# PERFORMANCE WORK STATEMENT (PWS)

FOR

Independent Condition Assessment of Solar PV Systems Non-Personal Services

Revision 12 Aug 2026

1.0 General:

1.1 Scope: The prime contractor (henceforth referred as “contractor”) shall provide all personnel, equipment, tools, materials, supervision, and quality control necessary, except as specified in Paragraph 3.0 as Government Furnished, to perform an independent assessment of the current condition of a Solar PV Systems Services, as defined in this PWS.

1.1.1 Objectives:

1.1.1.1 Conduct a Comprehensive Independent Condition Assessment of the Solar PV Systems: Perform a full-spectrum technical evaluation of all Solar PV Systems components — including modules, inverters, electrical systems (AC/DC), structural systems, battery energy storage (if applicable), monitoring systems, and safety/code compliance — to determine their current condition and operational readiness.

1.1.1.2 Analyze System Performance, Remaining Useful Life (RUL), and Operational Risks: Assess historical and real-time production data, calculate performance metrics, identify degradation trends, determine remaining useful life of major components, and evaluate operational, structural, and environmental risks affecting system reliability.

1.1.1.3 Prepare a Degradation and Condition Report: Compile an inventory of degraded or failed components and provide a budgetary estimate for like-for-like commercial replacement parts based on standard market pricing and manufacturer recommendations, without providing system redesigns or engineered modernization plans.

1.1.1.4 Deliver a Comprehensive, Actionable Final Assessment Report: Produce a professionally structured final report (100–200 pages) consolidating all technical findings, thermal imagery, testing logs, and visual assessments into a unified Condition Assessment Summary Report for command-level use.

1.2 Background and Technical Content:

1.2.1 Camp Santiago Site Location and Footprint: The Puerto Rico Army National Guard (PRARNG) operates a high-capacity, ground-mounted utility-scale microgrid Solar Photovoltaic (PV) System located within the Camp Santiago Joint Maneuver Training Center (CSJMTC) in Salinas, Puerto Rico (approximate geographic coordinates: 17.989° N, 66.298° W). The entire solar array and its associated medium-voltage infrastructure occupy an estimated physical footprint of 610,000 square feet (approximately 14 acres) of dedicated land area. This land area

encompasses solar module racking structures, access avenues, inverter pads, battery storage enclosures, and the primary medium-voltage interconnection substation.

1.2.2 Fort Allen Site Location and Footprint: The Puerto Rico Army National Guard (PRARNG) operates a high-capacity, ground-mounted and carport utility-scale microgrid Solar Photovoltaic (PV) Systems located within the Fort Allen Training Annex (FATA) in Juana Diaz, Puerto Rico (approximate geographic coordinates: 17.019° N, 66.294° W). The two solar systems associated with medium-voltage infrastructure occupy an estimated total of physical footprint of 166,000 square feet (approximately 4 acres) of dedicated land area for both areas. This land areas encompasses solar module racking structures, access avenues, inverter pads, and the primary medium-voltage interconnection substation.

1.2.3 System Age and Engineering History: A comprehensive assessment is requested for the Energy Conservation Measure (ECM) 10.1 Solar Photovoltaic (PV) Systems at Camp Santiago and Fort Allen. These systems have been non-mission-capable for several years due to a combination of severe weather events (Hurricanes Maria and Fiona) and catastrophic equipment failures. An assessment is critical to evaluate the current material condition of the assets, determine the viability and cost of restoration, and establish a clear path forward to regain installation energy resilience.

1.2.3.1 As part of an Energy Savings Performance Contract (ESPC) with the Puerto Rico Army National Guard (PRARNG), Johnson Controls installed solar PV systems to reduce energy costs, decrease reliance on the local grid, and increase base energy independence. The project scope included a main gate ground-mounted system at Camp Santiago, alongside both a ground-mounted system and a parking canopy system at Fort Allen. Despite the initial investment, the operational history of these systems has been defined by regulatory hurdles, severe natural disasters, and critical equipment failures that have severely degraded their operational status.

1.2.3.2 Following the initial installation of the large-scale PV system at Camp Santiago prior to 2016, the Puerto Rico Electric Power Authority (PREPA) required a new fiber optic interconnection for data and control, which was commissioned in April 2016. During its first year of operation, the system's performance was severely hindered by power failures from the main utility grid, causing the PV system to shut down for protection and necessitating frequent manual resets. The site was subsequently fully compromised by the devastation of Hurricane Maria in 2017. Since that event, the Camp Santiago PV site has remained entirely non-functional. Efforts to repair the system have been ongoing but were further delayed by unforeseen circumstances, including the impact of Hurricane Fiona. Currently, while vegetation control around the site has improved, the PV system remains completely inoperative and requires a formal assessment to validate the scope of remaining repair activities.

1.2.3.3 The Fort Allen installations faced immediate operational hurdles post-installation in 2015 when the initial interconnection application was rejected by PREPA due to the overall size of the system. This rejection necessitated the construction of an entirely new electrical substation for the base, which was completed during the third year of the ESPC. Similar to Camp Santiago, the Fort Allen site was severely damaged by Hurricane Maria in 2017. By the 2020-2021 period, the newly built substation finally became operational; however, it subsequently suffered a

catastrophic explosion on January 1, 2021. This event compromised both the substation itself and the critical communications infrastructure between the two PV sites at Fort Allen. Consequently, the sites have remained non-functional. While repair projects have been consistently underway, they have faced numerous logistical and operational delays, leaving the sites inoperative to date.

1.2.3.4 In summary, the solar PV installations at both Camp Santiago and Fort Allen have been non-operational for several years due to compounding major setbacks. Despite continuous repair and restoration efforts, the systems have not been successfully brought back online to support the PRARNG mission.

