior to connecting or disconnecting terminals.
- Determine if the battery is inadvertently grounded. If it is, remove the source of the ground. Contact with any part of a grounded battery can result in electrical shock. The likelihood of such shock is reduced if such grounds are removed during installation and maintenance.
- When replacing batteries, use the same number, type, make, and model of batteries.
- Proper disposal of batteries is required. Refer to local codes for disposal requirements.
- Do not dispose of batteries in a fire. Batteries may explode when exposed to flame.
- Do not open or mutilate batteries. Released electrolyte is harmful to the skin and eyes. It may be toxic.

14.3. Changes during Contract Performance Periods.

14.3.1. All work accomplished under this agreement shall be conducted in accordance with any existing established schedules and shall meet the technical and performance standards described in mandatory standards and guidance, including but not limited to DISA CSI 360-95-3, Facilities Standards, and TIM, the DISA CSD enterprise operations and maintenance (O&M) services standard.

14.3.2. The Facilities Standards are not static documents. The Government may, at its leisure, unilaterally change (add, modify, or delete) portions of the standards. The Government shall keep an updated change control record as part of each standard, available in the published documents. The Contractor is responsible for monitoring changes to the documents on a periodic basis, and is responsible for providing services meeting the current version of each document (and of mandatory references therein). Within thirty (30) calendar days of a revision affecting services provided under this agreement, the Contractor shall submit in writing to the Contracting Officer a request for equitable adjustment pursuant to Section 43.2 of the Federal Acquisition Regulation (FAR). Changes not requested within the thirty (30) calendar day publication window shall be implicitly assumed by all parties as having been accepted without change in cost, schedule, or technical performance for services being rendered.

14.4 General Requirements.

1. PROTECTION OF GOVERNMENT PROPERTY:

The Contractor shall provide protection to Government property to prevent damage during the period of time the property is under the control or possession of the Contractor. Safety requirements listed herein that do not concern the Contractor's operations or services shall be deleted as mutually agreed by the Contractor and the Contracting Officer.

2. LOCAL SAFETY AGREEMENT:

To prevent or eliminate hazardous working conditions for both Contractor and Government personnel, and to minimize Government property damage, a written agreement between the Contractor and the individual site Facility Managers establishing safeguards and procedures will be established during the orientation phase, that will be followed prior to commencement of work. The Contractor shall execute a complete safety program compliant with all DISA requirements.

3. ELECTRICAL SAFETY PROGRAM REQUIREMENTS:

All electrical work shall follow the guidance in the DISA MPE1 Electrical Safety Program. All work shall be supported by an Energized Electrical Work Permit signed by the site Director or his/her appointed designee prior to any energized work. Ongoing, similar, and repetitive electrical work may be covered by an ongoing Permit at the discretion of the site Director.

4. LOCAL SAFETY REQUIREMENTS: The Contractor shall comply with all local safety requirements implemented at the installation where the work is to be accomplished provided that they do not conflict with the requirements of this section. If conflicts arise, they shall be referred to the CO for resolution.

5. SUBCONTRACTORS: The Contractor shall include a clause in all subcontractor agreements to comply with the safety provisions of this contract as applicable.

6. ACCIDENT/INCIDENT REPORTING AND INVESTIGATIONS: The Contractor shall record and submit promptly to the Facility Manager all available facts relating to each instance of accidental damage to Government property or injury to either Government or Contractor personnel. The Contractor shall not perform any work on the damaged equipment/property until released by an authorized Government representative. If the Government elected to conduct an investigation of the accident, the Contractor shall cooperate fully and assist the Government personnel until the investigation is completed.

