SECTION 16472

OVERCURRENT PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

A. The work of this section consists of providing labor, materials, tools, appliances and miscellaneous accessories associated with overcurrent protective device work indicated herein and on the Drawings.

B. Types of overcurrent protective devices in this section include the following:

1. Circuit breakers (600 volts and below).
2. Fuses (600 volts and below).

1.2 RELATED DOCUMENTS

A. Drawings.

B. General provisions of Contract, including General and Supplementary Conditions.

C. Division 01 – Specifications Sections.

D. Division 01 - Specification Sections

E. Section 16010 - General Electrical Provisions. Extent of panelboard work is indicated by Drawings and schedules.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS: Subject to compliance with requirements, provide products of one of the following (for each type and rating of overcurrent protective device):

A. Circuit Breakers:

1. General Electric Co.
2. Siemens (I.T.E.)
3. Square D Co.
4. Cutler Hammer Corp.

B. Fuses:

1. Bussmann Mfg Co.
2. Shawmut.

2.2 CIRCUIT BREAKERS

A. General: Except as otherwise indicated, provide circuit breakers and ancillary components, of types, sizes, ratings and electrical characteristics indicated, which comply with manufacturer's standard design, materials, components, and construction in accordance with published product information, and as required for a complete installation.

B. Molded-Case Circuit Breakers:

1. Provide bolt-on factory-assembled, molded-case circuit breakers of frame size, trip and interrupting rating as shown on the Panel Schedule and Drawings.
2. Provide 150-ampere frame breakers with non-interchangeable trip units and breakers of 225-ampere frame and larger with interchangeable trip units. Provide thermal and instantaneous magnetic trips in each pole. Breakers in 150-ampere frame size and below shall have permanent trip settings and breakers above 150-ampere frame size shall have permanent thermal trip and adjustable magnetic trips. Construct with over center, trip-free, toggle type operating mechanisms with quick-make, quick-break action and positive handle indication. Construct breakers for mounting and operating, within specified ratings, in any physical position and in an ambient temperature of 40 deg. C. Provide with mechanical screw type removable connector lugs, AL/CU rated, for full frame amperes.
3. All molded case circuit breakers shall be listed per U.L. 489 to continuously carry 80% of its nameplate rating and shall meet the requirements of NEMA AB1, Federal Spec WC-375 and the NEC-NFPA 70-84.
4. Accessories for molded case breakers shall include (when indicated on drawings and schedules) auxiliary switch, shunt trip, under voltage release, bell alarm, motor operator, and mechanical interlocks.

C. Fuses:

1. General: Except as otherwise indicated, provide fuses of types, sizes and ratings and electrical characteristics indicated, which comply with manufacturer's standard design, materials, and construction in accordance with published product information, and with industry standards and configurations.
2. Class L Time-Delay Fuses: Provide UL Class L time-delay fuses, 600 V, 60 Hz., with ampere rating as shown on drawings, with 200,000 RMS symmetrical interrupting current rating for protecting transformers, motors, and circuit breakers.
3. Class RK1 Time-Delay Fuses: Provide UL Class RK1 time-delay fuses rated as shown on drawings, 60 Hz., with 200,000 RMS symmetrical interrupting current rating for protecting motors and circuit breakers.

PART 3 - EXECUTION

3.1 INSTALLATION OF OVERCURRENT PROTECTIVE DEVICES

A. Install overcurrent protective devices as indicated, in accordance with the manufacturer's written instructions and with recognized industry practices to ensure that protective devices comply with requirements. Comply with NEC and NEMA standards for installation of overcurrent protective devices.

B. Coordinate with other work, including electrical wiring work, as necessary to interface installation of overcurrent protective devices with other work.

B. Fasten circuit breakers without mechanical stresses, twisting or misalignment being exerted by clamps, supports, or cables.

C. Install fuses, if any, in fused circuit breakers.

D. Provide spare fuses (3 of each ampere rating used).

F. Provide spare fuse cabinet adjacent to switchboard and motor control center of sufficient size to store spare fuses.

3.2 ADJUST AND CLEAN: Inspect circuit-breaker operating mechanisms for malfunctioning and, where necessary, adjust units for free mechanical movement.

3.3 FIELD QUALITY CONTROL: Prior to energization of overcurrent protective devices, test devices for continuity of circuitry and for short-circuits. Correct malfunctioning units, and then demonstrate compliance with requirements.

END OF SECTION