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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
NASA-16495 (June 2004)  
NASA  
Superseding NASA-16495  
(October 2003)  
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DIVISION 16 - ELECTRICAL

SECTION 16495

MEDIUM VOLTAGE FUSES

06/04

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SECTION 16495

MEDIUM VOLTAGE FUSES  
06/04

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NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.  
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This section covers distribution fuse cutouts. The drawings should show current rating, load-break fuses if required, combination lightning arresters and fuse cutouts if required, and mounting details.  
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PART 1 GENERAL

1.1 REFERENCES

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NOTE: The following references should not be manually edited except to add new references. References not used in the text will automatically be deleted from this section of the project specification.  
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The publications listed below form a part of this section to the extent referenced:

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI C37.42 (1997) Specifications for High Voltage  
Expulsion Type Distribution Class Fuses,  
Cutouts, Fuse Disconnecting Switches and  
Fuse Links

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA SG 2 (1993) High-Voltage Fuses

1.2 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01330 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality  
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control. Include a columnar list of appropriate products and tests beneath each submittal description.

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The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification:

SD-03 Product Data

Equipment and Performance Data shall be submitted for distribution fuse cutouts in accordance with paragraph entitled, "General Requirements," of this section.

Manufacturer's catalog data shall be submitted for the following items:

Distribution Fuse Cutouts

SD-02 Shop Drawings

Fabrication Drawings shall be submitted for fuse cutouts in accordance with paragraph entitled, "General Requirements," of this section.

Installation drawings shall be submitted for Distribution Fuse Cutouts in accordance with the paragraph entitled, "Installation," of this section.

SD-08 Manufacturer's Instructions

Manufacturer's instructions shall be submitted for Fuse Cutouts including special provisions required to install equipment components and system packages. Special notices shall detail impedances, hazards and safety precautions.

1.3 GENERAL REQUIREMENTS

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**NOTE: If Section 16003 GENERAL ELECTRICAL PROVISIONS is not included in the project specification, applicable requirements therefrom should be inserted and the following paragraph deleted.**

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Section 16003 GENERAL ELECTRICAL PROVISIONS applies to work specified in this section.

Fabrication Drawings shall be submitted for fuse cutouts consisting of fabrication and assembly details to be performed in the factory.

Equipment and Performance Data shall be submitted for distribution fuse cutouts including life, test, system functional flows, safety features, and mechanical automated details.

## PART 2 PRODUCTS

### 2.1 EQUIPMENT STANDARDS

Distribution fuse cutouts shall conform to the requirements of NEMA SG 2 and ANSI C37.42 and as specified.

### 2.2 FUSE CUTOUTS

Distribution fuse cutouts for application on distribution systems shall be the self-contained, enclosed, dropout type, or open type when required for higher voltage or interrupting rating. Loadbreak cutouts shall be installed only if specifically indicated.

The interrupting capacity shall be sufficient to break the maximum system fault current to which the cutout will be subjected. The minimum interrupting capacity shall be 16,000 amperes root mean square asymmetric.

Cutouts shall be either heavy-duty or extra-heavy-duty classification. Cutouts installed on three-phase, 13.2-kilovolt (kV) or 13.8-kV systems shall be rated at 15 kV. The installation of cutouts rated at 7.8 kV on these systems will not be allowed.

Fuse links shall have a continuous rating equal to approximately 150 percent of the full-load line current when used for transformer protection, and approximately 100 percent of the conductor rated capacity when used for circuit protection. The 15-kV cutout shall have a wet withstand, 10-second voltage rating of 37 kV, with a 95-kV basic impulse level (BIL). The continuous current rating shall be 100 amperes unless otherwise indicated. Fuse disconnects shall be rated not less than 100 amperes and shall have attachments to permit manual operation of the disconnect under load without external arcing.

Where indicated, lightning arresters and fuse cutouts shall be combined.

## PART 3 EXECUTION

### 3.1 INSTALLATION

Distribution fuse cutouts shall be installed in accordance with the manufacturer's installation instructions.

-- End of Section --