

---

## SECTION 260800 – COMMISSIONING ELECTRICAL SYSTEMS

Latest Update 5-6-2017 See Underlined text for Edits.

(Engineer shall edit specifications and blue text in header to meet project requirements. This includes but is not limited to updating Equipment and/or Material Model Numbers indicated in the specifications and adding any additional specifications that may be required by the project. Delete paragraphs not applicable to the project, and note some pertinent editor's comments in this section by the University. Also turn off "Underlines")

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this section and all other sections of Division 26.
- B. The OPR and BOD documentation are included by reference for information only.

#### 1.2 SUMMARY

- A. This section includes the requirements for commissioning the electrical systems, assemblies and equipment.

#### 1.3 DESCRIPTION

- A. The following equipment and/or accessories shall be commissioned as part of this project: **<Edit or add for Project Requirements>**
  - 1. High Voltage Service Electrical Systems.
  - 2. Secondary Service Electrical Systems.
  - 3. Motor Control Centers.
  - 4. Distribution and Branch Circuit Panelboards.
  - 5. Lighting Fixtures and Controls.
  - 6. Elevator Systems.
  - 7. Equipment Monitoring.
  - 8. Fire Alarm Equipment/Fire Alarm Equipment Monitoring System.
  - 9. AC Motors.
  - 10. Grounding Equipment and Building Grounding System.
  - 11. Security System.
  - 12. Emergency Generators and Distribution System.
  - 13. Uninterruptible Power Systems.
  - 14. Interface connections with Life Safety the BAS.

#### 1.4 SUBMITTALS

- A. Refer to Division 01 Section "General Commissioning Requirements" for CxA's role.

- B. Refer to Division 01 Section “Submittal Procedures” for specific requirements. Refer to Division 01 Section “General Commissioning Requirements” for additional submittal requirements related to submittals of equipment to be commissioned and Cx specific submittals.

#### 1.5 COORDINATION

- A. Refer to Division 01 Section “General Commissioning Requirements” for requirements pertaining to coordination during the commissioning process.

#### 1.6 GENERAL DOCUMENTATION

- A. With assistance from the installing contractors, the CxA will prepare Pre-Functional Checklists for all commissioned components, equipment, and systems.

### **PART 2 - PRODUCTS**

#### 2.1 TEST EQUIPMENT

- A. Refer to Division 01 Section “General Commissioning Requirements” for requirements pertaining to testing equipment.

### **PART 3 - EXECUTION**

#### 3.1 TESTING PREPARATION

- A. Certify in writing to the CxA that electrical systems, subsystems, and equipment have been installed, calibrated, and started and are operating according to the Contract Documents.
- B. Place systems, subsystems, and equipment into operating mode to be tested.
- C. Inspect and verify the position of each device and interlock identified on checklists.
- D. Testing Instrumentation: Install measuring instruments and logging devices to record test data as directed by the CxA.

#### 3.2 GENERAL TESTING REQUIREMENTS

- A. Provide technicians, instrumentation, and tools to perform commissioning test at the direction of the CxA.
- B. Scope of electrical testing shall include lighting controls and power riser inspections.
- C. Test all operating modes and verify proper response of controllers and sensors.

- D. The CxA along with the lighting contractor shall prepare detailed testing plans, procedures, and checklists for applicable lighting systems, subsystems, and equipment.
- E. Tests will be performed using design conditions whenever possible.

### 3.3 ELECTRICAL SYSTEMS, SUBSYSTEMS, AND EQUIPMENT TESTING PROCEDURES

- A. Procedures: Where applicable follow manufacturer's written procedures. If no procedures are prescribed by the manufacturer, proceed as follows:
  - 1. Electrical Distribution Systems: Includes panels and circuit breakers for power and lighting.
    - a. Verify that all panels and components have been installed correctly, are accessible and operate as intended.
    - b. Verify that specified tests are complete.
  - 2. Electrical Equipment: Includes lighting controls, emergency generator, automatic transfer switch, uninterrupted power supplies (UPS) and variable frequency drives (VFD).
    - a. Verify that all equipment has been installed in accordance with the manufactures recommendations and all equipment can be easily accessed for maintenance and operates as intended.
    - b. Verify that all connections, controls, and accessories have been installed correctly and operates as intended.
    - c. Verify that all equipment test, training, and startup procedures have been completed per the specifications.
    - d. Verify that all required interfaces with for Life Safety the BAS have been installed correctly and operates as intended.
    - e. Operate equipment as intended to ensure the design conditions can be obtained.

END OF SECTION 260800