

## **SECTION 26 01 10 - GENERAL PROVISIONS**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY OF ITEMS INCLUDED**

- A. This Section contains Supplementary General Provisions related specifically to the Electrical Work.
- B. Related Work Specified in other sections.
  - 1. Motors and controllers provided under other sections where the final connectors are included in this section.
  - 2. Low Voltage or Specialty Systems provided under other sections where the final connectors are included in this section.

#### **1.2 TERMINOLOGY**

- A. The following terminology and definitions are used on this project as related to the electrical work.
  - 1. Disconnect: Disconnect and remove existing electrical equipment, and remove wire & exposed raceway feeding removed equipment if not reused.
  - 2. Concealed: Materials embedded in masonry other construction installed in furred spaces, within double partitions or hung ceilings, in trenches, crawl spaces or in enclosures.
  - 3. Exposed: Not installed underground or concealed as defined above.
  - 4. Wiring: Refers to Raceway, Fittings, Conductors, Terminations, Hangers, Supports, etc., as required to from a complete system.

#### **1.3 SUBMITTALS**

- A. Provide five (5) sets or digital copy of product data on the following items:
  - 1. Conduit, Wire, Pull and Junction boxes
  - 2. Motor Starters, Disconnects, enclosed circuit breakers.
  - 3. Distribution switchboards with main circuit breaker, branch circuit breakers
  - 4. Lighting panelboards with main circuit breaker, lug and branch circuit breakers.
  - 5. Lighting fixtures.
  - 6. Receptacles, Switches, Wiring devices

7. Fire Alarm Control Panel and devices
  8. As required in specific sections
- B. Provide submittals as described in other sections of this division.

#### **1.4 QUALITY ASSURANCE**

- A. Codes and Standards.
1. Perform all electrical work of this project in accordance with The National Electrical Code (NEC), latest edition.
  2. Where the work of this Division exceeds the requirements of the NEC, the Contract Documents shall govern.
- B. Electrical Inspections.
1. Obtain an electrical certification inspection at required points during the installation and final inspection.
  2. Pay all costs associated with inspection.
  3. Inspection agency, if private, shall be approved by the local authority to perform inspections in the area of the project.
  4. Forward original of bound inspection to Owner with a copy to the Engineer.
- C. Equipment Selection: Equipment of greater or larger power, dimensions, capacities and ratings may be furnished provided such proposed equipment is approved in writing, and connecting mechanical and electrical services, circuit breakers, conduit, motors, bases and equipment spaces are increased. No additional costs will be approved for these increases, if larger equipment is approved. If minimum energy ratings or efficiencies of the equipment are specified, the equipment must meet the design requirements and commissioning requirements.

#### **1.5 PROTECTION AND COORDINATION**

- A. PROTECTION
1. Protect equipment from damage, including water, chemical, mechanical injury and/or theft.
  2. The contractor shall replace equipment or component so damaged at their expense.
  3. Close and waterproof between sleeves, openings, pipes and voids in walls, floors and foundations to prevent entrance of water or moisture.
  4. Holes made in fire walls, partitions, fire stops, shall be patched to maintain

Fire Rating integrity.

B. COORDINATION

1. Openings, Chases, Cuttings
  - a) Provide all holes, chases, etc.
  - b) Inform General Contractor of the size, location of holes, chases, etc. before start of construction in area affected.
  - c) Prepare detailed drawings if required.
  - d) Provide sleeves, anchor bolts, inserts, panels, etc. Set and maintain in position.
2. Coordination With Other Trades
  - a) Right-of-Way as follows:
    - i. Light Fixtures
    - ii. Drain Pipes and Vents
    - iii. Ductwork
    - iv. HVAC Piping
    - v. Domestic Water Piping
    - vi. Electrical Conduit
3. Work In Existing Building
  - a) Work Included:
    - i. Removal or remodeling of systems indicated as specified and required for proper tie-in of new to existing systems.
    - ii. Removal of existing work which is abandoned in this project.
    - iii. Provide drip pans above all electrical equipment as required.
  - b) Demolition
    - i. Remove from building all existing conduit, equipment, etc. which does not conform to new layout. Properly dispose of same, determine if Owner wishes to retain any removed materials or equipment.
4. Changeovers And Continuity Of Services
  - a) Make changeovers, tie-ins, removals, etc., that affect operation of present building at times approved by Owner.

