

**SECTION 26 08 00****COMMISSIONING OF ELECTRICAL SYSTEMS****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. The requirements of this Section apply to all sections of Division 26.
- B. This project will have selected building systems commissioned. A Commissioning Agent (CxA) may be appointed by the Department of Veterans Affairs to manage the commissioning process. If there is no Commissioning Agent appointed by the Department of Veterans Affairs, the contractor shall manage the commissioning process under the direction of the Resident Engineer. The contractor shall be responsible for performing all prefunctional checklists, functional performance testing, and training of the VA personnel under the supervision and direction of the Resident Engineer.

**1.2 RELATED WORK**

- A. Section 01 00 00 GENERAL REQUIREMENTS.
- B. Section 01 33 23 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

**1.3 SUMMARY**

- A. This Section includes requirements for commissioning the electrical systems, subsystems and equipment.

**1.4 DEFINITIONS**

- A. Not Used

**1.5 COMMISSIONED SYSTEMS**

- A. Commissioning of a system or systems specified in this Division is part of the construction process. Documentation and testing of these systems, as well as training of the VA's Operation and Maintenance personnel, is required in cooperation with the VA.
- B. The following Electrical systems will be commissioned:
  - 1. Service Entrance Switchgear (Fuses and circuit breaker settings, metering, mimic diagram, gages, and controls).
  - 2. Standby Generator Systems (Automatic transfer switches, fuel delivery pumps and motors, battery charging and instrumentation, muffler and exhaust system, and vibration isolation).
  - 3. Generator Power Distribution Systems (Fuses and circuit breaker settings, metering, gages, and controls).
  - 4. Automatic Transfer Switches (Test with associated generator).

5. Normal Power Distribution Systems (Grounding tests, coordination study review, major circuit breaker settings, meters and gages, and controls).
6. Life Safety Power Distribution Systems (Automatic transfer on loss of normal power, grounding tests, coordination study review, major circuit breaker settings, meters and gages, and controls).
7. Critical Power Distribution Systems (Automatic transfer on loss of normal power, grounding tests, coordination study review, major circuit breaker settings, meters and gages, and controls).
8. Essential Equipment Power Distribution Systems (Automatic transfer on loss of normal power, grounding tests, coordination study review, major circuit breaker settings, meters and gages, and controls).

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 PRE-FUNCTIONAL CHECKLISTS**

- A. The Contractor shall complete Pre-Functional Checklists to verify systems, subsystems, and equipment installation is complete and systems are ready for Systems Functional Performance Testing. Sample pre-functional checklists are included after this section. The Contractor shall complete the checklists for all equipment provided under this contract. Completed checklists shall be submitted to the VA and to the Commissioning Agent for review. The Commissioning Agent may spot check a sample of completed checklists. If the Commissioning Agent determines that the information provided on the checklist is not accurate, the Commissioning Agent will return the marked-up checklist to the Contractor for correction and resubmission. If the Commissioning Agent determines that a significant number of completed checklists for similar equipment are not accurate, the Commissioning Agent will select a broader sample of checklists for review. If the Commissioning Agent determines that a significant number of the broader sample of checklists is also inaccurate, all the checklists for the type of equipment will be returned to the Contractor for correction and resubmission.

**3.2 CONTRACTORS TESTS**

- A. Contractor tests as required by other sections of Division 26 shall be scheduled and documented in accordance with Section 01 00 00 GENERAL REQUIREMENTS. The Commissioning Agent will witness selected Contractor

tests. Contractor tests shall be completed prior to scheduling Systems Functional Performance Testing.

### **3.3 SYSTEMS FUNCTIONAL PERFORMANCE TESTING:**

- A. The Commissioning Process includes Systems Functional Performance Testing that is intended to test systems functional performance under steady state conditions, to test system reaction to changes in operating conditions, and system performance under emergency conditions. Sample functional performance test forms are included after this section. The Contractor shall review and comment on the tests prior to approval. The Contractor shall provide the required labor, materials, and test equipment identified in the test procedure to perform the tests. The Resident Engineer and Commissioning Agent will witness the testing. The contractor shall document the testing unless the instructed otherwise. The Contractor shall sign the test reports to verify tests were performed.

### **3.4 TRAINING OF VA PERSONNEL**

- A. Training of the VA's operation and maintenance personnel is required in cooperation with the Resident Engineer and Commissioning Agent. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems. The instruction shall be scheduled in coordination with the Resident Engineer after submission and approval of formal training plans. Refer to Division 26 Sections for additional Contractor training requirements.

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