

GAS TURBINE OPERATIONS WITH MK V SPEEDTRONIC CONTROL SYSTEM

Course Objectives

To obtain an understanding of the operations of a MK V Control System.

Course Description

This course covers the operations of a Gas Turbine as controlled by a MK V Speedtronic Control System. The course will introduce the student to the Major Components of a Gas Turbine and associated systems. Operational sequences will be discussed for the major varieties of GE Gas Turbines and Gas Turbine applications. The use of a Gas Turbine Speedtronic simulator will allow students to view various operational problems and introduce the concepts of basic troubleshooting and fault finding.

Who Should Attend

This is an excellent course for plant operators/technicians responsible for the day-to-day operations of a Gas Turbine. The course will also benefit maintenance personnel who are involved in the troubleshooting of operational problems. Shift supervisors and Team Leaders will also find the course beneficial.

Pre-Requisites

All Attendees should have a sound power generation background and have used a MK V Control system.

Course Outcome

At the end of this course you will be able to manage the operations of a Gas Turbine using MK V.

Course Outline

Day 1

Introduction

Overview of Major Components of a Gas Turbine

Compressor Component Overview
Combustor Component Overview
Turbine Component Overview

Overview of Piping Schematics Description and Operation

Lube Oil System
Hydraulic Oil System
Control Oil System

Day 2

Overview of Piping Schematics Description and Operation continued

Gas Fuel System
Liquid Fuel System
Starting System
Cooling and Sealing Air System
Other Major Systems

Control System Overview

Starting Sequence
Control System Parameter

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Day 3

MK V Control System Overview

Overview of MK V Control System

Gas Turbine Operations

Start up / Shut down sequences
Loading and Unloading

MK V Operational Screens

Exhaust Temperature
Wheelspace Temperatures
Vibration

Alarm Handling

Alarm Acknowledging
Alarm Resetting

Trip History

Day 4

Control System Overview

Startup Control
Speed Control
Temperature Control

Gas Turbine Protection

Over temperature protection
Overspeed Protection
Combustion Monitoring

Day 5

Troubleshooting/Fault Finding

Alarm Handling (Process and Diagnostic)
Basic Ladder Logic Troubleshooting

Course Review and Feedback