SECTION - 8
POWER FACTOR CORRECTION CAPACITORS AND UNDER VOLTAGE RELAYS

8.1 POWER FACTOR (PF) CORRECTION:

8.1.1 The power factor of every consumer installation shall be within the range of 0.9 lagging and unity (recommended value 0.95 lagging).

8.1.2 In general all Air-Conditioning units/plants/equipment, machines, motors, light fittings with discharge lamps/mercury vapour/sodium vapour/ fluorescent tubes, etc. for use in the Emirate of Dubai, shall be provided with capacitors or other approved means to achieve and maintain a power factor of 0.95 lagging or above, throughout their normal working range.

8.1.3 For commercial premises which requires DEWA service feeders of 200A and above, where individual load compensation cannot be achieved, overall compensation at main or sub-main distribution levels by incorporating capacitor banks with automatic regulated steps, shall be provided. For residential premises the limitation shall be 400A feeder.

8.1.4 The P.F. correction capacitor shall be dry, encapsulated, sealed type. (conform to IEC 61921)

8.1.5 Capacitors shall be enclosed or guarded to prevent accidental contact of conducting metal parts with exposed energised parts, terminals or buses associated with them.

8.1.6 The capacitors installed for P.F. correction shall be provided with means for its prompt automatic discharge immediately when the capacitor is disconnected from the source of supply.

8.1.7 The discharge circuit shall be either permanently connected to the terminals of the capacitor or capacitor bank, or provided with automatic means of connecting it to the terminals of the capacitor bank on removal of voltage from the line. Manual means of switching or connecting the discharge circuit shall not be permitted

8.1.8 The capacitors and associated components such as PF regulator, indicating instruments, contactors (of capacitor switching duty), control switches, etc. shall be designed and rated for operation on the electric supply and ambient conditions specified under Section 1 and selection details recommended in Section-4 of this Regulation. Capacitor units shall be designed for temperature class D.

8.1.9 The current carrying capacity of conductors that connect a capacitor to the terminals of a motor or to motor circuit conductors shall not be less than one third the current carrying capacity of the motor circuit conductors and in no case less than 1.5 times the rated current of the capacitor.