SECTION 26 27 18

MISCELLANEOUS ELECTRICAL CONTROLS AND CONTROL WIRING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

A. The Conditions of the Contract and applicable requirements of Divisions 0 and 1 and Section 26 00 01, “Electrical General Provisions”, govern this Section.

1.2 DESCRIPTION OF WORK:

A. Work Included:

1. This Division shall furnish miscellaneous 120 volt control power circuits and control wiring as required for systems and equipment furnished by this and other Divisions. This control power and control wiring shall be furnished by this Division for all systems and equipment and where shown on the Drawings or approved Shop Drawings by the Division furnishing the system or equipment.
2. In general, all starters and controllers for non 120 volt equipment and motors shall be furnished with control power transformers, and control power circuits will not be required. Where control power transformers are not furnished, then 120 volt control power circuits shall be furnished by this Division.

[EDIT TO SUIT PROJECT]

3. Miscellaneous Control Power and Control Wiring: Systems and devices requiring control power circuits and control wiring include, but are not limited to:
   a. Automatic temperature control air compressors.
   b. Automatic temperature control systems control power.
   c. Fireman's HVAC override panel with interconnection wiring to the Fire Alarm Control panel and interface with HVAC controls.
   d. Chiller control wiring for units with remote starters.
   e. Cooling tower vibration switches.
   f. Water treatment systems.
   g. Domestic water pump, surge tank and domestic water system controls.
   h. Sewage ejector and sump pump controls and alarms.
   i. Fire pump controls[, and battery chargers, jacket heaters] and alarms.
   j. Sprinkler alarms.
   k. Elevator and escalator controls.
   l. Contractor-furnished equipment controls.
   m. Owner-furnished equipment.
   n. Landscape sprinkler systems.
   o. Lighting and power control relays.
   p. Emergency generator/automatic transfer switch controls, battery chargers and jacket water heaters.
   q. Fuel oil system controls, monitoring and alarms.
   r. Remote annunciator, alarm panels, alarms and signaling devices/systems.
   s. Start/Stop stations where required for remote motor controllers.

t. Additional control power, control wiring and safety devices as shown, specified, or required.

1.3 QUALITY ASSURANCE:

A. Manufacturers: Provide products complying with these specifications and produced by one of the following:

1. Relays:
   a. Automatic Switch Company.
   b. RussElectric, Inc.
   c. Square D Company.
   d. Or equivalent with prior written approval by Engineer.

PART 2 - PRODUCTS

2.1 WIRING AND RACEWAYS:

A. Line Voltage Control Wiring: This wiring shall be as specified in Section 26 05 19, "Low Voltage Conductors and Cables".

B. Low Voltage Control Wiring: This wiring shall be as specified in Section 26 05 19, "Low Voltage Conductors and Cables", except that conductors shall consist of a multi-conductor jacketed cable whenever possible.

C. Raceways: Raceways for line voltage and low voltage control wiring shall be as specified in Section 26 05 33, "Electrical Raceways", and Section 26 05 34, "Electrical Boxes".

PART 3 - EXECUTION

3.1 INSTALLATION OF MISCELLANEOUS ELECTRICAL CONTROLS AND CONTROL WIRING:

A. General: Install miscellaneous electrical control devices as shown, in accordance with applicable portions of the NECA's "Standard of Installation", and recognized industry practices to ensure that products serve the intended functions.

B. Requirements:

1. Miscellaneous control power circuits shall be obtained from spare breakers in building normal power panels. Where emergency system control power is required, or control power circuit requirements are large or significantly greater than normal, notify the Engineer in writing of the requirements.
2. All control devices which are part of the Life Safety System and for equipment and devices served with emergency power shall have their control power derived from an emergency source.
3. Control wiring shown on the Drawings or specified in other Division 26 sections is not an inclusive listing of all control wiring required on the project. All required control wiring, unless noted otherwise herein, shall be furnished and installed by the Division 26 Contractor.
4. HVAC temperature control wiring is specified and provided under Division 23 and 25 and is included in the Work of this Division. The only HVAC temperature control wiring and work included in the Work of this Division is providing 120 volt control power circuits for temperature controls (see Miscellaneous Control Power hereinabove) and coordination of Fire Alarm and Fireman's HVAC Override Panel connections to the temperature control system.

5. Provide ¾" conduit for in-wall installation to all thermostat control wiring, stubbing up above ceiling.

C. Conductors: Connect electrical conductors to miscellaneous electrical control devices in accordance with equipment manufacturer's written instructions and wiring diagrams. Wherever possible, match conductors of the electrical connection for proper interface between the electrical supply and the installed equipment.

D. Contactors and Relays: Install contactors and relays mounted in panelboards or individual enclosures as shown and be complete, including all control wiring and devices.

E. Lighting Controls: Install lighting controls as shown. Time program settings shall be as directed by the Architect.

F. Line and Low Voltage Control Wiring: Line and low voltage control wiring shall be installed in a suitable raceway.

G. Connections: Refer to Section 26 27 17, "Equipment Wiring", for connections to equipment.

H. Number Code/Color Code: Number/color code all control power and control power conductors appropriately for future identification and servicing. Refer to Section 26 05 53, “Identification for Electrical Systems” for additional requirements.

END OF SECTION 26 27 18