

**DEPARTMENT OF VETERANS AFFAIRS  
WILKES-BARRE VA MEDICAL CENTER  
Statement of Work (SOW)  
For  
Maintenance, Inspection and Testing  
Of the Electrical Power Distribution System**

**I. Introduction:**

1. This Statement of Work (SOW) describes the requirements for the maintenance, inspection, testing, and calibration of the Electrical Power Distribution System and all of its components at the Wilkes-Barre VA Medical Center in Wilkes-Barre, Pennsylvania (WBVAMC). These work items are/may be referenced as “Maintenance and Testing” in this document, hereafter.
2. This SOW describes the requirements for the Qualified Professional Electrical Contractor – known hereafter as “Contractor” in this document. Contractor who is contracted by the WBVAMC to perform maintenance and testing of the Electrical Power Distribution System, and all of its components shall meet all requirements stated in Section II of this SOW.
3. This SOW describes the requirements to establish maintenance and testing reports.

**II. Qualifications of Contractors:**

1. The Contractor shall be an experienced Electrical Contractor having been properly trained and have permanent staff required to perform the proposed work. Electrical Contracting (i.e., the construction, repair, testing and maintenance of industrial and commercial electrical distribution systems) shall be the primary interest/specialty of the Contractor’s core business operation.
2. Contractor shall be certified by the InterNational Electrical Testing Association (NETA) or *equivalent certifying organization*. All personnel on site shall have completed the Occupational Safety & Health Administration (OSHA) approved 10-hour construction safety training. There shall be at least one crew leader with OSHA 30 hour safety training certification present at the job sites at all times.
3. Contractor’s field service engineers and technicians shall have technical training and demonstrable track records of working experience in the maintenance, inspection, and testing of complex Electrical Power Distribution Systems and related components in healthcare, industrial, educational, and commercial facilities. Electrical components on which the Contractor’s personnel shall have experience include, but are not limited to, medium and low voltage switch gear & switchboards; motor control centers; busways; power distribution panelboards; low voltage controls; emergency and standby generators; automatic transfer switches, wiring, transformers, meters, and other electrical appurtenances. Contractor’s personnel shall be capable of the following: (1) testing, assessing, evaluating, servicing and reconditioning components, (2) assuring that the equipment on which work has been performed is safe, reliable and acceptable for its intended purpose, and (3) identifying defective equipment and potential safety problems, environmental hazards or code violations.
4. Contractor personnel shall have safety training – either on-the-job or class-room type - in electrical safety outlined in the OSHA Standard 29 Code of Federal Regulations (CFR) 1910 Subpart S – Electrical, and the NFPA 70E – Standard for Electrical Safety in the Workplace. The Contractor’s

safety lead person shall be identified and a safety briefing shall be conducted prior to the start of work. Training certifications or equivalent shall be submitted to the VA Contracting Officer Representative (COR) prior to the start of work indicating each technician is a *Qualified Person* as defined by NFPA 70E. Each of the contractors on-site crew leaders shall hold a current certification, Level III or higher, in electrical testing. This certification shall be in accordance with ANSI/NETA ETT, *Standard for Certification of Electrical Testing Technicians*.

5. Contractors shall have ready access to the latest versions of the following documents/references:

- a. NFPA 70, National Electrical Code;
- b. NFPA 70B, Recommended Practice for Electrical Equipment Maintenance;
- c. NFPA 70E, Standard for Electrical Safety for the Workplace;
- d. NFPA 99, Health Care Facilities Code;
- e. NFPA 110, Standard for Emergency and Standby Power System;
- f. OSHA Standard 29 CFR 1910, Subparts I, J, K & S;
- g. Inter-National Electrical Testing Association, Inc. (ANSI/NETA MTS- 2015) Standard for Maintenance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- h. Operating/Maintenance manuals and specifications of the electrical equipment to be maintained and tested. These documents may be obtained from the WBVAMC. If not available from the WBVAMC, they shall be obtained by the contractor from the equipment manufacturer's website. If the document cannot be obtained from the equipment manufacturer's website, the contractor shall immediately alert the COR. These reference documents are required to ensure the contractor tests, inspects and performs maintenance in accordance with the equipment manufacturer's specifications.
- i. VHA Directive 1028 - Electrical Power Distribution System. See Attachment 6.

6. Contractor shall have and provide all necessary tools, equipment and Personal Protective Equipment (PPE) including Hazard Risk Category 3 Arc Flash Suits meeting ASTM F 1506 Standard for Electrical Safety to perform the work safely, effectively, and in a timely manner. All tools, equipment and PPE shall comply with the requirements of OSHA Standard 29 CFR 1910, Subpart I, and NFPA 70E as applicable. As per the equipment inventory list in Attachment 1 and prior to the start of work Contractor shall submit to the WBVAMC COR documentation stating that all tools, instruments, test equipment and PPE have been calibrated within the last 12 months. All tools, instruments and equipment shall be in good mechanical and electrical condition. Dated

calibration labels shall be visible on all instruments, test equipment, tools and PPE as appropriate.

