STATEMENT of WORK

United States Army Corps of Engineers
Humphreys Engineer Center

2593 – Main Switchboard Replacement

17-Apr-26

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C.1.0. - Background

The U.S. Army Corps of Engineers, Humphreys Engineer Center, requires one (1) 2000 Amp main switchboard to be installed in building 2593, ground level FACP room. Currently there are six sets of welding cables that are attached to the bus bars to keep the main gear operational. This is considered building cable which is not compliant with current NEC electrical codes. Not only is there no over-current protection on the main electrical switchgear, but the conductors are severely undersized and are a potential risk of fire which could lead to loss of life and infrastructure damage.

C.1.1. - Scope of Work

1. The Contractor will provide all labor, tools, equipment, materials, supervision, and incidentals necessary to remove, replace, test, and commission a 2000A main switchboard that meets current NEC (NFPA70), NFPA 70E, UFC 3-501-01 requirements, and supports existing and future electrical loads. The Contractor will maintain building operations via phased cutover or temporary power and provide all required engineering, coordination, and commissioning. Work shall be performed by licensed electricians. The contractor will maintain a quality control (QC) plan. There will be no exclusions.

   Construction conditions may require that the Contractor adapt the scope to conform to existing field conditions encountered and make logical adjustments. If additional details, clarification, or guidance are needed to complete any aspect of the project, immediately notify the Contracting Officer in writing. Any work performed before receipt of direction from the Contracting Officer will be done at the Contractor's risk. No request for added cost or extension of time will be considered.

   At a minimum, the Contractor shall incorporate the following construction elements, systems, and products required to produce a complete overcurrent protection system.

   A. Pre-Demolition

      1. Perform a site assessment, develop demolition and outage plan, implement LOTO procedures, and coordinate outages with COR.
      2. Verify existing switchboard configuration, feeders, and grounding.
      3. Develop a detailed preliminary shutdown and cutover plan (keeping the building live) based on actual loads and operational constraints.
      4. Conduct load analysis and confirm capacity requirements
      5. Confirm service voltage, fault current, metering requirements, and utility-owned equipment interfaces.
      6. Identify all feeders, critical loads, life-safety systems, and any special sequencing requirements.
      7. Identify space constraints, clearances, and code compliance gaps
      8. Document all findings in a Pre-Construction Report

   B. Demolition & Removal

      1. De-energize system in coordination with COR and facility personnel.
      2. Remove existing switchboard, feeders (as required), and associated components.
      3. Properly dispose of all materials in accordance with EPA, state and local regulations.
      4. Protect adjacent systems and maintain life safety systems during removal.
      5. Remove debris daily; dispose of waste per regulations.

C. Temporary Power & Phasing Plan

1. Provide a detailed phasing plan to maintain building operations.
2. Coordinate outages with COR (minimum 2 week's notice).
3. Provide temporary power systems if required.
4. Sequence work to minimize downtime.

D. Installation

1. Provide UL-listed switchboard with required ratings, install all components, ensure compliance with codes.
2. Provide engineering, manufacturing, and installation of custom connection hardware from the existing busway feeder to the new switchboard.
3. Terminate conductors, torque connections, verify grounding.
4. Provide molded case or insulated case breakers sized and configured per load schedule.
5. Bond to building grounding electrode system; bond all conduits and metallic raceways.
6. Provide spare breaker spaces and bus capacity for future loads as specified.
7. Implement Lockout/Tagout procedures
8. Provide arc-flash warning labels on new equipment per NFPA 70E.
9. Provide PPE per arc flash hazard levels
10. Maintain fire/life safety systems during work

E. Rigging

1. Provide certified riggers, trucks and equipment (including forklift) to perform the following:
2. Deliver (1) New SWBD to site, rig out and remove Ex SWBD and replace with New SWBD.
3. The Ex SWBD will be rigged out of the electrical room, moved out to the loading dock, loaded onto the delivery trailer with the assistance of a forklift and removed from site for proper disposal.
4. The New SWBD will be unloaded from the delivery trailer with the assistance of a forklift and moved into the building at the loading dock, then rigged into the electric room and set for connection.
5. The contractor is responsible for disconnecting the equipment prior to arrival on site.
6. The contractor will provide a lift/rigging plan.

