DESIGN GUIDELINES SWITCHES AND DISCONNECTS

1.1. <u>APPLICABLE PUBLICATIONS</u>

- 1.1.1. 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 designation only.
- 1.1.2. International Code Council (ICC):
 - 1.1.2.1. IBC-12 International Building Code
- 1.1.3. National Electrical Manufacturers Association (NEMA):
 - 1.1.3.1. FU I-07 Low Voltage Cartridge Fuses
 - 1.1.3.2. KS I-06 Enclosed and Miscellaneous Distribution Equipment Switches (600 Volts Maximum)
- 1.1.4. National Fire Protection Association (NFPA):
 - 1.1.4.1. 70-11 National Electrical Code (NEC)
- 1.1.5. Underwriters Laboratories, Inc. (UL):
 - 1.1.5.1. 98-07 Enclosed and Dead-Front Switches1.1.5.2. 248-00 Low Voltage Fuses1.1.5.3. 489-09 Molded Case Circuit Breakers and Circuit

1.2. FUSED SWITCHES RATED 600 AMPERES AND LESS

- 1.2.1. Switches shall be in accordance with NEMA, NEC, ULC/UL.
- 1.2.2. Shall be NEMA classified General Duty (GD) for 240 V switches, and NEMA classified Heavy Duty (HD) for 575 V switches.
- 1.2.3. Shall be horsepower (HP) rated.
- 1.2.4. Shall have the following features:
 - 1.2.4.1. Switch mechanism shall be the quick-make, quick-break type.
 - 1.2.4.2. Copper blades, visible in the open position.
 - 1.2.4.3. An arc chute for each pole.
 - 1.2.4.4. External operating handle shall indicate open and closed positions, and have lock open padlocking provisions.
 - 1.2.4.5. Mechanical interlock shall permit opening of the door only when the switch is in the open position, defeatable to permit inspection.
 - 1.2.4.6. Fuse holders for the sizes and types of fuses specified.

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- 1.2.4.7. Solid neutral for each switch being installed in a circuit which includes a neutral conductor.
- 1.2.4.8. Ground lugs for each ground conductor.

1.2.5. Enclosures:

- 1.2.5.1. Shall be the NEMA types shown on the project documentation.
- 1.2.5.2. Where the types of switch enclosures are not shown, they shall be the NEMA types most suitable for the ambient environmental conditions.
- 1.2.5.3. Shall be finished with manufacturer's standard gray baked enamel paint over pretreated steel.

1.3. UNFUSED SWITCHES RATED 600 AMPERES AND LESS

1.3.1.1. Shall be the same as fused switches, but without provisions for fuses.

1.4. MOTOR RATED TOGGLE SWITCHES

- 1.4.1. Type 1, general purpose for single-phase motors rated up to 1 horsepower.
- 1.4.2. Quick-make, quick-break toggle switch with external reset button and thermal overload protection matched to nameplate full-load current of actual protected motor.

1.5. <u>CARTRIDGE FUSES</u>

- 1.5.1. Shall be in accordance with NEMA FU 1.
- 1.5.2. Service Entrance: Class L fast acting or time delay type.
- 1.5.3. Feeders: Class L, fast acting or time delay (over 600A) or Class J, fast acting or time delay for up to 600A.
- 1.5.4. Motor Branch Circuits: Class RK1/Class RK5, time delay.
- 1.5.5. Other Branch Circuits: Class RK1/Class RK5, time delay or Class J, fast acting, to suit application.
- 1.5.6. Control Circuits: Class CC time delay.