

Engineering Courses

Power Electronics Applications in Transmission: HVDC & FACTS

Training objectives:

The participants will acquire a familiarity with the applications of power electronics in modern power transmission systems; specifically High Voltage Direct Current (HVDC), and Flexible AC Transmission Systems (FACTS), inclusive of the newly developed variable frequency transformer (VFT) technology. A basic understanding of power electronic equipment and its operation will be developed, but the emphasis is on how these devices can be applied and how they interact with the rest of the power system. Applications will consider both technical and economic drivers. Completion of this course will allow attendees to be able to identify if power electronic solutions may be appropriate for a given transmission system issue or development need. This course will also provide the background for attendees to appreciate and understand the issues brought about by a new or existing power electronic transmission application that may influence the systems for which they are responsible.

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:

- Power electronic fundamentals – devices and circuits
- Introduction to HVDC and FACTS devices
- Applications of conventional and voltage-source converter HVDC transmission
- Power converter performance
- HVDC system integration
- Variable frequency transformer (VFT) equipment and applications
- FACTS devices for reactive compensation – static VAR compensators (SVC) and static compensators (STATCOMS)
- Power electronics for series compensation – thyristor-controlled series capacitors (TCSC) and universal power flow controllers (UPFC)

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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