7. CLEANLINESS OF DATACENTER ENVIRONMENT: DISA datacenter computer rooms are designed to operate as near-cleanroom environments. DISA invests significant money and effort to keep the operational environments as clean as possible, and regular facility operations are required to support these efforts. Personnel conducting work in the computer rooms and supporting plant areas shall be required to clean up after themselves. The Contractor is responsible for ensuring that their personnel work with as little impact as possible to the datacenter environment. This means specifically collecting and disposing of trash, not having or allowing food or drink in the datacenters or electrical plant areas, picking up trimmings and discarded pieces and components from work activities, and vacuuming the work area after work is complete with an approved HEPA device. These cleaning tasks are considered operational, not custodial, tasks, and shall be conducted by the Contractor. It is unacceptable to have trimmings, trash, rubbish, or similar wiring or electrical maintenance/installations on the access floor, inside of cabinets, or on the floor/subfloor following completion of work.

14.5. Identification of Possible Follow-on Work.

The services provided under this contract are anticipated to continue to be necessary following the conclusion of performance under this contract. No significant modifications to the tasks required under this contract are expected in the follow-on contract. Additional service locations may be in the basic scope of any follow-on contract.

14.6. Identification of Potential Conflicts of Interest (COI).

No potential conflicts of interest have been identified.

14.7. Identification of Non-Disclosure Requirements.

No non-disclosure requirements have been identified.

15. Section 508 Accessibility Standards.

1. The following Section 508 Accessibility Standard(s) (Technical Standards and Functional Performance Criteria) are applicable (if box is checked) to this acquisition.

Technical Standards

- 1194.21 - Software Applications and Operating Systems
- 1194.22 - Web Based Intranet and Internet Information and Applications
- 1194.23 - Telecommunications Products
- 1194.24 - Video and Multimedia Products
- 1194.25 - Self-Contained, Closed Products
- 1194.26 - Desktop and Portable Computers
- 1194.41 - Information, Documentation and Support

2. The Technical Standards above facilitate the assurance that the maximum technical standards are provided to the Offerors. Functional Performance Criteria is the minimally acceptable standards to ensure Section 508 compliance. This block is checked to ensure that the minimally acceptable electronic and information technology (E&IT) products are proposed.

Functional Performance Criteria

- 1194.31 - Functional Performance Criteria

16. Technical Requirement (TR) Process.

16.1 Work orders for new work will be generated for individual "Technical Requirements" (TRs).

The processes, standards, performance thresholds, and goals for the TR process are discussed in the current version of the Technical Requirements (TR) SOP Manual. The COR will submit a TR to

the Contracting Officer. The Contracting Officer will then contact the contractor to request a proposal for the TR. The proposal should state how to complete the TR and the cost for the equipment and labor. The CO will then forward the proposal to the COR. If the COR provides technical acceptance of the proposal from the contractor. The CO will issue a Notice to Proceed to authorize work to begin on the TR. Work shall not commence until the Notice to Proceed is issued.

