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.