



Rotating Plant Safety

ABOUT THE COURSE

Rotating equipment present one of the most significant risk to businesses and could cause major accidents. The health of the equipment needs to be viewed both in terms of the context of the process integration of the equipment, and the operations and maintenance management. It is essential that engineers follow a structured approach during inspections in order to judge the state and general health of safety critical areas of the machine. This 2-day course provides the process for identifying and ranking the information to support the assessment of the state of the unit. The course will cover a range of rotating equipment systems including compressors, pumps, power generating sets and associated ancillary systems. The aim of the course is to equip delegates with an understanding of the technology used and consider aspects of the equipment, which might present hidden major safety risk.

WHO SHOULD ATTEND

- Asset Managers
- Maintenance Managers
- Maintenance Engineers
- Reliability Engineers
- Operations Staff

MAIN LEARNING OBJECTIVES

- Learn the main failure modes associated with different types of rotating plant.
- Able to make informed judgements during inspections of the state and general safety critical areas of machinery and rotating equipment.
- Potential safety issues for machinery and rotating equipment installations.
- Appreciation of the safety aspects of particular installation with guidance on detailed information gathering and evaluation.
- Understanding of the packaged concept and associated hazards.
- Learn to perform hazard assessment which must take account of the proximity of other equipment and packages.
- Learn the means by which machine related observations and audit-able points, supported by additional information, can be used to evaluate the state of machine systems.
- Understanding the impact of operating culture, and context on the safe operation of rotating equipment.
- Application of Failure Modes Effects Analysis in improving plant safety.

REFERENCE STANDARDS

- HSE RR 76

DURATION, PREPARATION & MATERIAL

This is a 2-day course that will include practical exercises and an assessment. Copies of the programme materials will be provided and delegates will receive a certificate of attendance upon successful programme completion.

PROGRAMME CONTENT

Day 1

- Introduction – Business Context.
- Package Concept.
 - Advantages and disadvantages.
 - Integration Aspects.
- Safety Assessment Process.
- Compressors.
 - Different types of compressor.
 - Auxiliary equipment and systems.
 - Common Failure Modes.
 - Hazards assessment.
 - Applicable Standards.
- Pumps.
 - Different types of pump.
 - Auxiliary equipment and systems.
 - Failure Modes - FMEA.
 - Hazards assessment.
 - Applicable standards.

Day 2

- Gas Turbine (Aero-derivative).
 - Background and history.
 - Main components.
 - Failure Modes - FMEA.
 - Hazard assessment.
 - Integration.
 - Maintenance requirements.
- Diesel Engines.
 - Background and History.
 - Main components.
 - Failure Modes - FMEA.
 - Hazard assessment.
 - Integration.
 - Maintenance requirements.

ASSESSMENT & CERTIFICATION

Assessment: End-of-course examination.

Certification: Certificate awarded on successful completion of the course.

