



Gas turbine failure investigation course – 4 days

Gas turbine failures are costly to operators due to lost revenue from down-time and cost of repairs. Correctly understanding the failure is essential to avoiding its recurrence. This course gives the delegates practice and experience at thinking through the many aspects to be considered in understanding failures including, design criteria, failure evidence, critical analysis and an appreciation of the interaction between system components from compressors to controls.

Objective

This course seeks to give delegates experience and practice through participation in role-play exercises where the delegates are required to solve real life gas turbine failures that the trainer has solved in his career. This will be backed up with learning about the sensitivities of important gas turbine design criteria that can lead to failure. The delegates will be taught basic methods of structuring an investigation including fishbone and root cause analysis.

Overview

The course content includes:

- Role-play simulations of real life gas turbine failures
 - Importance of failure patterns
 - Verifying misleading information
- Appreciating gas turbine design criteria which can lead to failure:
 - Creep
 - Fatigue
 - Performance
 - Compressor surge
 - Controls
 - Vibration
 - Metallurgy
- Organising and structuring an investigation:
 - Fish bone analysis
 - Root cause analysis

Target Audience

Operators of gas turbines in

- Oil and gas
- Power generation
- Marine

Job Titles

Mechanical engineers: operation and maintenance
Facilities and engineering department engineers
Rotating equipment engineers
Preventative maintenance engineers

The trainer

The trainer has designed and developed gas turbines for 35 years in the oil and gas, power generation and marine industries and solved many failures arising in these industries. He now runs an engineering consultancy that provides specialist support to customers needing to improve the operational performance of their gas turbines including the resolution of gas turbine failures.

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