1.2.4 Camp Santiago Solar PV Field Generation Capacity: The facility features a total generation capacity split across three distinct sub-arrays:

1.2.4.1 Total DC Nameplate Capacity: 3,645.4 kW DC (calculated at Standard Test Conditions [STC])

1.2.4.2 Total AC Interconnection Capacity: 3,000.0 kW AC (delivered through three distinct 1,000 kW AC inverter blocks)

1.2.5 Fort Allen Photovoltaic System: The facility features a total generation capacity consisting of two interconnected systems, the ground mounted and the carport:

1.2.5.1 Total DC Nameplate Capacity: Ground Mounted System for 939 kW DC (calculated at Standard Test Conditions [STC]) & Carport PV System for 312 kW DC (calculated at Standard Test Conditions [STC])

1.2.5.2 Total AC Interconnection Capacity: Ground Mounted System for 750 kW AC & Carport PV System for 250 kW AC

1.2.6 Technology and Major Equipment Inventory Baseline: Both solar PV systems at Camp Santiago and Fort Allen are configured utilizing highly specialized commercial-grade renewable energy and distribution equipment. Prospective quoters shall base their technical approach and costing models on the following technology brands, models, and specifications listed in Technical Exhibit 3 for Camp Santiago PV System and Technical Exhibit 4 for Fort Allen PV System and As-Built Drawings:

1.3 Period of Performance (PoP): The Period of Performance shall be 90 days from contract award to the completion of the assessment and furnishing of the final report.

1.4 General Information:

1.4.1 Place and Performance of Services: The contractor shall provide services between the hours of 0730-1630 on Monday through Friday, except on recognized US holidays or when the Government facility/installation is closed due to local or national emergencies, administrative closings, or similar Government-directed facility/installation closings. Performance shall be at Camp Santiago, Salinas, Puerto Rico and Fort Allen, Juana Diaz, Puerto Rico. The contractor

shall at all times maintain an adequate work force for the uninterrupted performance of all tasks defined within this PWS when the Government facility/installation is not closed for the above reasons. When hiring personnel, the contractor shall keep in mind that the stability and continuity of the work force are essential. Teleworking is not authorized. (Note: The contractor is not expected to have routine access to the site; necessary site visits for the assessment will be coordinated with the Government).

1.4.1.1 Telework: The Government does not permit the contractor to telework in support of this requirement. In furtherance of Continuity of Operations Planning (COOP), a telework program may be enacted to ensure that the Government's mission-critical operations stay operational during times of national emergency or incidents of national significance. Telework shall be at no additional cost to the Government.

1.4.1.2 Unscheduled gate closures by the Security Police may occur at any time causing all personnel entering or exiting a closed installation to experience a delay. This cannot be predicted or prevented. Contractors are not compensated for unexpected closures or delays. Vehicles operated by contractor personnel are subject to search pursuant to applicable regulations. Any moving violation of any applicable motor vehicle regulation may result in the termination of the contractor employee's installation driving privileges.

1.4.1.3 The contractor's employees shall become familiar with and obey the regulations of the installation; including fire, traffic, safety and security regulations while on the installation. Contractor employees should only enter restricted areas when required to do so and only upon prior approval. All contractor employees shall carry proper identification with them at all times and shall be subject to such checks as may be deemed necessary. The contractor shall ensure compliance with all regulations and orders of the installation, which may affect performance. The Government reserves the right to direct the removal of an employee from Government property or revoke access to Government systems for misconduct, security reasons, or any overt evidence of communicable disease. Removal of contractor employees for reasons stated above does not relieve the Contractor from responsibility for total performance of this contract.

1.4.2 Recognized Holidays: The following are recognized United States (US) holidays. The contractor shall not perform services on these days:

1.4.2.1 New Year's Day: January 1st
1.4.2.2 Martin Luther King, Jr.'s Birthday
1.4.2.3 President's Day
1.4.2.4 Memorial Day
1.4.2.5 Juneteenth National Independence Day: June 19th
1.4.2.6 Independence Day: July 4th
1.4.2.7 Labor Day
1.4.2.8 Columbus Day
1.4.2.9 Veteran's Day: November 11th
1.4.2.10 Thanksgiving Day
1.4.2.11 Christmas Day: December 25th

1.4.3 Quality Control and Quality Assurance Commercial Products and Services: Consistent with RFO Subpart 12.105, Quality Requirements, and RFO Subpart 46.202-1, DARS 2026-O0028 Revolutionary Federal Acquisition Regulation (FAR) Overhaul Part 12 Defense FAR Supplement (DFARS) Part 212, and DFARS 2026-O0035 RFO Part 46 Defense FAR Supplement (DFARS) Part 246, the Government will:

1.4.3.1 Quality Control for Commercial Services: Rely on contractors' existing quality assurance systems as a substitute for Government inspection and testing before tender for acceptance unless customary market practices for the commercial product being acquired include in-process inspection. Any in-process inspection by the Government must be conducted in a manner consistent with commercial practice. The Government must rely on the contractor to accomplish all inspection and testing needed to ensure that commercial services acquired conform to contract requirements before they are tendered to the Government.

1.4.3.2 Quality Assurance for Commercial Services: To the maximum extent practicable, allow a contractor under a commercial products acquisition to use its existing quality assurance system to inspect or test commercial products before the contractor presents the products to the Government for acceptance. Rely on the contractor to accomplish all inspection and testing needed to ensure that commercial services conform to contract requirements before the contractor presents the services to the Government.

1.4.3.3 Reliance on the contractor’s QA/QC under commercial practice does not exempt the contractor nor prohibit the Government to inspect, to the maximum extent practicable consistent with commercial practice, to assure conformance with requirements. See clause RFO 52.212-4(b), *Inspection/Acceptance*.

1.4.4 Reserved.

1.4.5 Quality Assurance (QA): The Government will evaluate the contractor’s performance under this contract in accordance with the Quality Assurance Surveillance Plan (QASP). This plan is primarily focused on what the Government will do to ensure that the contractor has performed in accordance with the performance standards. It defines how the performance standards will be applied, the frequency of surveillance, and acceptable quality level(s) or defect rate(s).

1.4.4 Installation Access and Security Requirements. The contractor shall comply with all applicable installation/facility access and local security policies and procedures, which may be obtained from the COR. The contractor and all associated subcontractor employees shall provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services, or Security Office. The contractor shall ensure compliance with all personal identity verification requirements as directed by Department of Defense (DoD), Headquarters Department of Army (HQDA) and/or local policy (see PWS 6.0). Should the Force Protection Condition (FPCON) change, the Government may require changes in contractor security matters or processes.

1.4.4.1 For contractors that do not require a CAC, but require access to a DoD facility or installation: Contractor and all associated sub-contractors employees shall comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification (NCIC-III) and Terrorist Screening Database (TSDB) (Army Directive 2014-05), and applicable installation, facility and area commander installation/facility access, and local security policies and procedures (provided by a Government representative).

