Training Program:

Combined Cycle Turbine Generator Fundamentals

Introduction:

In recent years, the power generation industry has had to face major structural changes following privatization and liberalization of the electricity markets. This new business environment has led to major investment in gas fired combined cycle plant. As more and more combined cycle plants are brought into service, the generating companies will come under increasing competitive pressures. Additionally, the increasing use of wind and solar power imply major changes for combined cycle plant. As a result, they will need to understand the life usage implications of transient and peak-lopping operations in addition to base load duties.

A better understanding of performance, availability and emissions, including CO2 issues will give some companies the edge in safeguarding their investment. Against this background, the aim of the course is to give the delegate a thorough understanding of combined cycle technology. In particular, the course content is structured to serve the particular needs and background of both power companies and manufacturers.

Who Should Attend?

Electrical Engineers, Power Generation Engineers, Power System Protection Engineers, Gas turbine newcomers and more experienced persons who desire an overview of the many available gas turbine technologies, Process Control Engineers & Personnel, Electrical and Instrumentation Technicians & Design Engineers, Maintenance Technicians & Supervisors, Plant Operators & Technicians, Oil & Gas Industry Personnel

Course Objectives:

By the end of this course delegates will be able to:

- Explain the operational characteristics of the major components of a CCGT power plant
- Appraise the design and off-design performance of CCGT power plant
- Apply the appropriate methods available to assess the economic viability of power generation projects
- Discuss the technical and economic advantages of various types of combined cycle arrangements compared to other power generation technologies
- Identify the fundamental issues in terms of system monitoring, diagnostics and maintenance
- Outline the development of the CCGT technology in response to future challenges, market outlook and users' requirements
- Assist in the selection of combined cycle plant and its operation

Course Outline

- Combined Cycles and their Applications
- Design and Off-Design Performance of Combined Cycles
- Advanced Cycles
- Transient Performance
- Life Usage and Availability
- Emissions Legislation and Technology
- Greenhouse Gas Issues

- Performance and Economics
- Availability and Reliability
- Gas Turbines Engines and Performance
- Introduction to Gas Turbine Control
- Combined Cycle Design Performance
- HRSG Technology
- Gas Turbine Design and off Design Performance

Accreditation:

BTS attendance certificate will be issued to all attendees completing a minimum of 80% of the total course duration.