- 16.1.1 In addition, the TR shall also identify any impact to building operations; any contingency plans to address these impacts and methods for system restoration.
 - 16.1.2 The following general guidelines apply to all services provided under this contract:
 - 16.1.3 The Contractor shall not conduct work that is not ordered under the contract or Technical Requirement (TR).
 - 16.1.4 Technical Requirements (TRs)/ modification are only issued by the Contracting Officer.
 - 16.1.5 The CO will formalize TRs via contract modification.
- 16.2 **Emergency TRs.** Emergencies are unscheduled urgent requirements that directly affect the health and/or safety of personnel or present an immediate threat to the mission-critical workloads supported by the equipment. Emergencies are more urgent than Routine or Priority unscheduled work.
- 16.2.1 For emergencies estimated to be \$2,500 and greater, a TR shall be initiated. Should the emergency TR be greater than \$2,500 but no more than \$5,000, the TR can be initiated by DISA CORs or the Contractor as an unsolicited TR, and shall be done immediately. If necessary, an emergency TR can be authorized verbally by the designated COR to the Contractor as long as the estimated TR amount does not exceed the \$5,000 emergency threshold. The contractor shall create and provide a quote to the COR within the same business day of the initial oral authorization and process IAW with the TR Manual.
 - 16.2.2 Without COR approval on TRs \$2,500 and greater, the Contractor is not authorized to commence work.
- 16.3 **Unsolicited TRs.** TRs can be and are encouraged to be initiated by contractor. This is initiated by submitting a quote in accordance with the TR manual.
- 16.4 **Operational and Modification TR.** The Contractor shall be responsible for purchasing material, services and equipment in support of operation, maintenance, modification, upgrading, replacement and repair requirements to meet established time frames and at the most advantageous price to the government. The contractor shall obtain approval from CO via modification prior to purchasing any material, supplies, labor or equipment. All reimbursed purchased items become property of the Government. The contractor shall deliver all materials, equipment and services as needed to the appropriate work sites within timeframe specified on TR. The contractor shall submit invoice within 30 days of acceptance of the completion of the TR referencing CLIN and TR number.
- 16.5 **Material Handling Rate.** Only open market materials and or services are authorized for mark up. Open market materials and or services can only be purchased after documentation is provided that the materials and or services are not available through GSA Schedules. Purchases made via FAR Subpart 8.4 are preferred.
- 16.6 **Contractor Placing TR Orders.**
- 16.6.1 Identify and separate those ancillary items that are proposed to be purchased under the FAR Part 51 deviation authority on the quote submitted to the federal government and on the subsequent invoice.
 - 16.6.2 When purchasing from a Schedule contract, purchase items at the Schedule contract price (or lower) with no fee/surcharge/markup. If items are provided by the selling contractor at lower

- than the contract price, the buying contractor must pass on the savings by invoicing the federal government accordingly.
- 16.6.3 Ensure that the items procured under FAR 51 deviation authority are ancillary to the overall agreement/order.
 - 16.6.4 Provide a copy of the written authorization from the federal government with each applicable order to the selling contractor. When purchasing from GSA Global Supply, the written authorization only needs to be submitted with the request for assignment of the AAC or DoDACC and not with each TR.
 - 16.6.5 If the buying contractor is a Schedule contractor, ensure that the buying contractor's Schedule order number is on each TR issued to the selling contractor.
 - 16.6.6 Remit full payment to the selling contractor.
 - 16.6.7 Submit documentation of the transmittal of full payment to the selling contractor when invoicing the federal government.
 - 16.6.8 Follow any applicable Schedule (FAR 8.405-1 or GSA Global Supply program ordering procedures. For more information on placing orders with GSA Global Supply, please visit www.gsaglobalsupply.gsa.gov and <http://www.gsa.gov/portal/category/100975>

17. Acronyms Used.

ABBR	DEFINITION
1PH 1P	Single Phase Single Pole
1PH 2P	Single Phase Two Pole
3PH 3W	Three Phase Three Wire
3PH 4W	Three Phase Four Wire
AC	Alternating Current
A/E	Architect/Engineer
ADAAG	Americans with Disabilities Act Accessibility Guidelines
ADPE	Automatic Data Processing Equipment (see IT)
ANSI	American National Standards Institute.
ATS	Automatic Transfer Switch
AWG	American Wire Gage
BAS	Building Automation System (replaces "CMCS" and "EMCS")
BAT	Battery String (UPS Battery Strings)
BDS	Battery Disconnect Switch
BMS	Battery Monitoring System (UPS Battery String Monitor)
BOS	Base Operating Support
CBB	Common Battery Bus
CFR	Code of Federal Regulations
CLIN	Contract Line Item Number
CMCS	Computerized Monitoring & Control System (see "BAS")
CMMS	Computerized Maintenance Management System
CO	Contracting Officer (see also "KO")
CONUS	Contiguous United States
COR	Contracting Officer's Representative
CRAC	Computer Room Air Conditioning Unit
CRAH	Computer Room Air Handler (see CRAC)
CUBES	Critical UPS & Battery Equipment Support
DC	Direct Current
DDC	Direct Digital Controls
DECC	Defense Enterprise Computing Center (DISA Entity)