F. Testing and Commissioning

1. Perform insulation resistance testing (megger), torque verification, functional testing of breakers and controls, ground fault testing, energization and load testing.
2. All testing shall comply with NETA ATS Standards.
3. Operate under load for a defined period; monitor for abnormal conditions.
4. Energize main, then feeders, verifying voltages, phase rotation, and load distribution.
5. Perform testing of protective devices as required by specifications and NFPA 70B/NECA standards.

G. Restoration

1. Restore all disturbed areas to original condition.
2. Patch and repair walls, floors, and penetrations affected by demolition to maintain fire ratings and finishes.

H. Submittals

1. Provide product data, shop drawings, switchboard layout, one line diagrams, demolition plan, phasing and outage plan, safety plan (LOTO procedures), disposal documentation, final test reports, as-built drawings and O&M manuals.

I. Warranty

1. Provide minimum 1-year warranty on equipment and installation.
2. Provide manufacturer warranty documentation.

J. Acceptance Criteria

1. Work will be accepted upon successful installation, testing, disposal verification, and documentation approval.
2. Provide on-site training for facility personnel, O&M demonstration of switchboard operation and emergency procedures review.
3. System shall operate continuously without fault.
4. There shall be no unplanned outages during normal operations.
5. All equipment shall meet manufacturer specifications.
6. Installation shall pass all inspections without deficiency.

C.1.2. – Period of Performance

The performance period is one hundred eighty (180) days after the Notice to Proceed (NTP, driven by equipment lead time, delivery and any phasing constraints.

C.1.3. – Place of Performance

The work to be performed under this contract will be performed at the Humphreys Engineer Center, 7701 Telegraph Road, Alexandria, VA 22315, Bldg. 2593, Kingman Building.

C.2.0. – Hours of Operation

The Contractor is responsible for conducting business between the hours of 6:00 AM to 5:00 PM, Monday through Friday, except Federal holidays or when the Government facility is closed due to local or national emergencies, administrative closings, or similar Government-directed facility closings. The Contractor must always maintain an adequate workforce for the uninterrupted performance of all tasks defined within this SOW when the Government facility is not closed for the above reasons.
The Contractor will notify the COR and obtain approval not less than forty-eight (48) hours in advance unscheduled work such as work during nights, Saturdays, Sundays, or federal holidays. Approval is at the sole discretion of the COR at the time of the request.

C.2.1. – Recognized Holidays

New Year's Day	Labor Day
Martin Luther King Day	Columbus Day
Presidents Day	Veterans Day
Memorial Day	Thanksgiving Day
Independence Day	Christmas Day

C.2.2. - Security Requirements

All contractors and all associated sub-contractor's employees will comply with applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative). The contractor will also provide all information required for background checks or background investigation and to meet installation/facility access requirements to be accomplished by the HECSA Security Office. Contractor workforce must comply with all personal identity verification requirements as directed by DOD, HQDA, and local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition (FPCON) at this facility change, the Government may require changes in contractor security matters or processes.

All contract employees, including subcontractor employees who are not in possession of the appropriate security clearance or access privileges, will be escorted in areas where they may be exposed to classified and/or sensitive materials and/or sensitive or restricted areas.

The Contractor must pre-screen Candidates using the E-verify Program (http://www.dhs.gov/E-Verify) website to meet the established employment eligibility requirements. The Vendor must ensure that the employee candidate has two valid forms of government issued identification prior to enrollment to ensure the correct information is entered into the E-verify system. An initial list of verified/eligible employee candidates must be provided to the COR no later than 3 business days after the initial contract award.

Contractor and all associated sub-contractors employees will comply with adjudication standards and procedures using the National Crime Information Center Interstate Identification Index (NCIC-III) and Terrorist Screening Database (TSDB) (Army Directive 2014-05 / AR 190-13), applicable installation, facility and area commander installation/facility access and local security policies and procedures (provided by government representative, as NCIC and TSDB are available), or, at OCONUS locations, in accordance with status of forces agreements and other theater regulations.

C.2.3. - Local Security Policy

All contractor employees who require physical access to government-controlled facilities or logical access to government information and or information systems are subject to a fitness determination and appropriate vetting. To assist in the vetting process, the contractor must submit a notice of visit form for each employee who will perform work on the contract, including at the minimum, the name, social security number and date of birth of each employee performing work on the contract that need physical and or logical access.

Documents containing personally identifiable information may only be submitted via encrypted email, by first class mail or it may be hand carried to the security office. Notice of visits must be submitted through

the government contracting officer representative (COR) or technical representative who will deliver them to the security office. All notice of visits must be received three business days in advance of the contractor reporting for work.

