Asset Integrity Management for the Petroleum Industry

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Brussels (Belgium)

UK Traininig
PARTNER



Asset Integrity Management for the Petroleum Industry

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Why This Course

In the petroleum industry, asset failures can have far-reaching consequences — from production losses to environmental and safety risks. Ensuring that facilities, equipment, and infrastructure operate safely and reliably throughout their lifecycle requires a structured and disciplined Asset Integrity Management AIM approach.

This intensive one-week program provides a comprehensive framework for understanding and implementing effective AIM systems. Participants will explore risk-based methodologies, maintenance optimization strategies, performance monitoring tools, and the human factors that influence asset reliability. By blending theory with real industry applications, the course equips professionals to strengthen integrity management across upstream, midstream, and downstream operations.

What You'll Learn and Practice

By attending this program, you will be able to:

- Understand the core principles and components of Asset Integrity Management.
- Apply qualitative and quantitative risk assessment techniques in petroleum operations.
- Develop maintenance strategies using RCM and RBI methodologies.
- Implement lifecycle management approaches for critical assets.
- Evaluate human and organizational factors that impact asset integrity.
- Design and manage AIM systems aligned with industry standards and best practices.

The Program Flow

Day 1: Introduction to Asset Integrity Management

- Fundamental AIM concepts and objectives
- Key components of an effective AIM system
- International standards and industry best practices
- Asset lifecycle management from design to decommissioning



Day 2: Risk Assessment and Management

- Hazard identification and risk analysis techniques
- Qualitative and quantitative risk assessment methods
- Developing risk matrices and maintaining risk registers
- Integrating risk-based decision-making into operations

Day 3: Maintenance Strategies and Methodologies

- Reliability-Centered Maintenance RCM principles
- Risk-Based Inspection RBI frameworks
- Failure Mode and Effects Analysis FMEA
- Leveraging Computerized Maintenance Management Systems CMMS

Day 4: Asset Performance and Reliability

- Defining and tracking asset integrity KPIs
- Root Cause Analysis RCA for failure investigation
- Condition monitoring and predictive maintenance techniques
- Using data analytics to optimize asset performance

Day 5: Human Factors and AIM Implementation

- The role of human factors in asset integrity
- Building a strong safety and reliability culture
- AIM auditing, governance, and compliance
- Case studies and practical implementation exercises

Individual Impact

Participants will leave the program with:

- The capability to design and implement structured AIM systems.
- Stronger risk assessment and maintenance optimization skills.
- Improved decision-making across the asset lifecycle.
- Practical tools to monitor, measure, and continuously improve asset integrity performance.

Organizational Impact

Organizations will benefit from:

- Reduced operational and safety risks.
- Improved reliability and availability of critical assets.
- Stronger compliance with industry standards and regulatory requirements.
- A proactive, risk-based culture that supports long-term asset performance.



Training Methodology

- Instructor-led sessions grounded in petroleum industry practice
- Applied workshops on risk assessment and maintenance strategy development
- Real-world case studies and scenario analysis
- Group discussions focused on implementation challenges and solutions

Beyond the Course

By the end of the one week, participants will be equipped to:

- Strengthen asset integrity governance within their organizations.
- Apply risk-based methodologies to improve maintenance effectiveness.
- Integrate performance monitoring and human factors into integrity systems.
- Contribute strategically to safer, more reliable, and more efficient petroleum operations.

