

Engineering Courses

Reactive Power Compensation and Voltage Control

Training objectives:

Participants in this course will be first introduced to the benefits of reactive power when properly coordinated with the reactive needs of the load. An adequate supply of reactive power facilitates improves power factor and voltage regulation. At the transmission level, the effect of reactive power on voltage regulation and power transfer will be presented via case studies. The consequences of an inadequate supply of reactive power increases the risk of voltage collapse that can be minimized with the use of strategically placed reactive devices. Secondly, the reactive power characteristics of various shunt and series compensation devices will be presented to allow attendees to be able to identify which reactive solutions may be appropriate for a given transmission system issue or development need.

The course is intended for:

Engineers who work for electric utilities and transmission system operating companies who are involved in the planning, engineering, specification, and operation of power transmission systems.

Main features:

- Objectives of load compensation
- Power factor correction
- Voltage regulation
- Performance of unloaded transmission lines
- Power transfer and voltage regulation on transmission lines
- Introduction to compensation
- Surge impedance loading (SIL)
- P-V characteristics
- Case study demonstration
- Voltage stability
- Power transfer limits
- Voltage collapse
- Shunt compensation
- Shunt reactors
- Shunt capacitors
- Synchronous condensers
- Series compensation
- Series capacitors
- Subsynchronous resonance and solutions

Recommended prior knowledge:

Basic knowledge of electrical engineering.

Note: The course is held in English. Class subject to change. Class times are 8-4.

For more information visit: www.geenergyconsulting.com



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