- b) Make temporary connections required to keep present building systems and equipment in operation.
- c) Prior to any shutdown of present building, have necessary materials at site.
- d) Payment:
  - i. Changeovers scheduled will be beyond normal working hours. No extra payment will be approved for scheduled and required overtime to complete the work.

## 1.6 GENERAL COMPLETION

### A. Instruction To Owner's Representative

- 1. Give notice to Engineer when all systems are installed and operating.
- 2. Obtain name of Owner's representative to receive instruction.

### B. Manufacturer's Instruction Books

- 1. Binders (Three required)
  - a) Standard 3 ring binder with pockets for cover information.
- 2. Digital copy of binder
- 3. Contents
  - a) Submission sheets for equipment furnished
  - b) Installation and Operating Instructions
  - c) Parts Lists
  - d) Wiring Diagrams, etc.
  - e) Complete typewritten index
  - f) List major Subcontractors
  - g) Items too large to bind, insert into punched, labeled, manila envelope bound into binder.
- 4. Submit for approval at completion of project.

### C. System Tests And Inspections

- 1. General Requirements
  - a) No system shall be covered or concealed until tested and approved.
  - b) Provide equipment, material, labor necessary for tests.
  - c) Provide schedule of all tests, notify Engineer seven (7) days in advance of each series of tests. Engineer shall have the option of

witnessing all tests.

d) Repair all damaged work to other trades as result of testing.

2. Electrical System

a) As equipment is installed, run under full load long enough to determine that no excessive heat develops at terminal points, switches, or other points of installation.

b) Re-torque terminals and lugs after system is run at load for a minimum of 2 hours.

c) Adjust branch circuit phase connections to maintain a minimum of 10 percent imbalance across phases with all loads energized.

d) "Dry Run" all control sequences without power circuits or prime movers energized. Notify Engineer of any discrepancies in control logic. If required by Engineer prepare a test plan in advance of running tests.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. All materials shall be new, latest style, free of all defects which impair their efficiency, durability, and appearance.
- B. All equipment shall be firmly attached to building construction.
- C. All equipment and materials for which Underwriters' Laboratories, Inc., provide product listing service must be UL approved and bear UL label.
- D. Multiple items such as wiring devices, luminaries, lamps, panelboards, etc., shall be from the same manufacturer and same series or model number as applicable to insure uniform appearance and operation.
- E. Drawings and specifications are based on one manufacturer's equipment. therefore, the Contractor shall assume all responsibility, cost and coordination involved in making any necessary revisions to apply another manufacturer's equipment even though it may be an "or equivalent" item and is approved by the Engineer.

**PART 3 - EXECUTION**

**3.1 ACCESS TO ELECTRICAL WORK**

- A. General
  - 1. The work of this Division includes responsibility and provisions for access to electrical work in walls, ceilings and floors.

- B. Installation
1. Install access doors or panels in walls and ceilings where required to provide access to electrical work.
  2. Comply with manufacturer's instructions for installation of access doors.
  3. Set frames accurately in position and securely attach to supports with face panels plumb or level in relation to adjacent finish surfaces.
  4. Adjust hardware and panels after installation for proper operation.
  5. Remove or replace panels or frames which are warped, bowed, or otherwise damaged.
  6. Paint access doors to match surrounding surfaces.
  7. Access doors or panels shall be manufactured items suitable for the material and fire rating of the wall assembly.
    - a) As a minimum access doors shall be hinged steel doors with screwdriver cam locks and frames suitable for the application.
    - b) Manufacturers: Milcor Inc., Cesco Products, J.L. Industries.

### **3.2 CONCRETE FOR ELECTRICAL WORK**

- A. Description
1. Types of concrete for electrical related work specified in this section include the following:
    - a) Lean concrete backfill to support electrical work.
    - b) Encasement of electrical work.
    - c) Mechanical equipment foundations and housekeeping pads.
    - d) Rough grouting in and around electrical work.
    - e) Patching concrete cuts to accommodate electrical work.
- B. Coordination
1. Provide all information for concrete work required to complete electrical work to contractor for general construction to install.

**3.3 PAINTING**

- A. All painting of raceway systems provided by contractor for general construction.
- B. Provide touch-up painting of all electrical equipment that is factory finished and damaged during installation.
- C. Paint all fabricated pull boxes and enclosures with gray enamel over suitable primer.

**END OF SECTION**