1.4.4.1.1. The installation commander retains the authority to modify security requirements at any time based on mission, threat level, or risk conditions, in accordance with AR 190-13, The Army Physical Security Program.

1.4.4.2 Awareness Training (AT) Level 1: All contractor employees, including subcontractor employees, requiring access to Army installations, facilities, and controlled access areas shall complete AT Level 1 training within 30 calendar days after contract start date and within 30 calendar days of new employees commencing performance. The contractor shall submit certificates of completion for each affected contractor and subcontractor employee to the COR (if no COR is assigned, delete "to the COR" and replace with "to the KO") within 15 calendar days after completion of training by each employee or subcontractor personnel. AT Level 1 awareness training is available at the following website: https://jko.jten.mil/courses/atl1/launch.html.

1.4.4.3 iWATCH Training: The contractor and all associated subcontractors with an area of performance within an Army-controlled installation, facilities or area shall brief all employees on the local iWATCH program (training standards provided by the requiring activity Antiterrorism Officer (ATO)). This local developed training shall be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the COR or the KO. This training shall be completed within 15 calendar days of contract award and within 30 calendar days of new employees commencing performance. The contractor shall report completion for each contractor employee and subcontractor employee to the COR within 15 calendar days after completion of training.

* https://www.dvidshub.net/video/872080/iwatch-army-individual-terrorism-awareness-course-90sec
* https://www.dvidshub.net/video/872374/iwatch-army-dont-bystander-59sec
* https://www.mepcom.army.mil/Home/Contractors/

1.4.4.4 Communications Security/Information Technology (COMSEC/IT) Security. All communications with DoD organizations are subject to COMSEC review. All telephone communications networks are continually subject to intercept by unfriendly intelligence organizations. DoD has authorized the military departments to conduct COMSEC monitoring and recording of telephone calls originating from, or terminating at, DoD organizations. Therefore, the contractor is advised that any time contractor personnel place or receive a call they are subject to COMSEC procedures. The contractor shall ensure wide and frequent dissemination of the above information to all employees dealing with DoD information. The contractor shall abide by all Government regulations concerning the authorized use of the

Government's computer network, including the restriction against using the network to recruit Government personnel or advertise job openings.

1.4.4.5 OPSEC Training: In accordance with AR 530-1, Operations Security, new contractor employees shall complete Level I OPSEC training within 30 calendar days of their reporting for duty and annually thereafter. The contractor shall submit certificates of completion for each contractor employee to the COR (if no COR is assigned, delete to the COR and replace with to the KO) within 15 calendar days after completion of training. Level 1 OPSEC training is available at https://www.cdse.edu/Training/eLearning/GS130/.

1.4.5 Physical Security. The contractor shall safeguard all Government property provided for contractor use. At the close of each work period, Government facilities, equipment and materials shall be secured.

1.4.5.1 Key Control. NOTE: All references to keys include key cards. The contractor shall establish and implement methods of ensuring that no keys/key cards issued by the Government are lost or misplaced or are used by unauthorized persons. No keys issued by the Government shall be duplicated. Such procedures shall include turn-in of any issued keys by personnel who no longer require access to locked areas. The contractor shall include procedures covering key control in their request for access keys to the site.

1.4.5.1.1. The contractor shall immediately report any occurrences of lost or duplicated keys/key cards to the COR.

1.4.5.1.2. In the event keys, other than master keys, are lost or duplicated, the contractor shall, upon direction by the KO, re-key or replace the affected lock or locks; however, the Government, at its option, may replace the affected lock or locks or perform re-keying. When the Government replaces or re-keys the locks, the Government will deduct the total cost of lock replacement or re-keying from the monthly payment due the contractor. In the event a master key is lost or duplicated, the Government will replace all locks and keys for that system and will deduct the total cost from the monthly payment due the contractor.

1.4.5.1.3. The contactor shall prohibit the use of the Government issued keys/key cards by any persons other than the contractor’s employees. The contractor shall prohibit the opening of locked areas by contractor employees to permit entrance of persons other than contactor employees engaged in the performance of services in those areas, or personnel authorized entrance by the KO.

1.4.6 Special Qualifications: The contractor shall ensure all employees possess the necessary specialized licenses and certifications required to safely evaluate utility-scale solar PV and medium-voltage electrical systems. At a minimum, the contractor's assessment team must include personnel holding a current NABCEP PV System Inspector (PVSI) or PV Installation Professional (PVIP) certification, and a certified Level I Thermographer. Personnel evaluating the AC electrical distribution must possess documented training and experience in medium-voltage (4.16 kV) equipment safety and testing, and knowledge and experience evaluating battery State of Health (SOH), State of Charge (SOC), and Battery Management Systems (BMS).

(NOTE: The Government does not provide training to contractors. Contractors must ensure that any personnel performing under a contract are fully trained, licensed, certified, and otherwise qualified to provide services.)

1.4.8 Coordination Meeting: If essential to performance and to the maximum extent practicable in accordance with commercial practice, the Government will require a coordination meeting to discuss how the contractor will perform services under this PWS. The coordination meetings shall be within 10 days of award unless otherwise indicated by the Contracting Officer. The Government anticipates at least one coordination meeting and 4 progress meeting(s) every 15 days. Additional progress meetings may be required if the contractor deviates from this PWS (non-conformance). The Contractor shall be required to attend these meetings at no additional cost to the Government.)

1.4.7 Contract Manager (CM): The contractor shall designate a CM who shall ensure performance under this contract. The name of this person, and an alternate who shall act for the contractor when the CM is absent, shall be designated in writing to the KO. The CM or alternate shall have full authority to act for the contractor on all contract matters relating to daily operation of this contract. The CM shall work through the COR (if no COR is assigned, delete through the COR and replace with through the KO), to resolve issues, receive technical instructions, and ensure adequate performance of services. The CM shall ensure that contractor employees do not perform any services outside the scope of the contract without an official modification issued by the KO. The CM shall ensure contractor employees understand that services performed outside the scope of the contract are performed wholly at the expense of the contractor. The contractor SHALL NOT designate a subcontractor or subconsultant as a CM due to lack of privity of contract between the Government and subcontractors or subconsultants.

