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DIVISION 26 - ELECTRICAL

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MEDIUM-VOLTAGE SURGE ARRESTERS

08/10

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MEDIUM-VOLTAGE SURGE ARRESTERS
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PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

ASTM INTERNATIONAL (ASTM)

ASTM A123/A123M (2009) Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 386 (2006; INT 1 2011) Standard for Separable Insulated Connector Systems for Power Distribution Systems Above 600V

IEEE C62.11 (2005; Amd 1 2008) Standard for Metal-Oxide Surge Arresters for Alternating Current Power Circuits (>1kV)

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA LA 1 (2009) Standard for Surge Arresters

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70 (2011; Errata 2 2012) National Electrical Code

1.2 GENERAL REQUIREMENTS

Section 26 00 00.00 20 BASIC ELECTRICAL MATERIALS AND METHODS applies to work specified in this section.

Submit Equipment and Performance Data for surge arresters including life, test, system functional flows, safety features, and mechanical automated details.

1.3 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for Contractor Quality Control approval. Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Provide the following shop drawings according to requirements set

forth in this section:

Fabrication Drawings

Installation Drawings

SD-03 Product Data

Submit Equipment and Performance Data for surge arresters in accordance with paragraph entitled, "General Requirements," of this section.

Submit Manufacturer's product data for the following items:

Surge Arresters

Mounting Brackets

SD-08 Manufacturer's Instructions

Installation Instructions

Surge Arresters

SD-10 Operation and Maintenance Data

O & M Manuals

Surge Arresters

PART 2 PRODUCTS

2.1 EQUIPMENT

Provide design, fabrication, testing, and performance of arresters that complies with IEEE C62.11, NEMA LA 1.

Provide arresters that utilize metal oxide varistor and gapped arrester technologies.

Provide arresters that are contained within a polymer housing. Provide arrester that is designed to be non-fragmenting to provide extra safety to personnel and equipment. For arresters utilizing a hanger frame type mounting bracket, provide a frame that is non-corrosive track resistant glass filled polyester or other suitable non-corrosive/non-conductive material providing high mechanical strength. Provide arrester mounting hardware that is designed for installation in severe salt-spray atmosphere and that is of a corrosion-resistant metal or zinc-coated in accordance with ASTM A123/A123M.

The arrester housing is molded of EPDM insulating rubber which provides deadfront safety and overvoltage system protection in an insulated, fully shielded, submersible, deadfront device that conforms to IEEE 386.

2.2 FABRICATION DRAWINGS

Submit fabrication drawings in accordance with paragraph entitled, "Equipment," of this section. Provide drawings that show assembly and fabrication details performed in the factory.

2.3 SURGE ARRESTERS

2.3.1 O & M Manuals, Surge Arresters

Provide O & M Manuals for surge arresters specified within these plans and specifications.

2.3.2 Intermediate

Provide single-phase, single-pole, self-supporting type arresters for pedestal, platform, or bracket mounting.

2.4 MOUNTING BRACKETS

Provide arresters that are equipped with suitable mounting brackets for the applicable method of mounting. Arresters shall be furnished with the primary switches.

PART 3 EXECUTION

3.1 INSTALLATION

Install and connect arresters in accordance with the manufacturer's installation instructions.

Make ground connection to a driven ground rod, and meet the intent of the National Electrical Code, NFPA 70.

Connect lightning arresters as close as practicable to the apparatus being protected. Provide a hot line clamp that is designed to be compatible to the type of conductor material being used, i.e. aluminum or copper.

3.1.1 Installation Instructions, Surge Arresters

Submit Manufacturer's instructions for surge arresters including special provisions required to install equipment components and system packages. Provide special notices that detail impedances, hazards and safety precautions.

3.1.2 Installation Drawings

Submit installation drawings in accordance with paragraph entitled, "Installation," of this section.

3.2 ARRESTERS

3.2.1 Intermediate Type

Install intermediate type arresters on grounded support brackets/structures suitable to adequately support the weight of the arrestor.

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