

Course Overview:

Power Stability is becoming an increasing source of concern in secure operation of present-day power systems. This practical course will provide a comprehensive overview of Power stability problems and methods of effectively addressing them in the planning, design and operation of electric power systems. This includes the basic concepts, physical aspects of the phenomenon, methods of analysis, examples of major power grid blackouts due to Power instability, and methods of preventing Power instability. The course will also cover in detail methods of Power control and reactive power planning in transmission networks.

Course Objective:

This practical course will provide a comprehensive idea of Power stability problems and methods of effectively addressing them in the planning, design and operation of electric power systems. This includes the basic concepts, physical aspects of the phenomenon, methods of analysis, examples of major power grid blackouts due to Power instability, and methods of preventing Power instability. The course will also cover in detail methods of Power control and reactive power planning in transmission networks.

Course Outline:

- Definition and classification of power system stability
- Equipment Characteristics Impacting on Power Stability
- Synchronous machines
- Excitation system
- AC Transmission
- Power system loads
- Control of Reactive Power and Power
- Production and absorption of reactive power
- Methods of Power control
- Principles of reactive compensation in transmission systems
- Static and dynamic compensators
- Typical Scenarios of Power Instability
- Prevention of Power Instability

Who Should Attend:

Electrical engineers, technicians and any worker from the projects and distribution departments

Training Language:

EN / AR

Training Methodology:

- Presentation & Slides
- Audio Visual Aids
- Interactive Discussion
- Participatory Exercise
- Action Learning
- Class Activities
- Case Studies
- Workshops
- Simulation