	mentioned in Section 6.5.3 and 6.5.4

Table 6-6 – Motor Control Centre Specification

The MCC, Main Distribution Board (MDB) and Distribution Board (DB) shall comply with the latest ADDC requirements.

6.5.6. Protection Device

The Consultant shall categorise the entire load connected to the switchgear according to its critical status in the process and its effect on operator safety.

Permitted protection types are as follows:

- Short circuit protection
- Overload protection
- Under/over voltage protection
- Phase losses/phase miss reversal protection
- Earth leakage protection
- Motor protection relay (electronic relay)
- Interlocking facility where required

6.5.7. Power Factor Correction Capacitors

The Consultant shall demonstrate consideration of following items in the design of Power Factor Correction Capacitors:

- PFCC shall improve the overall power factor of the plant/equipment to 0.93 lagging (or better)
- PFCC shall be designed for automatic centralised operation for site-wide Power Factor compensation by employing multiple steps
- The enclosure shall be of equal height of the associated MCC and located adjacent to it or at other suitable location within the MCC room
- The PFCC enclosure shall be fitted with forced ventilation fan and louvers as necessary. The IP rating when fitted with forced ventilation must be at least IP43
- The PFCC enclosure shall be sized to accommodate an additional spare step of equal rating for future use
- The design of the PFCC shall take into account any harmonic filter installations connected to the same power distribution system so as to avoid any LC resonance with these and any upstream transformer reactance.

6.5.8. Earthing

All the metallic parts shall be earthed.

The Consultant shall specify appropriate earth connection between metallic parts separated by rubber joints.

Earthing shall be designed in accordance with ADDC regulations and achieve the following objectives:

- To maintain high operational availability of electrical installation
- To eliminate the problems often caused by undesired potential difference between different parts of an installation leading to malfunctioning, damage to installation and human lives
- To provide segregated earthing system as follows: