

## **Abstract**

A system under bounded conditions continue to be stable even after being subjected to one or more bounded disturbances. In practice, oscillations of a machine rotors should be damped to acceptable level within six seconds following a major disturbance. A stable system may also face prolonged operational oscillations before decaying to zero. Transient stability refers to the ability of a system to experience a sudden change in generation, load or system characteristics without prolonged loss of synchronism. Modern systems are large, highly interconnected and extremely under stressed conditions. This creates a potential stability threat to power systems. Installation of service potential substations in transmission lines to address power shortage in rural areas makes the system even more complex. These systems should be analyzed further to investigate possibilities of instability problems.