1.4.8 Identification of Contractor Employees: All contractor personnel attending meetings, answering Government telephones and working in other situations where their contractor status is not obvious to third parties are required to identify themselves as such to avoid creating an impression that they are Government employees. The contractor shall ensure that all documents or reports produced by contractor personnel are suitably marked as contractor products or that contractor participation is appropriately disclosed. The contractor's status as a "contractor" shall be predominantly displayed in all correspondence types (to include signature blocks on e-mail) and dealings with Government or non-Government entities. Contractor personnel wear identification badges distinguishing themselves as such. The badges shall have the company name, employee name and the word "contractor" displayed.

1.4.8.1 If issued an identification media, the contractor shall retrieve all identification media (including vehicle passes) from its employees, subcontractors, and subconsultants, who depart employment for any reason or are directed to be removed by the Contracting Officer. The contractor shall return all identification media (i.e., badges and vehicles pass) to the KO within 5 business days of an employee's departure.

1.4.9 Combating Trafficking in Persons: The United States Government has adopted a zero-tolerance policy regarding trafficking in persons. Contractors and contractor employees shall not engage in severe forms of trafficking in persons during the period of performance of the contract;

procure commercial sex acts during the period of performance of the contract; or use forced labor in the performance of the contract. The Contractor shall notify its employees of the United States Government's zero tolerance policy, the actions that will be taken against employees for violations of this policy. The contractor shall take appropriate action, up to and including termination, against employees or subcontractors that violate the US Government policy as described at FAR 22.17.

1.4.10 Reserved.

1.4.11 Data Rights. The Government has unlimited rights to all documents/materials produced under this contract. All documents and materials, to include the source codes of any software, produced under this contract shall be Government owned and are the property of the Government with all rights and privileges of ownership/copyright belonging exclusively to the Government. These documents and materials may not be used or sold by the contractor without written permission from the KO. All materials supplied to the Government shall be the sole property of the Government and may not be used for any other purpose. This right does not abrogate any other Government rights.

1.4.12 Organizational Conflicts of Interest (OCI): The contractor and subcontractor personnel performing services under this contract may receive, have access to or participate in the development of proprietary or source selection information (e.g., cost or pricing information, budget information or analyses, specifications or work statements, etc.) or perform evaluation services which may create a current or subsequent OCIs, as defined in FAR Subpart 9.5. The contractor shall notify the KO immediately whenever it becomes aware that such access or participation may result in any actual or potential OCI and shall promptly submit a plan to the KO to avoid or mitigate any such OCI. The contractor's mitigation plan will be determined to be acceptable solely at the discretion of the KO. In the event the KO unilaterally determines that any such OCI cannot be satisfactorily avoided or mitigated, the KO may impose other remedies as he or she deems necessary, including prohibiting the contractor from participation in subsequent contracted requirements which may be affected by the OCI.

2.0 Definitions and Acronyms:

2.1 Definitions:

2.1.1 Contractor: A supplier or vendor awarded a contract to provide specific supplies or service to the Government. The term used in this contract refers to the prime.

2.1.2 Defective Service: A service output that does not meet the standard of performance associated with the PWS.

2.1.3 Deliverable: Anything that can be physically delivered and includes non-manufactured things such as meeting minutes or reports.

2.1.4 Key Personnel: Contractor personnel that are evaluated in a source selection process and that may be required to be used in the performance of a contract by the PWS. When key

personnel are used as an evaluation factor in best value procurement, an offer can be rejected if it does not have a firm commitment from the persons that are listed in the proposal.

2.1.5 Physical Security: Actions that prevent the loss or damage of Government property.

2.1.6 Quality Assurance: The Government procedures to verify that services being performed by the Contractor are performed according to acceptable standards.

2.1.7 Quality Assurance Surveillance Plan (QASP): An organized written document specifying the surveillance methodology to be used for surveillance of contractor performance.

2.1.8 Quality Control: All necessary measures taken by the Contractor to ensure that the quality of an end product or service shall meet contract requirements.

2.1.9 Subcontractor: One that enters into a contract with a prime contractor. The Government does not have privity of contract with the subcontractor.

2.1.10 Inspection/Acceptance: The Government's action to inspect and accept supplies and services required by this PWS to ensure conformance Government requirements. It includes physical inspection of tendered supplies and services. This is separate from Inspection/Acceptance of Invoices in WAWF submitted through PIEE.

2.1.11 Procurement Integrated Enterprise Environment: The system providing enterprise services, capabilities, and systems supporting the end-to-end Procure-to-Pay (P2P) business process.

2.1.12 Wide Area Workflow: The system, located in WAWF, in which the contractor submits invoices for inspection and acceptance via electronic fund transfer (ETF) unless otherwise specified by a clause.

2.1.13 Revolutionary Federal Acquisition Regulation Overhaul: Unless otherwise specified, the references to the Federal Acquisition Regulation and Agency supplements herein refer to the Revolutionary FAR Overhaul (RFO, FAR 2.0). Effective 1 February 2026, the DoW/DoD published Deviations to implement RFO through DFARS Revolutionary FAR Overhaul Class Deviations. They can be accessed at https://www.acq.osd.mil/dpap/dars/dfars_far_overhaul_class_deviations.html.

2.1.14 Incidental Property: If provided under PWS, it refers to Government property that is *incidental* to the place of performance, when the contract requires contractor personnel to be located on a Government site or installation, and when the property used by the contractor within the location remains accountable to the Government. Items considered to be incidental to the place of performance include, for example, office space, desks, chairs, telephones, computers, and fax machines. The contractor DOES NOT REMOVE incidental property from place of performance.

