SECTION 262816

ENCLOSED SWITCHES AND circuit BREAKERS

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
   1. SUMMARY
      1. Section Includes:
         1. Fusible switches.
         2. Nonfusible switches.
         3. Fuses.
      2. Related Documents: The Contract Documents, as defined in Section 011000 - Summary of Work, apply to the Work of this Section. Additional requirements and information necessary to complete the Work of this Section may be found in other Documents.
      3. Related Sections:
         1. Section 260500 - Common Work Results for Electrical: Basic electrical methods.
   2. REFERENCES
      1. National Electrical Testing Association (NETA):
         1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
      2. National Electrical Contractors Association (NECA):
         1. NECA SI - Standard of Installation.
      3. National Electrical Manufacturers Association (NEMA):
         1. NEMA FU 1 - Low Voltage Cartridge Fuses.
         2. NEMA KS 1 - Enclosed Switches.
      4. National Fire Protection Association (NFPA):
         1. NFPA 70 - National Electrical Code.
   3. SUBMITTALS
      1. Section 013300 - Submittal Procedures: Procedures for submittals.
         1. Product Data:
            1. Switch ratings and enclosure dimensions.
            2. Fuse data sheets showing electrical characteristics including time-current curves.
         2. Assurance/Control Submittals:
            1. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
            2. Manufacturer's Instructions: Indicate application conditions and limitations of use stipulated by Product testing agency. Include instructions for storage, handling, protection, examination, preparation, installation, and starting of Product.
      2. Section 017704 - Closeout Procedures and Training: Procedures for closeout submittals.
         1. Project Record Documents: Record actual locations of enclosed switches and actual fuse sizes.
   4. QUALITY ASSURANCE
      1. Perform Work in accordance with NECA SI.
      2. Manufacturer Qualifications: Company specializing in manufacturing Products specified in this Section with minimum five years documented experience.
      3. Regulatory Requirements:
         1. Conform to requirements of NFPA 70.
         2. Products: Listed and classified by Underwriters Laboratories, Incorporated as suitable for purpose specified and indicated.
   5. MAINTENANCE
      1. Section 017704 - Closeout Procedures and Training: Procedures for closeout submittals.
      2. Extra Products: At completion of installation, deliver to USPS Project Manager.
         1. Three of each size and type fuse installed.
2. PRODUCTS

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***NOTE TO SPECIFIER***

*Verify manufacturer information, Product numbers, and availability at time of Project Manual preparation for Project.*

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* 1. MANUFACTURERS
     1. Switches: Subject to compliance with project requirements, manufacturer's offering Products which may be incorporated in the Work include the following:
        1. General Electric Company (800) 626-2000.
        2. Siemens Energy & Automation, Alpharetta, GA (800) 964-4114.
        3. Square D Company, Palatine, IL (800) 392-8781.
        4. Eaton Corporation, Cutler-Hammer Products, Pittsburg, PA (800) 525-2000.
     2. Fuses: Subject to compliance with project requirements, manufacturers offering Products which may be incorporated in the Work include the following:
        1. Cooper Industries Incorporated, Waukesha, WI (414) 524-3300.
        2. General Electric Company (800) 626-2000.
        3. Gould Shawmut, Newburyport, MA (508) 462-6662.
     3. Section 016000 - Product Requirements: Product options and substitutions. Substitutions not permitted.
  2. FUSIBLE ENCLOSED SWITCH ASSEMBLIES
     1. NEMA KS 1, Type HD heavy duty, 100,000 AIC load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Cover shall be equipped with a manual defeat to allow opening while energized by authorized personnel. Handle shall be lockable in ON or OFF position.
     2. Rating: 250 volts AC or 600 volts AC as indicated on Drawings.
     3. Fuse Clips: Designed to accommodate Class R fuses.
     4. Enclosures: NEMA KS 1.
        1. Interior Dry Locations: NEMA Type 1 or 12.
        2. Exterior Locations: NEMA Type 3R or 12.
     5. Provide factory ground lug and neutral block if required.
  3. NONFUSIBLE SWITCH ASSEMBLIES
     1. NEMA KS 1, Type GD General Duty, load interrupter enclosed knife switch with externally operable handle interlocked to prevent opening front cover with switch in ON position. Cover shall be equipped with a manual defeat to allow opening while energized by authorized personnel. Handle shall be lockable in ON or OFF position.
     2. Rating: 250 volts AC or 600 volts AC as indicated on Drawings.
     3. Enclosures: NEMA KS 1.
        1. Interior Dry Locations: NEMA Type 1 or 12.
        2. Exterior Locations: NEMA Type 3R or 12.
     4. Provide factory ground lug and neutral block if required.
  4. FUSES
     1. NEMA FU 1, Class RK1, dual element, current limiting, time delay, 250 volt AC or 600 volt AC as indicated on Drawings.
     2. Interrupting Rating: 100,000 rms amperes.

1. EXECUTION
   1. EXAMINATION
      1. As specified in Section 260500 - Common Work Results for Electrical.
   2. INSTALLATION
      1. Switches:
         1. Install in accordance with manufacturers published instructions and NECA SI.
         2. Install where indicated on Drawings, where required by equipment, and where required by NFPA 70.
         3. Apply adhesive tag on inside door of each fused switch indicating NEMA fuse class and size installed.
      2. Fuses:
         1. Install fuses in fusible switches in accordance with manufacturer's published instructions, as indicated on Drawings, or as required by loading per NFPA 70.
         2. Install fuse with label oriented with manufacturer, type, and size easily read.
   3. FIELD QUALITY CONTROL
      1. Section 014000 - Quality Requirements: Field testing and inspection.
      2. Inspect and test in accordance with NETA ATS, except Section 4.
      3. Perform inspections and tests listed in NETA ATS, Section 7.5.

END OF SECTION

USPS MPF Specification Last Revised: 10/1/2022