SECTION 26 2812 - Medium Voltage Fuses

Maintain Section format, including the UH master spec designation and version date in bold in the center columns of the header and footer. Complete the header and footer with Project information.

Revise this Section by deleting and inserting text to meet Project-specific requirements.

This Section uses the term "Engineer." Change this term to match that used to identify the design professional as defined in the General and Supplementary Conditions.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

Delete hidden text after this Section has been edited for the Project.

PART 1 - GENERAL

# RELATED DOCUMENTS

* + - * 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
        2. The Contractor's attention is specifically directed, but not limited, to the following documents for additional requirements:

The current version of the *Uniform General Conditions for Construction Contracts*, State of Texas, available on the web site of the Texas Facilities Commission.

The University of Houston’s *Supplemental General Conditions and Special Conditions for Construction.*

# DESCRIPTION OF WORK

#### Work Included: The extent of fuse work is as shown and scheduled, as indicated by the requirements of this Section, and as specified elsewhere in these Specifications.

#### Types: The types of fuses required for the project include, but are not limited to, 5.5 kV current-limiting fuses and 15.5 kV current-limiting fuses.

# STANDARDS

#### Products shall be designed, manufactured, tested, and installed in compliance with the applicable ANSI and NEMA standards.

#### Where application of applicable codes, Trade Association standards, or publications appears to be in conflict with the requirements of this Section, an interpretation shall be obtained from the [**Engineer**] [**Architect**].

# QUALITY ASSURANCE

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

##### ABB.

##### Eaton Cooper Power.

##### Mersen

#### Coordination: All fuses shall, to the maximum extent possible, be from the same manufacturer to facilitate positive selective coordination of protective devices.

#### Interrupting Ratings: Short circuit analysis and coordination study specified in Section 26 0573 “Power Systems Studies” shall be completed and submitted with equipment submittal to confirm interrupting rating of submitted equipment is adequate for the point of application in the electrical distribution.

# SUBMITTALS

#### Shop drawing submittals shall include, but not be limited to, the following:

##### Cut sheet submittals shall be provided for all fuse types required for the project.

##### Time-current melting curves for each fuse being provided.

##### Short circuit analysis and coordination study specified in Section 26 0573 “Power Systems Studies” shall be completed and submitted with equipment submittal to confirm interrupting rating of submitted equipment is adequate for the point of application in the electrical distribution.

##### Additional information as required in Section 26 0001 “Electrical General Provisions.”

# PRODUCT DELIVERY, STORAGE AND HANDLING

#### Store fuses in a clean and dry space and protected from weather. When necessary to store outdoors, elevate materials well above grade and enclose with durable, waterproof wrapping.

PART 2 - PRODUCTS

## 5/15 KV CURRENT-LIMITING FUSES

[VERIFY INTERRUPTING CAPACITY]

#### General: Provide **[37,500 (4.16kV)] [36,000 (13.8kV)] [29,400 (14.4kV)]** symmetrical amperes interrupting capacity (AIC) current-limiting power fuses of the current ratings shown and with a voltage rating equal to or greater than the line to line voltage at the point of application.

#### Construction: Fuses shall be of an enclosed, non-explosion type design suitable for indoor or outdoor use, as applicable. Fuses shall be selected such that the fuse no‑damage boundary is not exceeded during motor starting or transformer magnetizing.

#### Types:

##### Fuses for control power and potential transformers shall be UL Class E, Mersen Type "EJ‑1" or an approved equal.

##### Fuses in circuits supplying transformers, motors and mixed loads shall be UL Class E, Mersen Type "EJO‑1"or an approved equal.

##### Fuses in circuits supplying motors loads shall be UL Class R, Mersen Type "EJO‑1"or an approved equal.

##### Current limiting fuses shall be coordinated with the interruption capability of the contactor. Fuses shall be sealed indicating fuses. Current limiting, high interrupting capacity E-rated fuses shall be used for transformer and distribution system protection only.

#### Discharge Filters/Condensers: Provide fuses with discharge filters or condensers where necessary to meet the manufacturer’s recommendations for fuse spacing, as applied on this project. Interrupting rating reductions for these devices shall be considered when fuses are selected.

## SPARE FUSES

#### General: Provide spare fuses in the amount of 10 percent of each type and size installed, but not less than three spares of a specific size and type. Deliver these spares to the Owner at the time of acceptance of the project. Fuses shall be neatly encased in a properly labeled steel enclosure with padlock provision, to be wall mounted as directed.

PART 3 - EXECUTION

### INSTALLATION

#### General: Test each fuse prior to installation. Install fuses in fuse holders immediately prior to energization of the circuit in which the fuses are installed. Fuses shall not be installed and shipped with equipment.

#### Labels: Place fuse identification labels, showing fuse size and type installed, inside the cover of each switch or other location where fuses are installed.

END OF SECTION 26 2812