

ASSET OPERATIONAL INTEGRITY FOR OPERATIONS

MNE014

COURSE DESCRIPTION

This comprehensive course is designed to equip professionals with the knowledge and skills necessary to ensure the operational integrity of assets throughout their lifecycle. It covers essential topics such as regulatory compliance, risk management, reliability engineering, and the role of emerging technologies in asset management. Participants will gain insights into best practices and industry standards, and learn how to implement effective strategies for maintaining asset integrity, ensuring safety, and optimizing performance.

COURSE OBJECTIVES

By the end of the course, participants will be able to:

- Understand the fundamental concepts of asset operational integrity and its importance in operations.
- Navigate and comply with relevant regulatory frameworks and industry standards.
- Apply asset lifecycle management principles from design and commissioning to maintenance and inspections.
- Identify and analyze risks, and develop effective risk mitigation strategies.
- Implement reliability engineering principles and performance monitoring tools.
- Conduct thorough incident investigations and root cause analyses.
- Incorporate human factors into asset integrity management and foster a culture of integrity within their organization.
- Utilize emerging technologies and innovative practices to enhance asset integrity.
- Engage in continuous improvement processes and perform effective auditing and compliance checks.

WHO SHOULD ATTEND

- Operations and maintenance managers
- Asset integrity and reliability engineers
- Safety and compliance officers
- Risk management professionals
- Engineers and technical staff involved in asset design, commissioning, and maintenance
- Professionals seeking to enhance their knowledge and skills in asset management and operational integrity
- Leaders and managers looking to build a culture of integrity and continuous improvement within their organizations

COURSE DURATION

5 Working Days

COURSE OUTLINES**1. Introduction to Asset Operational Integrity**

- Course Overview
 - Objectives and outcomes
 - Importance of asset operational integrity
- Understanding Operational Integrity
 - Definitions and key concepts
 - Relationship between asset integrity and operational performance

2. Regulatory and Compliance Requirements

- Regulatory Framework
 - Overview of relevant regulations and standards
 - Impact of non-compliance
- Industry Standards
 - Key industry standards (e.g., ISO 55000, API, OSHA)
 - Best practices and guidelines

3. Asset Lifecycle Management

- Asset Design and Engineering
 - Design principles for operational integrity
 - Material selection and equipment design
- Asset Commissioning
 - Commissioning processes
 - Verification and validation of operational integrity
- Maintenance and Inspections
 - Preventive and predictive maintenance strategies
 - Inspection techniques and technologies

4. Risk Management and Assessment

- Risk Identification and Analysis
 - Hazard identification methods
 - Risk assessment techniques (e.g., HAZOP, FMEA)
- Risk Mitigation Strategies
 - Control measures and barriers
 - Emergency response planning

5. Reliability and Performance Monitoring

- Reliability Engineering Principles
 - Reliability metrics and analysis
 - Reliability-centered maintenance (RCM)
- Performance Monitoring Tools
 - Condition monitoring technologies
 - Data analysis and reporting

6. Incident Investigation and Root Cause Analysis

- Incident Investigation Processes
 - Steps in incident investigation
 - Documentation and reporting
- Root Cause Analysis Techniques
 - Common root cause analysis methods (e.g., 5 Whys, Fishbone Diagram)
 - Implementing corrective actions

7. Human Factors and Organizational Culture

- Human Factors in Asset Integrity
 - Human error and its impact on operational integrity
 - Designing for human factors
- Building a Culture of Integrity
 - Leadership and management roles
 - Training and competency development

8. Technology and Innovation in Asset Integrity

- Emerging Technologies
 - Role of digitalization and IoT
 - Advanced analytics and AI applications
- Case Studies and Best Practices
 - Successful implementation examples
 - Lessons learned and continuous improvement

9. Continuous Improvement and Auditing

- Continuous Improvement Processes
 - Lean and Six Sigma methodologies
 - Feedback loops and performance reviews
- Auditing and Compliance Checks
 - Internal and external audit processes
 - Gap analysis and corrective actions