BLACKBIRD FOR TRAINING

Asset Integrity & Reliability Management in the Petrochemical Industry

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Introduction

An effective Asset Integrity Management AIM program serves as the backbone of operational excellence. By integrating design, maintenance, inspection, operational, and management practices, AIM ensures assets deliver maximum return on investment while maintaining safety and reliability.

This advanced course focuses on the comprehensive concept of AIM covering design integrity, technical integrity, and operational integrity to protect and sustain critical systems. Participants will explore key methodologies such as Reliability-Centered Maintenance RCM, Failure Mode Effects and Criticality Analysis FMECA, Risk-Based Inspection RBI, static equipment inspections, and maintenance planning for rotating equipment.

The course also addresses human factors, effective project management strategies, and the integration of advanced technologies to support asset integrity throughout its lifecycle.

Course Objectives

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

- Manage petroleum industry assets safely and sustainably to optimize performance.
- Assess and control asset integrity across production and processing systems.
- Apply AIM principles to both topside and subsea systems.
- Understand asset processes from a systems engineering perspective.
- Implement adaptive technologies and engineering techniques to enhance asset integrity and operational efficiency.

Course Outlines

Day 1: Introduction to Asset Integrity Management AIM

- Fundamentals and importance of AIM.
- Asset management landscape and process models.
- Overview of asset management systems, including policies, strategies, and plans.
- Introduction to ISO 55000 and other global standards.
- The significance of certifications and the role of asset management in organizational success.

Day 2: Risk and Risk Assessment in Asset Integrity

- Core approaches to managing asset integrity.
- Identifying and assessing risks using risk matrices, registers, and hazard logs.
- Risk management strategies at the business, system, and asset levels.
- Methodologies for risk assessment and contingency planning.

Day 3: Risk-Based and Reliability-Centered Maintenance

- Understanding asset deterioration and failure modes.
- The seven-step frameworks of RBM and RCM, including FMECA.
- Failure behaviors in onshore and offshore environments.

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- Selecting appropriate maintenance strategies and tasks.
- Practical applications of risk-based inspections.

Day 4: Lifecycle Management and Performance

- Managing assets sustainably throughout their lifecycle.
- Introduction to systems engineering concepts and RAMS specifications Reliability, Availability, Maintainability, Safety.
- Operational workflows and performance measurement.
- Extending asset lifespan through effective management and maintenance.
- Using KPIs to monitor and optimize asset performance.

Day 5: Building the Asset Integrity Improvement Plan

- Evaluating current AIM performance and identifying gaps.
- Designing improvement plans to balance costs and benefits.
- Creating individual action plans to enhance asset management practices.

Why Attend this Course: Wins & Losses!

- In-depth knowledge of Asset Integrity Management and its impact on operational excellence.
- Practical expertise in advanced methodologies including RBM, RCM, and FMECA.
- Mastery of lifecycle management techniques for sustainable asset performance.
- Familiarity with global standards like ISO 55000 and strategies for implementation.
- Capability to develop and execute Asset Integrity Improvement Plans that optimize cost and performance.

Conclusion

By completing this Asset Integrity Management AIM course, participants will gain the skills and insights needed to enhance asset performance, safeguard operational integrity, and drive operational efficiency. You will leave with the tools to assess, maintain, and manage critical assets effectively minimizing risks and maximizing returns.

With a strong focus on Risk-Based Maintenance, RCM, and FMECA, this course will empower you to extend asset lifecycles, ensure regulatory compliance, and support long-term operational success. This program is essential for anyone aiming to optimize asset management strategies and elevate organizational performance in the oil & gas industry and beyond.

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