

Asset Integrity Management for the Petroleum Industry

1 – 5 March 2027
Cape Town (South Africa)

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Introduction

An Asset Integrity Management AIM program provides a backbone for operations by incorporating design, maintenance, inspection, process, operations, and management concepts to ensure optimal return on investments. This course focuses on the concept of AIM i.e., design, technical, and operational integrity in safeguarding operational systems. We will explore methodologies such as Reliability-Centered Maintenance RCM, Failure Mode Effect and Criticality Analysis FMECA, Risk-Based Maintenance RBI, inspection of static process equipment, and maintenance planning of rotating equipment. The course will also address challenges related to the human factor, effective project management strategies, and more.

Course Objectives

- Manage assets in the petroleum industry in a safe, sustainable manner to optimize performance.
- Assess and control Asset Integrity in operational assets across production and process systems.
- Perform Asset Integrity Management for both topside and subsea systems.
- Understand the overall asset process from a systems engineering perspective.
- Leverage adaptive technologies and techniques in engineering projects for more efficient Asset Integrity.

Course Outlines

Day 1: Introduction to Asset Integrity Management AIM

- Understanding the fundamentals of Asset Integrity Management AIM.
- Asset Management Landscape Process Model.
- Overview of the Asset Management System: Policies, strategies, and management plans.
- Introduction to ISO 55000 and international standards for Asset Management.
- Importance of certifications and the role of asset management.

Day 2: Risk and Risk Assessment in Asset Integrity

- Key approaches used for managing Asset Integrity.
- Identifying and assessing risks: Using the risk matrix, risk register, and hazard logs.
- Risk management across business, system, and asset levels.
- Various methodologies for risk assessment and contingency planning.

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Day 3: Risk-Based Maintenance RBM & Reliability-Centered Maintenance RCM

- Understanding deterioration and failure modes of assets.
- The seven steps of Risk-Based Maintenance RBM and Reliability-Centered Maintenance RCM, including Failure Mode Effects and Criticality Analysis FMECA.
- Failure behaviors of onshore and offshore systems.
- Choosing the right maintenance task and strategy.
- Risk-Based Inspection and practical applications.

Day 4: Life Cycle Management Aspects

- Asset lifecycle management: Ensuring the sustainability of assets throughout their lifecycle.
- Introduction to Systems Engineering and RAMS specifications.
- Operational workflow and performance measurement.
- Extending asset life through effective maintenance and management.
- Key Performance Indicators KPIs for monitoring asset performance.

Day 5: The Way Forward - Asset Integrity Improvement Plan

- Assessing current Asset Integrity Management performance.
- Drawing up an improvement plan to optimize costs and benefits.
- Developing individual improvement plans for better asset management.

Why Attend this Course: Wins & Losses!

- Comprehensive knowledge of Asset Integrity Management AIM and how it impacts operational performance.
- Practical expertise in Risk-Based Maintenance RBM, Reliability-Centered Maintenance RCM, and Failure Mode Effects and Criticality Analysis FMECA.
- Mastery of Asset Lifecycle Management and understanding its role in improving asset sustainability.
- Familiarity with international Asset Management standards like ISO 55000 and how to implement them.
- The ability to formulate Asset Integrity Improvement Plans that balance cost and performance effectively.

Conclusion

By the end of this Asset Integrity Management AIM course, participants will have the knowledge and skills required to enhance asset performance, safeguard asset integrity, and achieve optimal operational efficiency. You will be equipped with the tools to assess, maintain, and manage assets effectively in the oil & gas industry, reducing risks and increasing returns.

With a strong focus on Risk-Based Maintenance, RCM, and FMECA, you will also learn how to extend asset lifecycles and ensure compliance with international standards. This course is essential for anyone looking to optimize their asset management strategies and improve their organization's operational success.

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