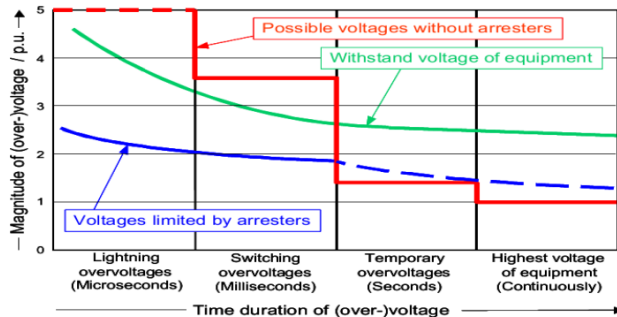


## Insulation Coordination Studies

- Estimation of magnitudes of over voltages in per unit and their durations.



Insulation Coordination Studies – Electrical power systems are highly nonlinear and dynamic in nature: circuit breakers are closing and opening, faults are being cleared, generation is varying in response to load demand and the power systems are subjected to atmospheric disturbances that is lightning. Thus, the electromagnetic and electromechanical energy is constantly being redistributed in the power systems, among the system components. These energy exchanges cannot take place instantaneously but take some time period which brings about the transient state. The energy status of the sources can also undergo changes and may subject the system to higher stresses resulting from increased currents and voltages.

### Objective Insulation Coordination Studies

The objective of the insulation coordination study is to verify that the already selected equipment is appropriate and it satisfies the performance criteria required for overvoltage switching surge and overvoltage caused by lightning.

Insulation coordination also helps us to determine the selection and verification of surge arrester at right and to limit the various types of overvoltage.

**There are various types of studies including in insulation coordination study:**

1. Temporary Overvoltage (TOV)
2. Switching Overvoltage (SFO)
3. Fast Front Overvoltage (FFO)
4. Very Fast Front Overvoltage (VFFO)