SECTION 26 29 21
DISCONNECT SWITCHES

SPEC WRITE NOTES: Use this section only for NCA projects. Delete between ///___/// if not applicable to project. Also delete any other item or paragraph not applicable to the section and renumber the paragraphs.

PART 1 - GENERAL

1.1 DESCRIPTION
A. This section specifies the furnishing, installation and connection of low voltage disconnect switches.

1.2 RELATED WORK
A. General electrical requirements and items that is common to more than one section of Division 26: Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
B. Conduits for cables and wiring: Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS.
C. Cables and wiring: Section 26 05 21, LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES (600 VOLTS AND BELOW).
D. Motor rated toggle switches: Section 26 29 11, LOW-VOLTAGE MOTOR STARTERS.
E. Requirements for personnel safety and to provide a low impedance path for possible ground faults: Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS.

1.3 SUBMITTALS
A. Submit in accordance with Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
B. Shop Drawings:
   1. Include sufficient information, clearly presented to determine compliance with drawings and specifications.
   2. Include electrical ratings, dimensions, mounting details, materials, enclosure types, fuse type and class.
   3. Show the specific switch and fuse proposed for each specific piece of equipment or circuit.
C. Manuals:
   1. Provide complete maintenance and operating manuals for disconnect switches, including technical data sheets, wiring diagrams, and information for ordering replacement parts. Deliver four copies to the RESIDENT ENGINEER/COTR two weeks prior to final inspection.
   2. Identify terminals on wiring diagrams to facilitate maintenance and operation.
3. Wiring diagrams shall indicate internal wiring and any interlocking.

D. Certification: Two weeks prior to final inspection, deliver to the RESIDENT ENGINEER/COTR four copies of the certification that the equipment has been properly installed, adjusted, and tested.

1.4 APPLICABLE PUBLICATIONS

A. Publications listed below (including amendments, addenda, revisions, supplements and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.

B. National Electrical Manufacturers Association (NEMA):
   KS 1-06 ................ Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum)
   198C-06 ............... High-Interrupting-Capacity Fuses, Current Limiting Types
   198E-04 ............... Class R Fuses
   977-03 ............... Fused Power-Circuit Devices

PART 2 - PRODUCTS

2.1 LOW VOLTAGE FUSIBLE SWITCHES RATED 600 AMPERES AND LESS

A. Shall be quick-make, quick-break type in accordance with UL 98, NEMA KS 1 and NEC.

B. Shall have a minimum duty rating, NEMA classification General Duty (GD) for 240 volts and NEMA classification Heavy Duty (HD) for 277/480 volts.

C. Shall be horsepower rated.

D. Shall have the following features:
   1. Switch mechanism shall be the quick-make, quick-break type.
   2. Copper blades, visible in the OFF position.
   3. An arc chute for each pole.
   4. External operating handle shall indicate ON and OFF position and shall have lock-open padlocking provisions.
   5. Mechanical interlock shall permit opening of the door only when the switch is in the OFF position, defeatable by a special tool to permit inspection.
   6. Fuse holders for the sizes and types of fuses specified.
   7. Solid neutral for each switch being installed in a circuit which includes a neutral conductor.
   8. Ground Lugs: One for each ground conductor.
   9. Enclosures:
a. Shall be the NEMA types shown on the drawings for the switches.
b. Where the types of switch enclosures are not shown, they shall be
   the NEMA types which are most suitable for the environmental
   conditions where the switches are being installed. Unless
   otherwise indicated on the plans, all outdoor switches shall be
   NEMA 3R.
c. Shall be finished with manufacturer’s standard gray baked enamel
   paint over pretreated steel (for the type of enclosure required).

2.2 LOW VOLTAGE UNFUSED SWITCHES RATED 600 AMPERES AND LESS
   A. Shall be the same as Low Voltage Fusible Switches Rated 600 Amperes and
      Less, but no fuses.

2.3 LOW VOLTAGE FUSIBLE SWITCHES RATED OVER 600 AMPERES TO 1200 AMPERES
   A. Shall be the same as Low Voltage Fusible Switches Rated 600 Amperes and
      Less, except for the minimum duty rating which shall be NEMA
      classification Heavy Duty (HD). These switches shall also be horsepower
      rated.

2.4 MOTOR RATED TOGGLE SWITCHES
   A. Refer to Section 26 29 11, LOW-VOLTAGE MOTOR STARTERS for motor rated
      toggle switches.

2.5 IDENTIFICATION SIGNS
   A. Install nameplate identification signs on each disconnect switch to
      identify the equipment controlled.
   B. Nameplates shall be laminated black phenolic resin with a white core,
      with engraved lettering, a minimum of 6 mm (1/4-inch) high. Secure
      nameplates with screws.

PART 3 – EXECUTION

3.1 INSTALLATION
   A. Install disconnect switches in accordance with the NEC and as shown on
      the drawings.
   B. Fusible disconnect switches shall be furnished complete with fuses.

3.2 SPARE PARTS
   Two weeks prior to the final inspection, furnish one complete set of
   spare fuses for each fusible disconnect switch installed on the project.
   Deliver the spare fuses to the RESIDENT ENGINEER/COTR.

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