DISA	Defense Information Systems Agency
DoD	Department of Defense
EIN	Equipment Identification Number
EMCS	Environmental Monitoring & Control System (see "BAS")
EPA	Environmental Protection Agency.
EPO	Emergency Power Off
ESD	Electro Static Discharge
ESD	Enterprise Services Directorate (DISA Entity)
FAR	Federal Acquisition Regulation
FCI	Facility Condition Index
FCL	Facility Security Clearance
FOUO	For Official Use Only
HAZCON	Hazardous Condition
GFE	Government-Furnished Equipment
IAW	In Accordance With
IR	Infrared
IT	Information Technology (replaces "ADPE")
JTR	Joint Travel Regulation
KO	Contracting Officer (see also "CO")
KVA	Kilo-Volt-Ampere
KW	Kilowatt
LEL	Lower Exposure Limit
LOTO	Lock Out-Tag Out
MCC	Motor Control Center
MEP	Mechanical, Electrical, & Plumbing
MIL	Maintenance Impact Level
MILCON	Military Construction
NACLC	National Agency Check with Local Record Check
NEC	National Electrical Code
NOC	Network Operations Center
NFPA	National Fire Protection Association
O&M	Operations & Maintenance
OCONUS	Outside Contiguous United States
OEM	Original Equipment Manufacturer
OSHA	Occupational Safety and Health Act
PCCIE	Power Conditioning and Continuation Interfacing Equipment
PCL	Personnel Security Clearance
PdM	Predictive Maintenance
PDU	Power Distribution Unit
PFA	Process Failure Analysis
PM	Preventative Maintenance
POC	Point of Contact
PPE	Personal Protective Equipment
PSI	Personnel Security Investigation
PWS	Performance Work Statement
QA	Quality Assurance
QAP	Quality Assurance Personnel
QASP	Quality Assurance Surveillance Plan

QC	Quality Control
RDC	Remote Distribution Cabinet (a.k.a. "sidecar," "expansion cabinet")
RWP	Recurring Work Program
SBM	System Bypass Module
SMC	System Metering Cabinet (UPS Component)
SOP	Standard Operating Procedure
SOW	Statement of Work
SPD	Surge Protective Device (replaces "TVSS")
SR&M	Sustainment, Repair, & Maintenance
SRG	Signal Reference Grid
SWBD	Switchboard
SWGR	Switchgear
THD	Total Harmonic Distortion
TIM	CSI 360-95-3A (TIM), the Enterprise Operations & Maintenance Services Standard
TM	Task Monitor
TO	Task Order
TR	Technical Requirement
TVSS	Transient Voltage Surge Suppression (outdated; see also "SPD")
UFAS	Uniform Federal Accessibility Standards
UPS	Uninterruptible Power Supply
USWGR	UPS Switchgear, including Paralleling Equipment, Hot Tie Equipment, (integral) Maintenance Bypass Cabinets, and similar components
UV	Ultraviolet
VAL	Visit Authorization Letter (formerly "Visit Authorization Request or VAR")
XFMR	Transformer

18. Definitions.

BAT - Battery String: The stored energy component in a UPS system that utilizes a chemical reaction (typically lead acid) to provide a power source to the UPS modules inverter during UPS module input interruption. A battery string includes:

- Cells – one positive and one negative terminal/plate;
- Jars – a container that houses multiple cells;
- Interconnects – the conductors that connected multiple cells or jars;
- Rack or Cabinet – the component that supports or houses multiple jars; and,
- Spill containment – an acid containment and absorption system that uses curbing to contain and absorption pillows to absorb the acid.

BDS - Battery Disconnect Switch (includes split string disconnects): A manually or electrically operated DC disconnecting means that disconnects the stored energy source from the UPS DC bus.

BMS - Battery Monitoring System: A separate monitoring system that uses one of a number of methods to evaluate individual battery cell and overall battery string conditions. Used to validate that the battery string is continuously available to meet its requirement to provide temporary emergency power. Design, installation and maintenance of BMS systems are not in the purview of the CUBES contract, but operation of and use of reports generated by these systems are mandated to validate battery and string conditions.

