## GENERAL:

1. The scope of this document is to provide requirements for motor control centers.
2. The use of draw out breakers shall be switchgear design.

## DESIGN GUIDELINES:

1. Motor Control Centers shall have a main circuit breaker, control devices, motor thermal overload protection devices, circuit overcurrent protective devices, etc. for all motors greater than ½ HP.

2. Enclosure
   - 2.1 Provide vertical hinged door wiring compartments with access to each starter unit for power and control wiring.
   - 2.2 Provide accessible pullbox compartments at top and bottom of each cubicle, for horizontal wiring between cubicles.
   - 2.3 Assemblies shall be equipped with removable starter/breaker buckets, with protective shutters.
   - 2.4 Provide conduit entrance space in top and bottom of each cubicle.
   - 2.5 Provide hinged doors same size as starter enclosure for access to starter.
   - 2.6 Provide interlocked access to starter, so that the door cannot be opened without opening starter overcurrent device.
   - 2.7 Use matching blank panel doors for unused space and future starter provisions.
   - 2.8 Enclosure shall be specified to match installed environment NEMA Type 1A gasketed-general purpose – Indoor NEMA ICS-6 as a minimum.
   - 2.9 Enclosure shall prevent the entry of a #12 AWG wire.
   - 2.10 Full assembly shall achieve rated capabilities without the use of forced air ventilation.

3. Electrical
   - 3.1 All Bussing shall be 98% conductivity, electroplated copper with fully overlapped joints.
   - 3.2 Run main bussing horizontally through cubicles connected to vertical riser busses for connection of starter units.
   - 3.3 Vertical riser bussing shall be rated 300 or 600 amperes based on size and rating of the starters connected, and shall be rated to carry full load current.
   - 3.4 Provide special bussing required for loads, which exceed standard vertical bus ratings.
   - 3.5 Arrange bussing for extension to future sections.
   - 3.6 Provide 100% rated copper neutral bus isolated from the enclosure.

4. Provide a minimum of 20% spare capacity for future loads. Spare Capacity is defined as additional continuous load and space for additional motor control starters.