  - Electronic earth "Clean Earth"
  - Electrical safety earth and panels steelwork earth "Dirty Earth"
  - Telephone system earth
  - Lightning protection system earth
- The earthing system must be designed to include the following as a minimum:
  - Preventing voltage discharge to earth
  - Protecting persons and property
  - Protection against occurrence of over voltages due to transients and spikes
  - Protection against discharge of static electricity
  - Protection against lightning
  - Protection against stray currents
  - Facilitating supervision and measurement

6.5.9. Lightning Protection

The Consultant shall demonstrate consideration of the following items in lightning protection:

- The protector shall be designed that it must neither interfere nor restrict the systems normal operation.
- Protection shall be rated for a peak discharge current of no less than 10kA (8/20-microsecond waveform)
- The protector shall limit the transient voltage to below equipment susceptibility levels. In general, the peak transients let-through voltage must not exceed 600V for protectors with a nominal working voltage of 230V
- The peak transient let-through voltage shall not be exceeded for all combinations of conductors (Phase to Neutral / Phase to Earth / Neutral to Earth)
- Lightning system shall consist of Air terminal system, Downstream conductors with test links, and Earth terminal system

6.5.10. Lighting

Lighting installations shall be designed to provide the illumination levels to suit the site orientation are shown in Table 6-7.

General lighting	in accordance CIBSE or other national approved standard measured at a plane 1,000mm above finished floor level
Emergency lighting	in accordance with BS5266 or equivalent At least 30% of all lighting fittings shall be emergency light fittings Wall-mounted twin lamp units (with battery back-up) arranged to give at least 4 hours illumination in the event of mains power supply failure
Switching	Two-way switching must be provided for areas where access may be gained via two physically separate doors

Table 6-7 – Lighting Design

6.5.11. Uninterruptible Power Supply

The Consultant shall demonstrate consideration of the following in the design of Uninterruptible Power Supply (UPS):