Training - Gas Turbines

TAG-EN-P | Face-to-face only | 5 days

This course provides a good knowledge of gas turbine technology and enhance competency in the selection, operation and maintenance of gas turbines

Level
Expert

Public
Engineers and managers involved in gas turbine operation, maintenance, engineering and purchasing

Objectives
Attendees will be able to implement the following skills:

- Explain the operation and operation of gas turbines
- List the essential elements for the selection of a gas turbine according to the process and conditions at the operating site
- List potential gas turbine incidents

Pedagogical & technical resources

- Case studies of actual gas turbines
- Various illustrations of actual systems
- Interactive course
- Groupwork: overall study of a gas turbine

Assessment of achievements
Quiz

Prerequisites
No prerequisites are necessary to follow this course

Responsable
IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

GAS TURBINE EQUIPMENT — 2 days

Classification: typical cycles, heavy duty and aeroderivative designs, applications.
Presentation: main components. Standard and specific machines available.
Construction and design: compression, combustion, expansion. Rotor dynamics, coupling.
Auxiliary equipment:

- Internal cooling, lubrication, control system, safety devices.
- External auxiliaries: air inlet filters, exhaust stack.

PERFORMANCE — 1.5 days

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Thermodynamics: ideal and actual gas, behavior during compression and expansion, isentropic and polytropic processes.
Centrifugal and axial compression. Performance, stability and other limits.
Combustion operation. Influence of fuel type. Afterburning for cogeneration purposes. Low NOx designs.
Expansion: single or double shaft design operation. Performance influence of atmospheric conditions, fuel selection. API charts.
Available load characteristics: rotation speed, T3 firing temperature, IGV influences. Open cycle, combined cycle examples.
Case studies: actual performance vs. basic design; troubleshooting and solutions.

SELECTION — 0.5 day

Selection criteria according to availability, operational and maintenance requirements.
Bidding: significant information for data sheet definition.

OPERATION — 1 day

Start-up and shutdown operation: sequences and trips. Air filtering, lubrication and fuel systems operation.
Performance monitoring and mechanical operation. Maintenance during operation: compressor cleaning devices.
Maintenance objectives and scheduling: operation, load, fuel influences; inspection schedules.
Factors related to available load: rotation speed, T3, IGV. Typical approaches related to Brayton cycle, cogeneration, combined cycle.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.
Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com

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