



## DESIGN REQUIREMENTS

### MOTOR CONTROL CENTERS

#### GENERAL INFORMATION

- 1.1 This section applies to motor control centers.

#### DESIGN REQUIREMENTS

- 2.1 Provide typed-up label inside each motor starter enclosure door identifying motor served, nameplate horsepower, full load amperes, code letter, service factor and volt/phase rating.
- 2.2 All controllers will be furnished with LED indicator lights.
- 2.3 Do not connect to existing services without investigating the service capacity, the wire capacity feeding it and the load on the service.
- 2.4 Newly installed MCC's will be connected to sources with known capacity, known loading and known condition by the Engineer of Record. Electrical sources need to be investigated before final design documents are issued.
- 2.5 Distribution and control diagrams will be reviewed and approved by the Engineer of Record before the MCC is accepted.
- 2.6 Refer to Section 262923 for controller requirements.

#### CONSTRUCTION REQUIREMENTS

- 3.1 Neutral buses must be full size.
- 3.2 Controllers to be furnished with LED indicator lights.
- 3.3 Provide fused disconnect switches for remote mounted starters, VFD's or factory-wired control panels.
- 3.4 Required field tests shall include:
  - a. Insulation resistance tests on each bus section, phase-to-phase and phase-to-ground.



## DESIGN REQUIREMENTS

- b. Insulation-resistance tests on each pole, phase-to-phase and phase-to-ground with the circuit breaker closed and across each open pole.
  - c. Over-potential test on each bus section, each phase to ground with phases not under test grounded, in accordance with manufacturer's published data.
  - d. Continuity test.
  - e. Adjustments for final settings.
  - f. Short-time pickups.
  - g. Ground-fault pickup and time delays.
  - h. Instantaneous pickups.
  - i. Check the horsepower, voltage, phase, speed, service factor, full load amperes and frame size from the motor nameplate and record the values.
- 3.5 The motor control center will have a large engraved label permanently affixed on its exterior that clearly identifies where it is fed from, its voltage and phase designation, if it's normal or emergency and its capacity. Each controller or disconnect switch shall be provided with engraved nameplates.
- 3.6 Two (2) sets of the distribution and control diagrams (one left at the MCC, one for the office records - reviewed and approved by the Engineer of Record) must be presented to the facilities department before the MCC is finally accepted.

## REFERENCE

- 4.1 The applicable CSI Specification Section is 262419.