2.2 Acronyms:

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|---|---|
| AC | Alternating Current |
| AEI | Army Enterprise Infostructure |
| AR | Army Regulation |
| AT/OPSEC | Antiterrorism/Operational Security |
| BI | Background Investigation |
| CM | Contract Manager |
| COR | Contracting Officer Representative |
| DA | Department of the Army |
| DC | Direct Current |
| DD254 | Department of Defense Contract Security Classification Specification |
| DFARS | Defense Federal Acquisition Regulation Supplement |
| DoD | Department of Defense |
| DSCA | Defense Counterintelligence and Security Agency |
| FAR | Federal Acquisition Regulation (Legacy) |
| RFO | Revolutionary FAR Overhaul |
| GFP/M/E/S | Government Furnished Property/Material/Equipment/Services |
| HQDA | Headquarters, Department of the Army |
| HSPD | Homeland Security Presidential Directive |
| IA | Information Assurance |
| IS | Information System(s) |
| KO | Contracting Officer |
| NGB | National Guard Bureau |
| OCI | Organizational Conflict of Interest |
| PIEE | Procurement Integrated Enterprise Environment |
| PII | Personally Identifiable Information |
| PIPO | Phase In/Phase Out |
| POC | Point of Contact |
| PRS | Performance Requirements Summary |
| PWS | Performance Work Statement |
| QA | Quality Assurance |
| QASP | Quality Assurance Surveillance Plan |
| QC | Quality Control |
| QCP | Quality Control Program |
| SCR | Service Contract Reporting |
| SSN | Social Security Number |
| TE | Technical Exhibit |
| USD(I) | Under Secretary of Defense for Intelligence |
| WAWF | Wide Area Workflow |

3.0 Government Furnished Property, Material, Equipment and Services (GFP/M/E/S): Reserved.

3.1 Property: None.

3.2 Materials: None.

3.3 Equipment: None.

3.3 Services: None.

3.4 Utilities: All utilities in the facility will be available for the contactor's use in the performance of this contract. The contractor shall instruct employees in utilities conservation practices. The contractor shall operate under conditions that preclude the waste of utilities, which include turning off the water faucets or valves after using the required amount.

4.0 Contractor Furnished Property, Materials, and Equipment (CFP/M/E):

4.1 General: Except for those items specifically stated to be Government-Furnished in Paragraph 3.0, the contractor shall furnish everything required to perform these services as indicated in Paragraph 1.1.

5.0 Performance Requirements: The contractor will provide non-personal services, labor, materials, supplies, equipment, and subcontracted services (if applicable) to perform in accordance with the specified tasks in this PWS. The overarching goal is to conduct a comprehensive independent assessment of the Camp Santiago Solar PV Field to generate a follow-on scope of repairs and evaluate the asset's remaining useful life.

CAVEAT: The Camp Santiago and Fort Allen Solar PV Systems are currently operating under an energy savings performance contract. The contractor shall act strictly as an independent third party. The contractor shall avoid any tasks, recommendations, or actions that could potentially result in conflict with the existing energy savings performance contract operations or warranties.

5.1 System Overview and Documentation Review: The contractor shall review all available documentation related to the solar PV system. This includes identifying the original installation date, determining system capacity (both DC and AC), and logging manufacturer and model information for all major components. The contractor shall also verify current warranty statuses and their transferability, review available as-built drawings, permits, maintenance records, and analyze existing utility interconnection agreements.

5.2 Solar Module Assessment: The contractor shall conduct a visual inspection of the solar modules to identify any physical defects such as cracks, delamination, discoloration, and hot spots. The contractor shall verify module serial numbers against inventory records, conduct a module degradation analysis, and visually assess the physical condition of the module frames and mounting interfaces.

5.3 Electrical DC System Assessment: The contractor shall test the string voltage and current and conduct insulation resistance testing. The contractor shall visually and physically inspect connectors and terminations, assess the overall condition of the DC cabling, verify grounding and bonding integrity, and conduct a comprehensive arc-fault risk assessment.

5.4 Inverter Assessment: The contractor shall evaluate the operational performance of all system inverters. This task shall include reviewing the fault and alarm history, conducting efficiency

testing, and reviewing the status of firmware and software updates. The contractor shall estimate the remaining useful life of the inverters and provide replacement planning and cost evaluations.

5.5 Battery Energy Storage System (If Applicable): If energy storage is present, the contractor shall review the battery chemistry and manufacturer data. The contractor shall perform a State of Health (SOH) assessment, verify the State of Charge (SOC), conduct capacity testing, and review battery cycle counts. Furthermore, the contractor shall evaluate the Battery Management System (BMS) functionality and provide a replacement timeline with estimated costs.

5.6 Structural and Mounting System Assessment: Conduct a visual inspection of the mounting systems to identify physical damage, severe corrosion, and missing or loose fasteners. Document any visually observable deviations from the provided baseline as-built drawings, without performing engineered structural load or seismic calculations. *(Note: This assessment is for condition reporting and does not require a stamped structural engineering re-design).*

5.7 AC Electrical Distribution Assessment: The contractor shall assess the physical and operational condition of the switchgear, verify the functionality of breakers and disconnect, and inspect all surge protection devices. The contractor shall also inspect transformers (if applicable) and assess all utility interconnection equipment for wear and operational readiness.

5.8 Monitoring and Control Systems: The contractor shall evaluate the functionality of the system's monitoring platform and the reliability of the communication network. The contractor shall review data logging capabilities, assess basic cybersecurity considerations regarding external access, and review historical production data for anomalies.

5.9 Operations and Maintenance (O&M) Review: The contractor shall review the site's preventive and corrective maintenance history. The contractor shall assess the current spare parts inventory, evaluate cleaning and vegetation management practices, and provide an assessment of the overall effectiveness of the current O&M program.

5.10 Performance Evaluation: The contractor shall analyze historical energy production data to compare expected performance versus actual performance. The contractor shall evaluate the capacity factor, calculate the system's performance ratio (PR), and estimate the annual degradation rate of the systems.

5.11 Safety and Compliance Assessment: Visually inspect the site for basic safety and hazard indicators, such as missing safety labels, exposed or frayed wiring, and damaged enclosures. Verify the presence of documented Lockout/Tagout procedures and report any physically observed hazards in accordance with National Electric Code (NEC) NFPA 70 / NFPA 855.

5.12 Thermal Imaging Assessment: The contractor shall perform a thermographic inspection of the site. This includes utilizing thermal imaging to detect module hot spots, overheated electrical connections, evaluating inverter thermal performance, and identifying any other electrical equipment temperature anomalies that could indicate impending failure.

5.13 Remaining Useful Life (RUL) Assessment: The contractor shall determine and document the estimated remaining useful life for all key system components, including solar modules, inverters, batteries (if applicable), mounting systems, and the overall electrical infrastructure.