### **III. Scope of Work:**

1. The Contractor shall provide a proposed schedule. The proposed schedule shall be in the form of a Gantt Chart of suitable scale indicating the tasks and their durations which will be reviewed and mutually coordinated between the contractor and the COR. The proposed schedule shall be reviewed by the WBVAMC Chief Engineer of Facilities Management Services and the COR for acceptance, and any requirements for adjusting the schedule (e.g. to minimize the disruption to critical care, life-safety and in-patient operations) shall be incorporated by the Contractor. The contractor shall maintain flexibility during the scheduled period of the effort so as to allow for some coordinated adjustments of the submitted GANTT schedule. The Government may need to make some schedule adjustments, which will be coordinated between the contractor and the COR, due to unknown events arising from life-safety and in-patient operations, and critical care concerns.

2. Work items, definitions, and references shall comply with the latest edition of the ANSI/NETA – Maintenance Testing Specifications, MTS, and with the VHA Directive 1028 - Electrical Power Distribution System. All tests shall be performed with the apparatus de-energized and grounded except where otherwise specifically required to be ungrounded or energized for certain tests.

3. Contractors shall immediately report deficiencies that are deemed critical or catastrophic to the Contracting Officer, COR and Chief Engineer of Facilities Management Services for immediate actions.

4. Maintenance and Testing shall be performed on the Electrical Power Distribution System as per the following attachments:

Note: All attachments referenced in this statement of work are in adobe pdf format and attached to this contract.

- Attachment 1 – Inventory of Electrical Power Distribution System Equipment to be maintained, inspected and tested under this contract.
- Attachment 2 – ANSI/NETA MTS-2015 Maintenance, inspection and testing requirements for all equipment identified in Attachment 1.
- Attachment 3 – ANSI/NETA MTS-2015 Reference Tables and Appendix A (Definitions) for all required maintenance, inspection and testing requirements identified in Attachment 2.
- Attachment 4 – Protective Device Setting Adjustments that are required to be made by the contractor on existing Electrical Power Distribution System Equipment during the performance of the work under this contract.

5. The following Attachment is provided to the contractor for reference only:

- Attachment 5 – Power Systems Study Drawings 1 through 10. These drawings are not certified as-built drawings of the facilities electrical distribution system.

(Note: The Contractor awarded this contract will be provided with additional Power System Study information relevant to the work which will include coordination study information, short-circuit analysis, arc-flash hazard analysis and all available protective device setting information.)

6. System Function Tests: Provide function tests for all equipment listed in Attachment 1.

Refer to Section 8. SYSTEM FUNCTION TESTS in Attachment 2 for equipment testing requirements.

7. Infra-Red Scanning (IR Scanning): IR Scanning for all equipment listed in Attachment 1. Refer to Section 9. THERMOGRAPHIC SURVEY in Attachment 2 for equipment testing requirements. This work shall be performed while the Electrical Power Distribution System is energized and all equipment covers removed.

- An infra-red scanning camera shall be used to identify and document hot spots in the Electrical Power Distribution System. This will include all horizontal and vertical bus bars on rear accessible switchboards. The objective will be to identify exceptions such as any loose, broken or corroded connections within the system, short circuits, overloads, load imbalances or faulty, mismatched or improperly-installed components. Problem connections shall be replaced with new connectors, and/or tightened with a torque wrench in accordance with the equipment manufacturer's specifications.
- Note that since this work item must be done while the Electrical Power Distribution System is energized, appropriate safety precautions must be taken before, during and after scanning the system.

8. 4-Hour Power Outage Test: The Contractor will be required to be present for and to fully participate in the WBVAMC Facilities 4-hour test of the Essential Electrical Systems (EES). This test shall fulfill the requirements of VHA Directive 1028 - Electrical Power Distribution System, NFPA 110 (e.g. Para. 8.4.9.) and The Joint Commission. This test will include the opening of both electric utility medium voltage sources for a minimum of 4 hours. This testing will also include the alternate closing of each utility medium voltage source in order to verify proper operation of the WBVAMC's medium voltage switchgear control systems. During this test period, the contractor shall verify the operation of all EES components including the transfer to emergency power and return to normal service. The Contractor shall provide all load bank equipment required for this test. The Contractor shall include in their bid proposal all costs associated with the services of the local electrical utility company, PPL Electric Utilities, for the duration of this test. The estimated duration of the Contractor's and PPL Electric Utilities involvement of this test is between 8 – 12 hours. PPL Electric Utilities contact information: 1-888-220-9991, Option 4, or [Businessaccounts@pplweb.com](mailto:Businessaccounts@pplweb.com). The contractor will be required to assist the VBVAMC Facilities Maintenance Personnel with troubleshooting and potentially correcting any malfunctioning electrical distribution equipment discovered during the test. Contractor shall make any required adjustments/ re-calibrations to all equipment which has already been maintained, inspected and tested under this Scope of Work.

