

E-629

OBJECTIVES

To bring improved knowledge of gas turbine technology and a better skill to select, to operate and to maintain gas turbines.

On completion of the course, the participants:

- have gain an understanding of gas turbine operation,
- will be able to identify main selecting features according to process and on site conditions,
- will participate to troubleshooting.

COURSE CONTENT

GAS TURBINE EQUIPMENT

2 days

Classification: typical cycles, heavy duty and aeroderivative designs, applications

Presentation: main components. Typical machineries on the market

Construction and design: compression, combustion, expansion. Rotor dynamics, coupling

Ancillaries equipments: internal cooling, lubrication, control system with typical parralel control loops and firing temperature calculation, speed, combustion, fire detection, gas detection, lube oil mist safety devices. **External ancillaries:** filtering, exhaust stack, fire fighting, fuel supply

PERFORMANCE AND OPERATION

1.5 days

Thermodynamics: ideal and actual gas, evolution through compression and expansion, according isentropic and polytropic processing

Centrifugal and axial compression. Performance, stability and other limits

Combustion: types of combustors, combustion operation. Fuel type influence. Cogeneration process. Low NOx designs

Expansion: one shaft or two shafts design expansion operation

Performance according to actual atmosphere data, fuel selection. API charts. Available load characteristics: rotation speed, firing temperature, IGV influences. Open cycle, combined cycle examples

This chapter is illustrated with studies to identify actual performance with basic design and troubleshooting basis

SELECTION

0.5 day

Selection criteria according availability, operation and maintenance requirements

Bidding: significant informations for data sheet writing

OPERATION

1 day

Start-up and shut-down operation: sequences steps, trip actors

Air filtering, lubrication and fuel systems

Performance and mechanical operation monitoring

Maintenance during operation: compressor cleaning devices

Maintenance objectives and planning: operation, load, fuel influences

▲ Who should attend?

Graduate engineers and managerial staff involved in gas turbines operation, maintenance, engineering and for technical part of purchasing.

▲ Duration

5 days

▲ Dates & Location

May be organised for a single company

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▲ Course Coordinator

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