

Course Overview:

Modern electrical power systems increases the efficiency of electrical power generations, transmission and distribution it also lower carbon footprint for a greener world. It includes the 'green generation' of electricity by means of PV Solar Systems, Wind Power Technology, Geothermal Technology and Hydro Power.

Course Objective:

- Power flow optimisation for 'real power' and use of a of FACTS devices to improve system operation, including DSM approach
- New CT and VT optical transducers and protection system using micro processor relays
- Non linear loads and injected Harmonics, at the PCC (point of common coupling)
- Diagnostic monitoring of plant and in particular GIS substations

Course Outline:

- Overview of a typical systems covering generation, transmission and distribution and the SMART grid
- Determination of flow of real (P) and reactive power (Q)
- Determination and control of fault level
- Control of reactive power & voltage
- Control of active power & system frequency
- Current Operational Problems and System Operation
- Coping with rising demand for power - transmission and distribution
- The costs associated with increasing fault level and types of faults
- Energy and the Environment - solar power, geothermal power, etc. CO2 and its impact on the world
- 'Green' generation? Is it possible on a large scale or are there stability problems?
- Advances in Control and Monitoring
- Advanced protection and Control Techniques
- Digital and Micro Processor Protection

Who Should Attend:

- Engineers
- Technicians
- Professionals involved with the planning, operation and maintenance of small to large scale power networks, from around 11kV upwards
- Professionals from the Distribution Companies
- Power Utilities, Engineering Professionals in the Electricity Supply Industry and Petrochemical Companies who have to deal with aspects of generation, transmission and distribution

Training Language:

EN / AR

Training Methodology:

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