

Course Overview:

Reactive power had not paid sufficient attention in past. Great attention is now paid to reactive power flow on lines and to generated and compensated reactive power. Most problems of voltage control can be solved and voltage instability and voltage collapses will not occur if reactive power is judiciously managed and accurately controlled. Also, blackouts can be avoided and service interruptions will be minimized. Transmission lines can be loaded to their thermal limits. Losses in transmission systems can be reduced to minimum.

Course Objective:

To clarify the importance of reactive power control and to show the importance of reactive power in power system operation and control. Influence of reactive power flow on system voltages are to be clarified. Methods of compensation of reactive power such as static VAR compensators and FACTS will be explained in detail. Optimum capacitor locations in transmission system busbars will be defined by special programs. Optimum controllers will be found. Techniques of voltage control by reactive power injections will be found. Voltage security is to be studied.

Course Outline:

- Reactive Power Definition
- Networks Voltage Control
- Loads Power Factor Correction
- Voltage Relation With Reactive Power
- Shunt And Series Static VAR Compensators
- Static VAR Compensator
- Flexible Ac Transmission Systems (Facts)
- Voltage Stability Interrelation With Reactive Power Available
- Loads Voltage Control By Reactive Power Injections
- Generators Reactive Power Generated Effects
- Blackouts Due To Lack Of Reactive Power
- Reactive Power Role In Voltage Security
- Harmonic Filters Equipped With Reactive Power Compensators

Who Should Attend:

Mechanical, Operation, Production, and Maintenance Engineers should benefit from this course. Also Technicians should update and refresh their knowledge by attending this course.

Training Language:

EN / AR

Training Methodology:

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