5.14 Repair and Reconditioning Budgetary Estimate: Provide a basic budgetary estimate for immediate commercial replacement parts based on visually identified defects. Exclude long-term engineering lifecycle cost analyses (LCCA) or calculated return on investment (ROI) forecasts.

5.15 Risk Assessment: The contractor shall identify single points of failure within the system design and note general reliability concerns. The contractor shall assess environmental exposure risks, operational continuity risks, and potential safety risks to personnel or property.

5.16 System Reconditioning and Repair Plan: Provide a prioritized list of visually and operationally identified defects, along with basic repair actions required to restore the equipment to its original baseline operational state, explicitly excluding any system redesign or engineering modernization proposals.

5.17 Provide Basis of Report Data: Synthesize all raw assessment data, testing logs, and visual inspection findings into a standardized Condition Assessment Summary Report to provide command leadership with a factual inventory of current system health and basic replacement needs.

5.18 Final Deliverable: Comprehensive Condition Assessment Report: The contractor shall deliver a finalized Comprehensive Condition Assessment Report that synthesizes all findings, testing data, and budgetary estimates required in Sections 5.1 through 5.17. The report is expected to be a highly detailed, professional-grade technical document typically ranging from 100 to 200 pages (excluding raw data appendices such as full string-level testing logs or complete thermographic image catalogs). The report must be logically structured, highly visual, and actionable for command level decision makers. At a minimum, the report shall be organized to include the following core sections:

5.18.1 Executive Summary: A high-level overview (2-3 pages) summarizing the system's current health, critical safety or operational risks, and a bottom-line financial recommendation (Continue, Repair, Modernize, or Replace).

5.18.2 Methodology and Asset Inventory: A brief description of the testing procedures, equipment used, and an updated baseline inventory of all major site components.

5.18.3 Detailed Condition Assessment: A section-by-section breakdown of the visual, electrical, structural, and thermal findings for the Solar Modules, Inverters, Battery Energy Storage System (BESS), Switchgear, and Controls. This section must include annotated photographic and thermographic evidence of noted deficiencies.

5.18.4 Safety, Code & O&M Compliance: A review of NEC/OSHA/NFPA compliance, lockout/tagout procedures, and an evaluation of the incumbent's O&M effectiveness.

5.18.5 Performance & Remaining Useful Life (RUL): An analysis of historical energy production versus expected yields, accompanied by an RUL matrix for all major components.

5.18.6 Deficiency and Risk Register: A prioritized matrix categorizing identified risks by severity (e.g., Critical/Safety, High/Operational, Low/Maintenance), including single points of failure.

5.18.7 Reconditioning Analysis and Budget Report: A detailed budgetary estimate for immediate repairs to bring the system to operational status.

5.18.8 Appendices: Raw data sheets, complete thermographic reports, electrical testing logs (e.g., Megger/IV curve data), and calibration certificates of the testing equipment.

5.19 Service Contract Reporting: The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the National Guard Bureau via a secure data collection site.

5.19.1.1 The contractor shall completely fill in all required data fields using the following web address: https://sam.gov. Log in and select Entity Registrations and then select Service Contract Reporting.

5.19.1.2 The Contractor shall report the required information annually by October 31, for services performed under this contract during the preceding Government fiscal year (October 1-September 30).

5.19.1.3 The DoD Guidebook for Service Contract Reporting in SAM, available on the DoD Procurement Toolbox at https://dodprocurementtoolbox.com/site-pages/service-contract-reporting-scr.

5.19.1.4 The General Services Administration (GSA) has also posted additional guidance such as quick start guides, informational videos, and frequently asked questions, that can be accessed by going to https://sam.gov and searching the "HELP" section. The SAM Federal User Guide is also available in the "HELP" section for comprehensive instructions on navigating SAM. Contractors requiring assistance using SAM should contact the Federal Service Desk at https://www.fsd.gov.

6.0 Applicable Publications: Publications applicable to this PWS are listed below:

| Publication (Chapter/Page) | Date of Publication | Mandatory or Advisory | Website |
|---|---|---|---|
| Federal Acquisition Regulation | | | https://www.acquisition.gov/?q=browsefar |

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|---|---|---|---|
| Defense Federal Acquisition Regulation Supplement | | | http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html or https://www.acquisition.gov/dfars |
| Joint Travel Regulation (JTR) | | | https://www.defensetravel.dod.mil/site/travelreg.cfm |
| DoDM 1000.13-M-V1<br>DoD Identification (ID) Cards<br>(Enclosure 2, paragraph 3.b) | 01/23/2014<br>(Change 1: 07/28/2020) | | http://www.esd.whs.mil/Directives/issuances/dodm |
| Federal Information Processing Standards (FIPS) Publication 201-2<br>Personal Identity Verification (PIV) of Federal Employees and Contractors<br>(paragraph 9) | August 2013 | | http://nvlpubs.nist.gov/nistpubs/FIPS/NIST.FIPS.201-2.pdf |
| DoDM 5200.2 Procedures for the DoD Personnel Security Program (PSP) | 04/03/2017 | | https://www.esd.whs.mil/Directives/issuances/dodm/ |
| DoDI 5200.46<br>DoD Investigative and Adjudicative Guidance for Issuing the Common Access Card (CAC) | 09/09/14<br>(Change 1: 05/04/2018) | | https://www.esd.whs.mil/Directives/issuances/dodi/ |
| Homeland Security Presidential Directive (HSPD)-12<br>Policy for a Common Identification Standard for Federal Employees and Contractors | 08/27/2004 | | https://www.dhs.gov/homeland-security-presidential-directive-12 |
| DoDI 5400.11<br>Department of Defense Privacy and Civil Liberties Programs | 01/29/2019 | | https://www.esd.whs.mil/Directives/issuances/dodi/ |
| DoD 5400.11-R<br>Department of Defense Privacy Program | 05/14/2007 | | https://www.esd.whs.mil/Directives/issuances/dodm/ |
| DoDD 8140.01<br>Cyberspace Workforce Management | 10/05/2020 | | https://www.esd.whs.mil/Directives/issuances/dodd/ |
| DoD 8570.01-M<br>Information Assurance Workforce Improvement Program | 12/19/2005<br>(Change 4: 11/10/2015) | | https://www.esd.whs.mil/Directives/issuances/dodm/ |
| DoD 5220.22-M<br>National Industrial Security Program Operating Manual (NISPOM) | 02/28/2006<br>(Change 2: 05/18/2016) | | https://www.esd.whs.mil/Directives/issuances/dodm/ |
| Army Directive 2014-05<br>Policy and Implementation Procedures for Common Access Card Credentialing and Installation Access for Uncleared Contractors | 03/07/2014 | | https://armypubs.army.mil/ProductMaps/PubForm/ArmyDir.aspx |
| AR 25-2<br>Information Assurance | 04/04/2019 | | http://armypubs.army.mil/ProductMaps/PubForm/AR.aspx |
| AR 530-1<br>Operations Security | 09/26/2014 | | http://armypubs.army.mil/ProductMaps/PubForm/AR.aspx |
| AR 525-13<br>Antiterrorism | 12/09/2019 | | http://armypubs.army.mil/ProductMaps/PubForm/AR.aspx |
| AR 381-12<br>Threat Awareness and Reporting Program (TARP)<br>(Section II, ¶ 2-4.b) | 06/01/2016 | | http://armypubs.army.mil/ProductMaps/PubForm/AR.aspx |

