

11 kV Lightning Arrester

System Earthing: Non-effectively Earthed

Maximum Line to Ground Voltage (Max_L_G) of the system in consideration with 10% voltage regulation:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 6.99 \text{ kV}$$

Fault Factor (Ke) = $\text{NOT FOR PUBLIC RELEASE}$

Temporary Over Voltage (TOV) Rating:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 12.09 \text{ kV}$$

Temporary Over Voltage Capability Factor (a) for normal duty operation = $\text{NOT FOR PUBLIC RELEASE}$

Continuous Operating Voltage (COV) that could withstand the TOV:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 9.6 \text{ kV}$$

The Continuous Operating Voltage (COV) from the reputed manufacturer's (Raychem) catalog:

$$= 9.6 \text{ kV}$$

Rated Voltage of the Lightning Arrester = 9.6×1.25

$$= 12 \text{ kV}$$

So the designed LA will be 12 kV, 10 kA for 11 kV System.

33 kV Lightning Arrester

System Earthing: Effectively Earthed

Maximum Line to Ground Voltage (Max_L_G) of the system in consideration with 10% voltage regulation:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 20.96 \text{ kV}$$

Fault Factor (Ke) = $\text{NOT FOR PUBLIC RELEASE}$

Temporary Over Voltage (TOV) Rating:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 29.34 \text{ kV}$$

Temporary Over Voltage Capability Factor (a) for normal duty operation = $\text{NOT FOR PUBLIC RELEASE}$

Continuous Operating Voltage (COV) that could withstand the TOV:

$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= \text{NOT FOR PUBLIC RELEASE}$$
$$= 23.47 \text{ kV}$$

The Continuous Operating Voltage (COV) from the reputed manufacturer's (Raychem) catalog:

$$= 24 \text{ kV}$$

Rated Voltage of the Lightning Arrester = 24×1.25

$$= 30 \text{ kV}$$

So the designed LA will be 30 kV, 10 kA for 33 kV System.

132 kV Lightning Arrester

System Earthing: Effectively Earthed

Maximum Line to Ground Voltage (Max_L_G) of the system in consideration with 10% voltage regulation:

$$= \text{NOT FOR PUBLIC RELEASE}$$

$$= 83.83 \text{ kV}$$

Fault Factor (Ke) = $\text{NOT FOR PUBLIC RELEASE}$

Temporary Over Voltage (TOV) Rating:

$$= \text{NOT FOR PUBLIC RELEASE}$$

$$= \text{NOT FOR PUBLIC RELEASE}$$

$$= 117.36 \text{ kV}$$

Temporary Over Voltage Capability Factor (a) for normal duty operation = $\text{NOT FOR PUBLIC RELEASE}$

Continuous Operating Voltage (COV) that could withstand the TOV:

$$= \text{NOT FOR PUBLIC RELEASE}$$

$$= \text{NOT FOR PUBLIC RELEASE}$$

$$= 93.88 \text{ kV}$$

The Continuous Operating Voltage (COV) from the reputed manufacturer's (Raychem) catalog:

$$= 96 \text{ kV}$$

Rated Voltage of the Lightning Arrester = 96×1.25

$$= 120 \text{ kV}$$

So the designed LA will be 120 kV, 10 kA for 132 kV System.