The contractor will work through the COR or technical representative for the contract who will serve as the liaison between the security office and the contractor. Contractor employees who are not sponsored by a government employee will not be granted access to any facilities under HECSA control nor will HECSA security approve logical access to information systems if a notice of visit containing either the DOD ID number or the social security number is not provided to the security office.

Contractor personnel who do not require a common access card may be granted physical access based on favorable results of an NCIC III records check.

Contractors who need a common access card must have the minimum of a favorably adjudicated NACI. If no investigation is on file, the CAC will not be issued until a favorable FBI fingerprints check is received by the security office and the NACI has been initiated in PSIP. HECSA Security will initiate all NACI investigations. Contractors who require access to classified information must be performing work on a classified contract and the contract company is responsible for initiating all required investigations for the appropriate security clearance.

If an employee has been the subject of a previous favorably adjudicated investigation, it may be reciprocally accepted if there has not been a two-year break in service and there is no presence of new and potentially unfavorable information that casts doubt about the subject's suitability. When a background check is reciprocally accepted but is more than 5 years old, the security office may initiate an NCIC III check to ensure no new unfavorable information exists.

Contractor employees whose access to classified information has been suspended or revoked will not be authorized logical access to government information systems IAW AR 25-2 paragraph 4-14 b (2) until that investigation is favorably adjudicated. These personnel will also not be allowed unescorted access to government facilities until the investigation has been favorably adjudicated by the Command Security Manager. OPM Final Credentialing Standards allow agencies to deny a CAC or PIV card to any individual who has had their access to classified information denied or revoked. Further due process is not required in these situations. The contractor must provide employees who can be cleared to perform work and must immediately provide replacement employees for those who cannot be cleared.

The contractor will be provided the organizations critical information (CIL) list and OPSEC plan. The contractor must ensure all employees, including subcontractor employees, are aware of the organization's critical information list and how to protect that information. All new contractor employees will complete Level I OPSEC training within 30 calendar days of their reporting for duty. Additionally, all contractor employees must complete annual OPSEC awareness training. OPSEC training can be taken online at the following link http://cdsetrain.dtic.mil/opsec/index.htm Certificates of training must be provided to the COR.

All contractor employees, to include subcontractor employees, requiring access to Army installations, facilities and controlled access areas will complete AT Level I awareness training within 30 calendar days

after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable, and annually thereafter. The contractor will submit certificates of completion for each affected contractor employee and subcontractor employee, to the COR or to the contracting officer, if a COR is not assigned, within 5 calendar days after completion of training by all employees and subcontractor personnel. AT Level I awareness training is available at the following website: https://atlevel1.dtic.mil/at .

C.2.4. - Identification of Contractor Employees

1. The contractor is responsible for ensuring its employees meet the entry requirements for the Humphreys Engineer Center.

2. Provide list of contractor's personnel who will require access to the Humphreys Engineer Center within one (1) day of contract award. Keep list current during project work.

3. The Contractor will ensure that all employees wear appropriate uniforms and are properly always identified as contractor employees when working on HEC. Employees will not perform work outside the construction limits.

4. If applicable, arrange work so contractor's personnel can be escorted inside the building by the COR to certain areas which are classified. Restrict contractor's personnel to those areas necessary to accomplish work. Violators of any security regulations will be removed from the premises with the right to re-enter revocable.

C.2.5. – Accident Prevention

1. In performing this contract, the contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies and equipment; and avoiding work interruptions. For these purposes, the Contractor shall:
2.
3. (1) Comply with all pertinent provisions of the most recent version of U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, in effect on the date of the solicitation and available at: http://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_385-1-1_2008Sep_Consolidated_2011Aug.pdf ;

4. Provide appropriate safety personal protection equipment (steel toe safety boots, eye protection, hearing protection, reflective vests, etc) as required by the Position Hazard Analysis;

5. Comply with the standards issued by the Secretary of Labor in 29 CFR Part 1910 and or 29 CFR Part 1926.

6. Safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to Contractor operations and activities.

7. Avoid interruptions of Government operations and delays in project completion dates, and; control costs in the performance of this contract.

8. Additionally, for these purposes on contracts for construction or dismantling, demolition, or removal of improvements, the Contractor shall also –

9. Provide appropriate safety barricades, signs, and signal lights, and ensure that any additional measures the Contracting Officer determines to be reasonably necessary for the purposes are taken.