"Concurrent Maintainability": This means any work can be performed on a planned basis without impacting the end user. In the site infrastructure world, this means that ANY capacity component or distribution element can be repaired, replaced, serviced, tested, et cetera without impacting the computer equipment.

"Critical Power": The term critical power refers to the connection of any distribution panel, load or electrical device to the output circuitry of the UPS system. Critical loads are powered in an A-B bus manner.

“Essential Power”: The term essential power refers connection of any distribution panel, load or electrical device to the emergency standby power system (generator plant) without backup or failover support from the UPS.

“Fault Tolerant”: This means that a system can sustain a worst-case, unplanned event and not disrupt the end user. The fault tolerant concept originated in the IT environment. In the site infrastructure world, it means that the computer equipment will not be impacted by a facility failure. This requires multiple sources and multiple distribution paths so a failure on one source or path does not impact the other.

“HAZCON (Hazardous Condition)”: A facilities HAZCON exists when a system that is normally of greater than N reliability loses that status due to equipment failure (in effect, a SPOF is introduced). An N+C system that loses the C additional units providing it redundancy through equipment failure or sustained, unplanned repair downtime is in a HAZCON. A 2N system that loses one N system through equipment failure or sustained, unplanned repair downtime is in a HAZCON. A hybrid redundant system (one with an N, N+C configuration, for example) is only in a HAZCON when it reaches a point where through equipment failure or sustained, unplanned repair downtime there are no further backup units available and failure of the remaining, active unit(s) will cause system failure. Partially distributed systems that would otherwise support planned redundancy do not contribute to a defined HAZCON condition. Systems that are installed at the N level are not in a HAZCON situation (although they have the same attributes as one that does, this is their planned level of redundancy until a capital improvement project to increase that redundancy is undertaken); these SPOFs are noted as long-term conditions. Planned, short-term maintenance activities that reduce a system to N redundancy do not constitute a HAZCON because adequate planning is assumed to have taken place and risks assessed and managed to the best ability of the system to support the loads.

“Redundant Capacity Components”: The components in a system beyond the number of capacity units required to support the design load are referred to as redundant. If one unit of capacity is required to support the design load, more than one unit of capacity is installed; redundancy levels such as N+1 or N+2 (where the number following is the number of redundant capacity components, and is referred to as any constant C) are commonly applied.

“Redundant System”: In statistical probability terms, a “parallel system.” A parallel system with n items will fail only if all n items fail. This means that there are “extra” units in the system, arranged logically in parallel, such that if any one item fails there is a viable backup in the system.

SBM - System Bypass Module: The component in a parallel redundant and some system and system configurations that at a minimum provides a common UPS bus for paralleling of the UPS modules, an output breaker and a static bypass. Some UPS manufacturers abbreviate this component as SCC or HBCC.

“Single Point of Failure (SPOF)”: In statistical probability terms, a “serial system.” A serial system is one in which all items must operate correctly for the system to operate. Any system that contains only one component to do a job creates a single point of failure. If that single component fails, there is no alternate one to take its place. If a backup or failover system is in place and operational for an apparently single-component system (e.g. generators backing up the sole primary electrical feed), then this is not a SPOF.

UPS - UPS Module: A power conditioning and continuity device that, when its input source is unreliable or unavailable, utilizes a stored energy source (typically battery) to maintain continuity of power to the load. The main purpose of the UPS module is to provide continuity of conditioned power 24x7 while seamlessly supporting the loads long enough to transfer them to a standby power generating source. The typical DISA UPS module is a double conversion unit with a fixed output rating. Multiple modules are installed in parallel redundant (N+c) and system and system (2N and 2(N+c)) configurations.

