



Training Program:

Power Generators Control & Protection

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Introduction:

This comprehensive course is regarded as an essential course for those engineers and electricians involved with the operations and maintenance of Gas or Steam Turbine driven Generator systems. This course focuses on the major components of a Generator, their design and operation.

The candidates will learn how to read Generator reactive capability, performance curves and calculate various operational parameters.

The course will also cover the main safety/protection systems associated with Generators and the principles, components of excitation and voltage regulation systems.

This course is designed to give a thorough understanding of the Design, Control and Protection systems associated with a modern Generator.

Who Should Attend?

Technicians and engineers involved in the operation, troubleshooting design, control and protection systems associated with a modern generator. Operators requiring knowledge of generator systems would also find this course beneficial as would electrical engineers desiring to advance their understanding of modern excitation, regulation and protection systems.

Course Objectives:

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

- Gain thorough understanding of the design, control and protection systems associated with a modern generator
- Be able to understand the control and safety aspects of a generator

Course Outline

Introduction

Generator Construction and Design

- Stator Construction and Design
- Rotor Construction and Design

Generator Performance and Capability

- Reactive Capability Curves
- VEE Curves

Excitation Systems

- Brushless Excitation Systems
- Static Excitation Systems

Voltage Regulation

- Manual Regulation
- Automatic Regulation
- Over/Under Excitation Limits
- Power Factor Control

Synchronising Systems

- Automatic Synchronising
- Manual Synchronising

Protection Devices

- Switchgear
- Neutral Earthing
- Field Failure
- Negative Phase Sequence
- Voltage Restrained Overcurrent

Protective Devices

- Rotor Earth Fault
- Stator Earth Fault
- Additional Prote

Safety Standards & Regulations

Accreditation:

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