6.1 Applicable Forms: Forms applicable to the PWS are listed below:

| Form | Date | Website |
|---|---|---|
| DD 1172-2<br>Application for Identification Card/DEERS Enrollment | Mar 2017 | http://www.dtic.mil/whs/directives/forms/index.htm |
| I-9<br>Employment Eligibility Verification | 10/21/2019 | https://www.uscis.gov/sites/default/files/files/form/i-9.pdf |
| DD 441<br>Department of Defense Security Agreement | Feb 2020 | http://www.dtic.mil/whs/directives/forms/dd/ddforms0001-0499.htm |
| DD 250<br>Material Inspection and Receiving Report | Aug 2000 | https://www.esd.whs.mil/Directives/forms/dd0001_0499/ |

TECHNICAL EXHIBIT 1

Performance Requirements Summary (PRS)

This PRS includes performance objectives the Government will use to determine contractor performance and will compare contractor performance to the Acceptable Quality Level (AQL).

| **Performance Objective** | **Performance Standard** | **Acceptable Quality Levels (AQL)** | **Surveillance Method / By Whom** |
|---|---|---|---|
| 5.0 Non-Interference with Incumbent | The contractor shall act strictly as an independent third party and avoid actions that conflict with the existing energy savings performance contract. | Zero (0) incidents of contractor actions causing operational disruptions or voiding existing warranties. | Direct Observation & Customer Feedback / COR |
| 5.2 & 5.12 Solar Module & Thermal Assessment | Conduct visual and thermographic inspections of solar modules to identify physical defects, degradation, and temperature anomalies. | 100% of required visual and thermal assessments are completed and accurately documented in the final report. | 100% Inspection of Final Report / COR |
| 5.3, 5.4 & 5.7 Electrical Systems & Inverter Assessment | Test DC/AC electrical distribution, string voltages, insulation resistance, and evaluate inverter operational performance and fault history. | Thorough evaluation of all designated electrical and inverter components without causing damage to the system. | Periodic Inspection & Document Review / COR |
| 5.5 Battery Energy Storage System Evaluation | Assess BESS State of Health (SOH), State of Charge (SOC), capacity, cycle counts, and Battery Management System (BMS) functionality. | Evaluation captures all sub-tasks in 5.5 and provides a commercially sound replacement timeline. | 100% Inspection of Final Report / COR |

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| 5.6 & 5.11 Structural & Safety Compliance | Visually inspect mounting systems for physical damage and verify basic safety/hazard indicators without performing engineered structural calculations. | Identification and photographic documentation of all visible structural and code-compliance deficiencies. | 100% Inspection of Final Report / COR |
| 5.8, 5.9, 5.10 & 5.13 Performance, O&M, and RUL Evaluation | Calculations and estimates are mathematically sound, utilizing standard commercial data logging and manufacturer evaluation practices. | Calculations and RUL estimates are mathematically sound, utilizing standard commercial evaluation practices. | 100% Inspection of Final Report / COR |
| 5.14, 5.15, 5.16 & 5.17 Budgetary Estimate, Risk Assessment & Repair Plan | Provide budgetary estimates for visual defects and basic repair actions compiled into a Condition Assessment Summary Report. | Budgetary estimates and basic repair evaluations are logical, commercially reasonable, and formatted to support government budgeting. | 100% Inspection of Final Report / COR |
| 5.18 Final Comprehensive Condition Assessment Report | Deliver a final, 100-200 page comprehensive report synthesizing all findings within the 90-day Period of Performance. | Submitted on time; contains 100% of the core sections defined in 5.18.1 through 5.18.8. | 100% Inspection / COR |
| 1.4.4.2 & 1.4.4.5 Security and Access Training | Contractor employees shall complete AT Level 1 and Level I OPSEC training within 30 days of commencing performance. | 100% of applicable personnel complete training and submit certificates within 15 days of completion. | Periodic Inspection / COR |
| 5.19 Service Contract Reporting | Report all contractor and subcontractor labor hours in SAM.gov annually by | 100% compliance. Data is submitted accurately and by the required deadline. | Verification in SAM.gov / KO or COR |

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| | October 31 for the preceding fiscal year. | | |

TECHNICAL EXHIBIT 2

Deliverables Schedule

The following table provides a list of deliverables expected from the execution of this PWS. It is not all inclusive. The contractor will be responsible for verifying the PWS for any deliverable that may not be listed here and bring it to the attention of the COR and Contracting Officer for clarification.

| **PWS Reference / Deliverable Title** | **Frequency** | **Number of Copies** | **Medium/Format** | **Submit To** |
|---|---|---|---|---|
| 1.4.4.2 AT Level 1 Awareness Training Certificates | Provide within 15 calendar days after employee completes training. | 1 | Electronic Submission | COR |
| 1.4.4.5 OPSEC Level I Training Certificates | Provide within 15 calendar days after employee completes training (and annually thereafter). | 1 | Electronic Submission | COR |
| 1.4.5.1 Key Control Request & Procedures | Submit prior to being issued any site access keys or key cards. | 1 | Electronic Submission | COR |
| 1.4.8.1 Identification Media Return | Return within 5 business days of an employee's departure from contract performance. | Original(s) | Physical | KO |
| 5.18 Comprehensive Condition Assessment Report (inclusive of elements 5.18.1 through 5.18.8) | Once, submitted before the end of the 90-day Period of Performance. | 1 | Electronic Submission (PDF and/or Word format) | COR |