9. Test Conditions:

- VA Staff will de-energize/re-energize all Electrical Power Distribution System equipment.
- Contractor to rack (Remove/Reinstall) and test all Electrical Power Distribution System equipment.
- All testing shall be performed on weekends, evenings and nights as required for safe and continuous operation of the medical center. Normal hours of work will be Monday through Friday 5:00PM until 1:30AM. Work affecting critical care, life-safety and in-patient care areas will be scheduled for Saturdays, 8:00 AM until 4:30PM.
- Contractor shall ensure that adequate staff will be allocated to this contract in order to complete all work in a timely manner and conform to the approved final schedule.

- After completing maintenance, testing, inspection and calibration of each device in the electrical power distribution system the Contractor shall place an adhesive label on each device containing their company name, test results and date of the services performed.

10. Test Report: A complete written report of the work performed shall be provided to the VA within 7 days of completion. The reports shall include the following:

- Company's name, address, telephone & FAX numbers.
- Name and signature of contractors who performed the maintenance and testing.
- VA Work Contract Number, name of VA Contracting Officer.
- Date and Time of Work
- Copies of Contractor's Valid Licenses, Professional and Training Certificates
- Descriptions and Model Numbers of specialized tool and equipment used, such as torque wrench or infra-red scanning camera.
- Location, Type, Name and Name Plate Information of Electrical Equipment maintained and tested.
- Descriptions of work items
- Test Data
- Reference Materials such as equipment manufacturer's specifications, coordination study, etc.
- Remarks on conditions of electrical equipment, including a listing of all deficiencies, if any.
- Recommended corrective actions, if any;

Submit (4) hard copies of the report and (1) CD-ROM or DVD containing the electronic version of the report in Microsoft Word Format to the Chief of Facilities Management Services. All reference materials shall be included in the electronic version of the report, either through scanning or other means of electronic text import methods.

## 11. Records Management

1. Citations to pertinent laws, codes and regulations such as 44 U.S.C chapters 21, 29, 31 and 33; Freedom of Information Act (5 U.S.C. 552); Privacy Act (5 U.S.C. 552a); 36 CFR Part 1222 and Part 1228.

2. Contractor shall treat all deliverables under the contract as the property of the U.S. Government for which the Government Agency shall have unlimited rights to use, dispose of, or disclose such data contained therein as it determines to be in the public interest.

3. Contractor shall not create or maintain any records that are not specifically tied to or authorized by the contract using Government IT equipment and/or Government records.

4. Contractor shall not retain, use, sell, or disseminate copies of any deliverable that contains information covered by the Privacy Act of 1974 or that which is generally protected by the Freedom of Information Act.

5. Contractor shall not create or maintain any records containing any Government Agency records that are not specifically tied to or authorized by the contract.

6. The Government Agency owns the rights to all data/records produced as part of this contract.

7. The Government Agency owns the rights to all electronic information (electronic data, electronic information systems, electronic databases, etc.) and all supporting documentation created as part of this contract. Contractor must deliver sufficient technical documentation with all data deliverables to permit the agency to use the data.

8. Contractor agrees to comply with Federal and Agency records management policies, including those policies associated with the safeguarding of records covered by the Privacy Act of 1974. These policies include the preservation of all records created or received regardless of format [paper, electronic, etc.] or mode of transmission [e-mail, fax, etc.] or state of completion [draft, final, etc.].

9. No disposition of documents will be allowed without the prior written consent of the Contracting Officer. The Agency and its contractors are responsible for preventing the alienation or unauthorized destruction of records, including all forms of mutilation. Willful and unlawful destruction, damage or alienation of Federal records is subject to the fines and penalties imposed by 18 U.S.C. 2701.

Records may not be removed from the legal custody of the Agency or destroyed without regard to the provisions of the agency records schedules.

10. Contractor is required to obtain the Contracting Officer's approval prior to engaging in any contractual relationship (sub-contractor) in support of this contract requiring the disclosure of information, documentary material and/or records generated under, or relating to, this contract. The Contractor (and any sub-contractor) is required to abide by Government and Agency guidance for protecting sensitive and proprietary information.