

PART I: GENERAL

1.01 Wiring Devices

- A. This section of the standard includes design requirements for wiring connections, including receptacles and switches to equipment specified in other sections.
  - a. All Emergency Circuits shall be identified by Red Outlets, Switches, Covers, Face Plates, Junction Boxes, and Covers

1.02 Dry Type Transformers

- A. This section includes enclosed dry type transformers for lighting and power loads, with primaries and secondaries rated 600 volts and less.

1.03 Disconnect Switches

1. All electrical switches and outlets used shall be equal to Hubbell heavy duty, specification grade or equivalent quality.
2. Minimum 20 ampere rated switches shall be used for lighting and power loads. In cases where wall dimmers are used, the dimmer shall be solid-state design with flicker noise control. Minimum accepted manufacturer and quality Lutron Nova T Series.
3. Device faceplates shall be smooth finish hard plastic. Project Service Provide (PSP) shall coordinate color requirements with building architect. Galvanized face plates shall be used for all surface mounted devices.

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- A. Switchgear shall be metal enclosed construction, front and rear access, NEMA 1 drip-proof, ANSI C37/UL1558, rated 600V and shall operate at 480/277 or 208/120 volt, three-phase, solidly grounded wye, 60 Hz system. The switchboard shall be designed in accordance with the latest NEMA, ANSI, and IEEE standards applicable to 65T(A)3, h9(ppl)-3373Td (-)Tj [(pha)-ards 1 dm.2(a)

- K. The power circuit breakers shall be equipped with a solid state tripping system consisting of individual phase monitoring current sensors, a solid state processing device, and a flux transfer shunt trip. The following protective modes or the equivalents shall be pro

### 3.02 Dry Type Transformers

- A. Large transformers for facilities shall be designed for location on the ground floor if possible. The PSP is responsible for coordinating maximum transformer weights and anticipated floor loading with the project structural engineer.
- B. Transformers installed in electrical rooms shall be designed and sized in coordination with architect and door dimensions. All transformers sized above 225 kVA shall require double doors or doors in excess of standard 36" width.
- C. Transformers 15 kVA and above are to be floor mounted.
- D. PSP shall provide detail layouts of electrical rooms indicating transformer locations drawn to scale with special mounting instructions as appropriate.
- E. All transformers are to be given an alphanumeric label that will relate the transformer to the room detail to the transformer on the single line diagram.
- F. The single line diagram shall indicate the alphanumeric identifier, the transformer size (kVA), and the primary and secondary voltages.
- G. Transformers for Non-Linear Loads (NLL) shall be used at the PSP's discretion.

### 3.05 Metal Enclosed Distribution Switchgear

- A. PSP shall show equipment room layout, drawn to scale, indicating location of equipment and busway routing for interconnection.
- B. PSP shall label the switchboard consistently on the single line diagram and the room layout.
- C. Singleline diagram shall indicate board size and required short circuit rating.
- D. PSP shall furnish a detailed specification indicating detailed control wiring, meter requirements and special construction requirements not outlined in the design standard.

### 3.06 Panelboards

- A. Branch circuit panelboards shall not serve loads on more than one level of a building.
- B. Molded case circuit breakers shall be bolt on type only.
- C. Do not mount panelboards in hallways or other public spaces.
- D. Provide a separate panelboard for labs or other high density electrical utilization equipment spaces where the power requirements exceed 12 poles, and locate the panelboard near the entrance.

