C. Secondary injection tests to ensure correct operation of the current and voltage operated protections over their full range of settings.

D. Software simulation test where applicable shall be demonstrated to prove the satisfactorily operation of the protection devices.

E. The complete assembly shall not leave the manufacturer's works until the same have been duly approved and stamped by the Engineer and written permission is obtained for their dispatch to site.

1.3.16.9 Lightning & Over Voltage Protection Unit

A. Mains Incomers' of all Factory Built Assemblies – "Motor Control Centre, LV Distribution Boards and Control Panels etc.) as described in this specification shall be provided with Lightning and Over Voltage protection unit to protect the equipment's against over-voltage generated by spikes and electrical switching events.

B. The protection device shall confirm to BS 2914 and shall be rated for High Exposure Level as defined in BS 6651.

C. The protector shall be so designed and field proven that neither interfere nor restrict the system's normal operation. It shall not:

   a. corrupt the normal mains power supply

   b. break or shutdown the power supply during operation

   c. Have an executive earth leakage current.

D. The protection shall be rated for a peak discharge current of no less than 10KA (8/20-microsecond waveform).

E. The protector shall limit the transient voltage to below equipment susceptibility levels. Unless stated otherwise, the peak transients let-through voltage shall not exceed 600 V, for protectors with a nominal working voltage of 230 V, when tested in accordance with BS 6651 Category B – High (6KV 1.2/50 microsecond open circuit voltage, 3KA 8/20 microseconds short circuit current)

F. The peak transient let-through voltage shall not be exceeded for all combinations of conductors:

   a. Phase to neutral

   b. Phase to earth