



Reliability Based Maintenance

ABOUT THE COURSE

Asset owners today are faced with the constant challenge to reduce cost while continuously improving plant availability and reliability. But unexpected failure and loss are still prevalent and sometimes the maintenance regime itself can be the cause of failure and loss as it creates uncertainty and introduces damaged mechanisms. Therefore, adopting the correct maintenance strategy is vital for a business to achieve the balance between equipment performance, availability and the cost of maintenance. Delegates will understand why a reliability based maintenance strategy is beneficial and its practical applications. Moreover, it is going to focus on business oriented reliability based maintenance and teach practical tools & techniques based on industry best practice. The content is designed to encourage interaction and learning through real life examples.

WHO SHOULD ATTEND

- Maintenance Engineers
- Plant Managers
- Maintenance Managers
- Engineering Managers
- Reliability Engineers
- Supervisors
- Asset Owners/Managers

MAIN LEARNING OBJECTIVES

- Appreciation of the business context – Why effective maintenance is important and how it can impact on your business?
- Familiar with maintenance concepts such as TPM, RBI, BCM, CBM and RCM.
- Basic understanding of statistics of component failure, data collection and implications of a maintenance policy.
- Know how condition monitoring helps in improving plant reliability.
- Analyse system reliability utilising graphical techniques such as Weibull analysis.
- Assessing reliability through Series, Parallel and Partial redundant system configurations.
- Application of Failure Modes Effects and Critical Analysis (FMECA).
- Reliability analysis of complex systems.
- Establishing the current situation and extent of the improvement which can be achieved.
- Setting Key Performance Indicators (KPI) linked to strategic needs.
- How to set targets and bench-marking.
- Make relevant decisions in response to the undertaken reliability analysis.
- Monitor the performance and ensure that improvements are achieved.

DURATION, PREPARATION & MATERIAL

This is a 3-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

- Developing a business orientated maintenance strategy
 - Core concepts
 - Financial impact of maintenance
 - Risk Management
 - Reviewing maintenance strategy – considering a business context, statutory requirements, performance and industry best practice
 - Setting maintenance objectives
 - Resource structure
 - Setting performance measures linked to strategic needs, targets and bench-marking
 - Monitoring performance
 - Continuous Improvement
- Management Systems
 - System Road-map
 - Business functions and interactions

Day 2

- Maintenance failures
 - Organisational culture
 - Impact of design
 - Effect of reactive maintenance strategy
 - Case studies
 - Risk of failures
- Work Management
 - Engineering of work
 - Planning and Scheduling
 - Execution
 - Review performance
- Shutdowns
 - Managing turnarounds
 - Event recovery

Day 3

- Reliability Engineering
 - Core concepts
 - Reliability Analysis
 - Failure Modes Effect Analysis
 - Fault Tree Analysis
- Condition Monitoring
 - Principal of CBM
 - Root Cause Analysis
 - Case Studies
- Setting the correct strategy for your asset
 - Setting criteria
 - Model - Decision making
 - Case study

ASSESSMENT & CERTIFICATION

Assessment: End-of-course examination.

Certification: Certificate awarded on successful completion of the course.