TECHNICAL EXHIBIT 3

Estimated Equipment Inventory for Camp Santiago Joint Training Center PV System

*Disclaimer: The following equipment list is provided for informational and estimating purposes only. It is based on the 100% Design Drawings, Scope of Work, and historical Microgrid Test Results. The contractor shall be responsible for assessing the actual site conditions and verifying all components during the performance of the assessment.*

| **Equipment Category** | **Component Description** | **Estimated Quantity / Notes** |
|---|---|---|
| Solar PV Modules | Suniva OPT325-72-4-100 & OPT330-72-4-100-B (325W and 330W). | 11,160 Total (3,740 in System 1; 3,680 in System 2; 3,740 in System 3). |
| PV Inverters | Ingeteam Ingecon PowerMax 1000 TL U X400 (1000VDC, 400VAC, NEMA 3R). | 3 Units (Identified as Inverters A, B, and C). |
| Battery ESS Inverters | Ingeteam Ingecon Sun Storage 600TL U X330 Outdoor (600kW, 330VAC). | 2 Units (Identified as Inverters D and E). |
| Battery Storage System | Battery Container / UPS System (Supplied by JCI) integrating with the microgrid. | 1 System. |
| Standby Generator | Caterpillar C9 250 kW Generator (Standby Power @ 0.8 PF, 480V, 3-Phase). | 1 Unit. |
| Main Switchgear | 4.16 kV, 600A Bus with ABB VMAX Vacuum Breaker (1200A). | 1 Main Assembly. |
| Protection Relays | SEL-351S Microprocessor Type Relay (120V Control/Protection). | 1 Main Unit (Additional relays may exist in ATS/Switchgear). |
| PV Transformers | 1250 kVA Pad-Mounted Transformers (4.16 kV Wye to 400V Wye, NEMA 3R). | 3 Units (One per PV System). |
| ESS Transformer | 1500 kVA Pad-Mounted Transformer (4.16 kV Wye to 330V Wye, NEMA 3R). | 1 Unit. |

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| Medium Voltage ATS | 5 kV Rated, 1200 Amps, 3-Phase Automatic Transfer Switch. | 1 Unit (ATS-L / ATS-PV). |
| Auxiliary Transformers | 300 kVA (4.16/2.4kV to 480/277V) and 15 kVA (400V/480V to 208/120V) units. | 1x 300 kVA Unit; Approx. 4x 15 kVA Units. |
| Re-combiner Boxes | Solar BOS Monitored Re-combiner (1000VDC, 2500 Amps DC). | 3 Units (One per PV System). |
| Control/Meters | Microgrid controller, ION8600 PREPA Meter, Draker Base Station, weather sensors. | 1 System. |

TECHNICAL EXHIBIT 4

Estimated Equipment Inventory for Fort Allen Training Center PV Systems

*Disclaimer: The following equipment list is provided for informational and estimating purposes only. It is based on the 100% Design Drawings, Scope of Work, and historical Microgrid Test Results. The contractor shall be responsible for assessing the actual site conditions and verifying all components during the performance of the assessment.*

| **Equipment Category** | **Component Description** | **Estimated Quantity / Notes** |
|---|---|---|
| Solar PV Modules | Suniva OPT325-72-4-100 (325W). | 3,852 Total (2,892 in Ground Mount PV System; 960 in Carport PV System). |
| PV Inverters | Solectria 500 SGI-500-480 & Solectria 250 SGI-250-480 (625VDC, 480VAC, NEMA 3R) | 3 Units (Identified as Ground Mount Inverter SGI-500KW, Ground Mount Inverter SGI-250KW & Carport Inverter SGI-250KW). |
| Disconnect Switch | Fusible Disconnect Switch 30A, 2P, 240V, NEMA 3R | 1 Unit. |
| Secondary Distribution Equipment | Secondary Distribution Equipment (1200A, 3PH, 277/480V, 65KAIC, NEMA 3R Enclosure) & Secondary Distribution Equipment (400A, 3PH, 277/480V, 65KAIC, NEMA 3R Enclosure) | 2 Units (Secondary Distribution Equipment 1200A on Ground Mounted System & Secondary Distribution Equipment 400A on Carport System) / Enclosures with space for the following equipment:<br><br>A. 2KVA CPT 480V TO 120/240V.<br><br>B. Current Transformer - GE ITI Cat# 685-152, Ratio 1500:5 Relay class C400.<br><br>C. 1200A Main Breaker– 3P-277/480V- 65KAIC –ELECTRICALLY OPERATED.<br><br>D. Capacitor Trip Device<br><br>E. SEL 751A Relay. Functions 27,50,51,59,81.<br><br>F. Space for PREPA Communication Router. CISCO 1120.<br><br>G. Fiber Optics Patch Panel for PREPA Fiber - Ortronics FCO4U-P. SC Type Connectors<br><br>H. 120V - 1.5KVA – Single Phase Double Conversion UPS. |

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| | | I. 800A Breaker 3 POLE – 3P -277/480V-65KAIC.<br><br>J. 400A Breaker 3 POLE – 3P -277/480V-65KAIC.<br><br>K. 20A Breaker 3 POLE – 3P -277/480V-65KAIC.<br><br>L. Schweitzer Fiber-Optic Transceiver with IRIG-B, Model SEL-2812MTXO.<br><br>M. Three Phase Voltage TRANF, CAT# 3VT472-480-208FF, Accuracy Class +/-1% @ 5VA, 2.31:1 RA. |
| ESS Transformer | 750 kVA Pad-Mounted Transformer (480Y/277V to 4.16kV Delta, NEMA 3R) & 300 kVA Pad-Mounted Transformer (480Y/277V to 4.16kV Delta, NEMA 3R) | 2 Unit (750kVA Pad Mounted Transformer on Ground<br>Mount PV System & 300kVA Pad Mounted Transformer on Carport PV System) |
| Transformer | Outdoor Voltage Transformer, Double Bushing, Model JVW-3, 2400/4160Y Primary, Ratio 20:1, Accuracy Class 0.3 W,X,M,Y | 1 Unit (Installed on a pole) |