USWGR - UPS Switchgear: A component in UPS systems that provides either manual or automatic switching operations to accomplish UPS bypass functions and critical bus transfers. The devices are typically referred to as Hot-Tie, Auto Hot-Tie, and Maintenance Bypass Cabinet. Other modules or equipment integral to the design of an overall UPS system that does not fit into the other categories listed. Provides some other general or specific function that allows a designed function to operate for reliability, redundancy, ease of maintenance, or other engineering reason.

19. References.

Compliance with all publications, regulations and operating instructions provided by the Government is required when:

- They pertain to the procedures for materials expediting herein and where the Contractor is authorized by the performance-based statement of work to accomplish the work specified in the publication, regulation or operating instructions.
- The publications prescribe DoD-wide, USAF, Navy, Army, or DISA policies, use of materials, procedures and processes applicable to the work requirements.

The Contractor is required to acquire and work from the latest version of the publication.

Publications and forms that apply to the PWS are listed below. The publications and forms have been coded as mandatory or advisory. The Contractor is obligated to follow those publications and use those forms coded as mandatory to the extent specified in other sections of this PWS. The listed publications and an initial supply of listed forms shall be furnished by the Contractor at the start of the first operational performance period. Not all applicable codes and standards are necessarily listed; for example, other mandatory NFPA documents exist that must be followed, but are not necessarily referenced daily. It is the responsibility of the Contractor to understand and follow these codes and standards in planning and executing work under this contract. It is the responsibility of the Contractor to establish any follow-on requirements for resupply of forms or updates to the listed publications. Supplements or amendments to these mandatory publications may be issued through the life of the contract and it is the Contractor's responsibility to ensure that all mandatory publications are posted and up to date. Compliance shall be in accordance with the following:

- All tasks set forth in the PWS are the responsibility of the Contractor except where wording of the PWS explicitly makes the performance a Government responsibility.
- The Contractor shall be bound to perform the PWS by accomplishing the tasks set forth therein and in the cited references in the manner set forth therein and in the cited references to the extent required by this section of the PWS provided that:
- Should there be a contradiction between the PWS and references set forth therein the PWS shall take precedence
- Should there be a contradiction between or among two or more such references, those coded as mandatory by the PWS shall take precedence over those coded advisory; between or among those similarly coded, those issued by a higher authority shall control over those issued by a lower authority; and between or among those issued at the same level of authority, those with a later date of issue shall control over those with earlier dates of issue.

Any duty set forth in such reference which shall call for the exercise of discretionary authority shall be subject to the final approval of the Government official having such authority, notwithstanding that the Contractor may be required thereby to perform duties and render advice at a level below such final approval.

Further, the Contractor shall perform in accordance with all such referenced directives, standards, regulations, manuals, pamphlets, technical orders, instructions, and other guidance as they may be from time to time revised, supplemented, or amended. Any increase or decrease in cost of performance occasioned by such revisions, supplements, or amendments shall for the basis for an equitable adjustment, subject to negotiation in accordance with the provisions of this contract. The Contractor shall immediately implement those revisions, supplements, or amendments which will result in no change in contract price. However, prior to implementing such revision, supplement, or amendment that will result in a change to contract price, the Contractor shall submit to the Contracting Officer (CO) a not-to-exceed (NTE) price proposal or a not-less-than (NLT) credit proposal therefore and obtain the prior approval of the CO. Said proposals shall be submitted within 30 calendar days from the date the Contractor received notice of the revision, supplement, or amendment giving rise to the change in the cost of performance.

It is hereby agreed that failure of the Contractor to submit an NTE price proposal within 30 calendar days from the receipt of any revision, supplement, or amendment to any referenced directive, regulation, manual, pamphlet, technical order, instruction, or other guidance shall entitle the Government to performance in accordance with such revision, supplement, or amendment at no increase in contract price.

