Training Program:

Gas Turbine Maintenance Practices

Introduction:

This course presents the nature and purpose of different modes of maintenance such as running, predictive, and preventive maintenance. It enables the candidates to apply the following concepts: maintenance objectives, operator-maintenance coordination, types of maintenance, definition of: running, predictive, preventive maintenance, operator observations, abnormalities, defect reports, on-line maintenance, off-line maintenance, permit to work, clearance, concept of predictive maintenance, critical points of measurement, plotting trends of pressures and temperatures, interpreting trends to determine outage schedules, interpreting trends to determine spare parts requirements, performance testing; fuel consumption, heat rate, effect of ambient conditions, correction factors, vibration analysis, unbalance, misalignment, bearing problems, objective of preventive maintenance, pre-planned, scheduled outages for maintenance, scheduled tasks; inspection, replacement, repair, typical maintenance schedule and definition of inspections.

Who Should Attend?

Electrical Engineers, Power Generation Engineers, Power System Protection Engineers, 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:

- Describe the roles of a good gas turbine running maintenance program
- Explain daily routine maintenance and running checks on a gas turbine unit
- Describe the factors influencing deterioration of the gas turbine and the prescribed inspection intervals recommended
- Explain good maintenance practices used during combustion equipment inspection
- Describe the combustion section disassembly and components removal
- Describe the inspection requirements for the combustion components
- Explain how the use of measurements, trend plots, and performance testing are use in a predictive maintenance program
- Explain how vibration analysis can help determine maintenance needs
- Explain how planned maintenance schedules are used in a preventative maintenance program
- Describe the reassembly of the combustion section

Course Outline

- Maintenance objectives
- Operator-maintenance coordination
- Types of maintenance
- Definition of running, predictive and preventive maintenance
- Operator observations, abnormalities, defect reports

- On-line maintenance
- Off-line maintenance
- Permit to work
- Clearance
- Concept of predictive maintenance
- Critical points of measurement
- Plotting trends of pressures and temperatures
- Interpreting trends to determine outage schedules
- Interpreting trends to determine spare parts requirements
- Performance testing
- Fuel consumption, heat rate
- Effect of ambient conditions
- Correction factors
- Vibration analysis
- Unbalance
- Misalignment
- Bearing problems
- Objective of preventive maintenance
- Pre-planned, scheduled outages for maintenance
- Scheduled tasks
- Inspection, replacement & repair
- Typical maintenance schedule
- Definition of inspections

- Combustion equipment
- Hot gas path
- Major overhaul
- Factors affecting frequency of inspection
- Detailed procedure for combustion inspection

Accreditation:

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