

GAS TURBINE OPERATIONS AND CONTROL

MCE057

COURSE DESCRIPTION

This course covers the operation and controls of gas turbines giving participants the knowledge needed to operate and control gas turbine systems. Emphasis is placed on the operator's responsibilities with regard to auxiliary systems, operational data taking, and data evaluation. Operators are instructed in how to interpret fault annunciation and how to determine if the annunciate fault can be remedied by operator action or by the assistance of instrumentation and/or maintenance personnel.

The course focuses on the starting, loading, and specific operator checks of the various turbine support and auxiliary systems to ensure safe and reliable operation of the gas turbine unit. Also covered is the effect of operation on major mechanical maintenance.

COURSE GOAL

To enhance the participants' knowledge, skills and abilities necessary to properly analyse operating problems and take the necessary corrective action.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Understand basic theory of GT operation.
- Be familiar with the base and machine arrangement.
- Check support systems operation and system.
- Understand control system arrangements, control functions, operating sequences, and protection functions.
- Be familiar with the GT Operator Responsibilities.
- Understand the procedures of start-up, normal operation, shutdown, and emergency.

WHO SHOULD ATTEND

Engineers, supervisors, operations and maintenance personnel to safely operate gas turbine units.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Gas Turbine Fundamentals

- Basic theory of operation.
- Base and Machine arrangement.

2. Support Systems Operation and System Checks

- Inlet filter.
- Lube oil.
- Hydraulic and control oil.
- Cooling water.
- Cooling and sealing air.
- Fuel systems.
- Starting means.
- Heating and ventilation.
- Fire protection.

3. Control System

- Arrangements.
- Control functions and operating sequences.
- Protection functions.

4. Operator Responsibilities

- Data taking and evaluation.
- Operating limits.
- Required operator action on various annunciation indications.

5. Unit Operation

- Start-up.
- Normal operation.
- Shutdown.
- Emergency procedures.

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