Publication Number	Title	Date	Mandatory/Advisory
29CFR1910	<u>Occupational and Safety Health Standard</u> (https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910)	(current)	Mandatory
29CFR1910.147	<u>OSHA Standard. The control of hazardous energy (lockout/tagout)</u> (https://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910)	(current)	Mandatory

DISA Circular 350-195-2	Tests and Evaluations – Auxiliary Electric Power Systems (http://www.disa.mil/about/disa-issuances/circulars)	(current)	Mandatory
DISA CSI 360-95-3	DISA Enterprise Services Facilities Standards (http://www.disa.mil/about/disa-issuances/circulars)	(current)	Mandatory
N/A	OEM <u>Technical Requirements (TR) SOP Manual (As applicable to each type of equipment)</u>	(current)	Mandatory
DoD 5500.7-R	<u>Joint Ethics Regulation</u> (http://www.dod.mil/dodgc/defense_ethics/ethics_regulation/)	(current)	Mandatory
N/A	DISA CSD MPE1 Electrical Safety Plan	(current)	Mandatory
N/A	Executive Order 13693, Strengthening Federal Environmental, Energy, and Transportation Management (https://www.whitehouse.gov/the-press-office/2015/03/19/executive-order-planning-federal-sustainability-next-decade)	19 Mar 2015	Mandatory
N/A	<u>Federal Acquisition Regulation (FAR)</u> (https://www.acquisition.gov/?a=browsefar)	(current)	Mandatory
IEEE 450	Recommended Practice for Maintenance, Testing, and Replacement of Vented Lead-Acid Batteries for Stationary Applications (http://ecopyright.ieee.org/xplore/ie-notice.html)	(current)	Mandatory
NECA 90-2004	National Electrical Installation Standards (NEIS) NECA 90-2004, “Recommended Practice for Commissioning Building Electrical Systems”, 27 th Volume of the NEIS Series (https://www.necanet.org/store/product/neca-90-recommended-practice-for-commissioning-building-electrical-systems-(ansi)-Standard)	(current)	Mandatory
NFPA 101	Life Safety Code (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=101)	(current)	Mandatory
NFPA 110	Standard for Emergency and Standby Power Systems (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=110)	(current)	Mandatory
NFPA 111	Standard on Stored Electrical Energy Emergency and Standby Power Systems (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=111)	(current)	Mandatory
NFPA 25	Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=25)	(current)	Mandatory
NFPA 70	National Electrical Code (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=70)	(current)	Mandatory
NFPA 70B	Recommended Practice for Electrical Equipment Maintenance (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=70b)	(current)	Mandatory
NFPA 70E	Standard for Electrical Safety in the Workplace (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=70e)	(current)	Mandatory
NFPA 75	Standard for the Protection of Information Technology Equipment (http://www.nfpa.org/codes-and-standards/document-information-pages?mode=code&code=75)	(current)	Mandatory
Public Law 109-58	<u>Energy Policy Act (EP Act) of 2005</u> (https://www.gpo.gov/fdsys/pkg/PLAW-109publ58/content-detail.html)	(current)	Mandatory
AFI 64-106	<u>Air Force Industrial Labor Relations Activities</u> (http://static.e-publishing.af.mil/production/1/saf_aq/publication/afi64-106/afi64-106.pdf)	(current)	Advisory

IEEE Standard 1100-2005	IEEE Recommended Practice for Powering and Grounding Electronic Equipment (IEEE Emerald Book) (https://standards.ieee.org/findstds/standard/1100-2005.html)	(current)	Advisory
MIL-HDBK-419A	Grounding, Bonding, and Shielding for Electronic Equipment and Facilities, <u>Vol. 1</u> & <u>Vol. 2</u> (https://www.wbdg.org/ccb/browse_doc.php?d=2783)	(current)	Advisory
N/A	<u>Tiered Infrastructure Maintenance Standards (TIMS) for Mission-Critical Environments</u> . Lee Technologies. (http://www.airtighthvac.com/whitepapers/latest_doc.pdf)	2006	Advisory
N/A	WBDG: Facilities Operations & Maintenance (http://www.wbdg.org/om/index.php)	(current)	Advisory
N/A	Whole Building Design Guide (WBDG): http://www.wbdg.org	(current)	Advisory