

GAS TURBINE DEVELOPMENT PROGRAM (8WEEKS)

Course Objectives

The aim is to produce Graduates that have a broad-based understanding, both theoretical and practical, of the Operations and Maintenance of Generator Drive Gas Turbines.

Course Description

This programme covers, over a series of weeks, both theoretical and practical, the Operations and Maintenance of Generator Drive Gas Turbines. It covers many aspects of Gas Turbines including fault finding and operational procedures.

Who Should Attend

This course is aimed specifically at new recruits to the Gas Turbine industry. For further information on the practical training offered on this course please see the facilities at our MJB Workshop.

Pre-Requisites

All Attendees should have a basic engineering background.

Course Outcome

At the end of this course you will be able to operate and maintain Generator Drive Gas Turbines.

Course Outline

Week 1 - Introduction to Gas Turbines

Introduction
Gas Turbine Theory
Gas Turbine Applications
Major Components of a Gas Turbine
Major Accessory Components of a Gas Turbine

Week 2 - Gas Turbine Operations

Gas Turbine Piping Schematics
Gas Turbine Operations
Gas Turbine Special Operations
Practical Sessions using Gas Turbine Simulator

Week 3 - Turbine Mechanical Maintenance and Repair

Component Inspection Techniques
Evaluating Component for Repair
Gas Turbine Inspections
Component Repair Techniques
Types of Bearing

Week 4 - Bearing Maintenance & Repair

Bearing Maintenance and Repair
Gearing
Coupling Installation

Week 5 - Installation/ Repair and Maintenance of Pumps/ Motors

Pump Design and Operation
Pump Operations
Pump Disassembly/Reassembly Procedures
Disassembly and Reassembly
AC and DC Motors
Practical Sessions at OEL Workshop

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Week 6 - Gas Turbine Instrumentation & Calibration

Gas Turbine Instrumentation Overview
Pressure/Temperature Switches
Pressure/Temperature Transducers
Linear Variable Differential Transformer (LVDT'S)
Thermocouple and RTD's
Miscellaneous Instrumentation Devices
Control Valves

Week 7 - Gas Turbine Control Systems (Speedtronic)

Gas Turbine Control Systems
Control System Functions
Control System Protection Functions
Introduction to Ladder Logic (Rung Display)
Control System Troubleshooting
Practical Sessions using Gas Turbine Simulator

Week 8 - Generator Control & Protection

Generator Construction
Generator Operations

Protection Devices
Excitation Systems
Voltage Regulation
Practical Session using Gas Turbine Simulator
Course Review and Feedback

Note: As an open registration course, this programme will be conducted as 4 x 2 week courses