



## **Power Plant Generator Operations & Maintenance**

### **Introduction**

The Course will introduce delegates to Power generations plant generators and their associated terminology. Generator and gas turbine machine as prime mover for power generator.

Understand the system requirement and the effect of system power and associated equipment

The application of the different types of turbine, upon completion of this course participant will be able to know: Overview of gas turbine Generator unit with functional description and major components as well as the best practices used worldwide for operation and maintenance of power generations.

### **The knowledge gained in this course will:**

- Enable the delegate to optimize the operation and maintenance of Power plant Generator
- Enable the delegate to understand the components of the gas turbine generator
- Accurately identify monitoring method of the generator set.
- Enable delegates to understand the different type of turbines
- Develop system operations parameters.
- Gas turbine cross section
- Enable the delegate to understand GT cycle description
- Enable the delegate to understand Gas turbine function description
- Enable the delegate to understand Gas turbine major sections
- Enable the delegate to understand Gas turbine, compressor rotor assembly
- Enable the delegate to understand Gas turbine, turbine rotor assembly
- Enable the delegate to understand Combustion chamber arrangement
- Enable the delegate to understand Starting system
- Enable the delegate to understand Accessory drive gear
- Enable the delegate to understand Generator parts.
- Understanding fuel system requirement.
- How the properties of the fluids being fuel can significantly affect the performance of power generator
- Give the delegate confidence to carry out failure analyses on GT thereby avoiding repetitive failures
- Give the delegate theory of selecting the best way of maintenance
- Allow tighter control of maintenance budgets by the avoidance of unplanned equipment failures in service

### **Objectives**

At the end of this seminar participants will:



- Have an understanding of the different types of power generator and their associated terminology
- Have understanding power system requirement
- Have understand importance of equipment to the plant and the effect on selecting the required equipment
- Have an understanding of turbine accessories such pumps mechanical seals and sealing systems, bearings and couplings
- Have an understanding of different parameters affecting the operation of power generators
- Have the ability to evaluate system requirement and performance of equipment
- Have the ability to perform troubleshooting of systems involving mechanical and instrumentations
- Have the ability to decide on the right maintenance plan concerning power generation equipment

### **Training**

The course will be conducted along workshop principles with formal lectures, case studies and interactive worked examples. Relevant case studies will be provided to illustrate the application of each tool in an operations environment. There will be ample opportunities for discussion and sharing experiences

### **Personal Impact**

This course will give the delegate the required level of technical knowledge and skill to achieve that personal satisfaction and ability to select the suitable type of equipment.

### **Who Should Attend?**

- Supervisors, Engineers, Team Leaders, Technicians, all involved in power plants

### **Certificate:**

- Cairo University Certificate, internationally recognized

### **Course location:**

- Practical in Cairo University, lectures in 5 stars hotels including breakfast, coffee breaks and lunch

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