10. Whenever the Contracting Officer becomes aware of any noncompliance with these requirements or any condition which poses a serious or imminent danger to the health or safety of the public or Government personnel, the Contracting Officer shall notify the Contractor orally, with written confirmation, and request immediate initiation of corrective action. This notice, when delivered to the Contractor or the Contractor's representative at the work site, shall be deemed sufficient notice of the noncompliance and that corrective action is required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to promptly take corrective action, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any Stop-Work Order issued under this clause. The Contractor shall require any/all subcontractors to comply with these safety requirements.

11. After receipt of a notice of award, the Contractor will:
    Submit in writing (within 10 working days) a proposal for effectuating this provision for accident prevention. The plan shall include an analysis of the significant hazards to life, limb, and property inherent in the contract work performance and a plan for controlling these hazards.

12. The plan, which will be reviewed by the Humphreys Engineer Center Support Activity, Safety and Occupational Health Office shall include but not be limited to the following:

    a. Identification and signature of on-site contractor safety officer.
    b. Identification and telephone numbers of medical emergency facilities.
    c. Medical emergency response procedures (what to do in a medical emergency).
    d. Plans for initial safety indoctrination and continuing safety training for employees.
    e. Hazard analysis and abatement.
    f. Personal protective equipment.
    g. Procedures to be used for accident reporting and investigating.
    h. Criteria for reprimand due to willful negligence towards safety standards.

13. Meet in conference with representatives of the Contracting Officer to discuss and develop mutual understanding relative to administration of the overall safety program

C.3.0. - Attachment/Technical Exhibit List

Technical Exhibit 1, Drawings / Sketches – N/A
Technical Exhibit 2, Photos – N/A

C.3.1 – References

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text bythe basic designation only.

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C12.1	(2014; Errata 2016) Electric Meters - Code for Electricity Metering

ASTM INTERNATIONAL (ASTM)

ASTM A48/A48M	(2003; R 2021) Standard Specification for Gray Iron Castings
ASTM A240/A240M	(2020a) Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
ASTM D877/D877M	(2019) Standard Test Method for Dielectric Breakdown Voltage of Insulating Liquids Using Disk Electrodes

ELECTRONIC INDUSTRIES ALLIANCE (EIA)

EIA 443	(1979) NARM Standard for Solid State Relays Service

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE C37.17	(2012) Standard for Trip Devices for AC and General-Purpose DC Low-Voltage Power Circuit Breakers
IEEE C37.90	(2005; R 2011) Standard for Relays and Relay Systems Associated With Electric Power Apparatus
IEEE C57.13	(2016) Standard Requirements for Instrument Transformers
IEEE C63.2	(2009) Standard for Electromagnetic Noise and Field Strength Instrumentation, 10 Hz to 40 GHz - Specifications
IEEE C63.4	(2014) American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

IPC - ASSOCIATION CONNECTING ELECTRONICS INDUSTRIES (IPC)

IPC D330	(1992) Design Guide Manual

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION(NEMA)

ANSI C78.23	(1995; R 2003) American National Standard for Incandescent Lamps - Miscellaneous Types
NEMA 250	(2020) Enclosures for Electrical Equipment (1000 Volts

	Maximum)
NEMA AB 3	(2013) Molded Case Circuit Breakers and Their Application
NEMA FU 1	(2012) Low Voltage Cartridge Fuses
NEMA ICS 1	(2000; R 2015) Standard for Industrial Control and Systems: General Requirements
NEMA ICS 2	(2000; R 2020) Industrial Control and Systems Controllers, Contactors, and Overload Relays Rated 600 V
NEMA ICS 6	(1993; R 2016) Industrial Control and Systems: Enclosures

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; ERTA 20-3 2020; TIA 20-1; TIA 20-2; TIA 20-3; TIA 20-4; TIA 20-5; TIA 20-6; TIA 20-7; TIA 20-8; TIA 20-9; TIA 20-10; TIA 20-11; TIA 20-12; TIA 20-13; TIA 20-14; TIA 20-15; TIA 20-16; ERTA 20-4 2022) National Electrical Code

UNDERWRITERS LABORATORIES (UL)

UL 20	(2018; Reprint Jan 2021) UL Standard for Safety General-Use Snap Switches
UL 50	(2015) UL Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations
UL 489	(2016; Rev 2019) UL Standard for Safety Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures
UL 508	(2018; Reprint Jul 2021) UL Standard for Safety Industrial Control Equipment