MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

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ASSET INTEGRITY MANAGEMENT

"Ensuring Operational Reliability, Safety, and Lifecycle Performance of Critical Assets"

Schedule

Date	Venue	Fees (Face-to-Face)
07 – 09 Dec 2026	Doha, Qatar	USD 2495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

Asset Integrity Management (AIM) is essential for maintaining the performance, safety, and reliability of equipment and infrastructure throughout its operational lifecycle. With increasing regulatory scrutiny, aging infrastructure, and demand for operational excellence, a structured AIM program helps organizations minimize risk, reduce downtime, and optimize maintenance costs.

This intensive 5-day course delivers a comprehensive approach to Asset Integrity Management across engineering, inspection, operations, and maintenance. Participants will explore key AIM elements such as risk-based inspection (RBI), corrosion management, fitness-for-service assessments, and performance monitoring to ensure sustained asset performance and regulatory compliance.

Objectives

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

- Understand the principles and components of an Asset Integrity Management System (AIMS)
- Apply risk-based approaches to inspection, maintenance, and decision-making
- Identify and manage asset degradation mechanisms including corrosion and fatigue
- Conduct fitness-for-service and remaining life assessments
- Implement continuous monitoring and performance improvement strategies

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Why Attend

- To enhance asset reliability and operational safety
- To reduce downtime and optimize maintenance planning
- To comply with industry standards such as API 580, API 581, and ISO 55000
- To build internal capability for managing critical plant and infrastructure assets
- To support sustainable operations through data-driven integrity practices

Target Audience

This program is designed for:

- Maintenance and reliability engineers
- Integrity, inspection, and corrosion professionals
- Asset, plant, and facility managers
- HSE, operations, and project engineers
- Technical leaders responsible for asset performance and compliance

Individual Benefits

Key competencies that will be developed include:

- Asset lifecycle management and degradation modeling
- Application of risk-based inspection (RBI) and condition monitoring
- Failure modes analysis and integrity assurance strategies
- Performance metrics and audit readiness
- Integration of AIMS with safety and operational practices

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved asset uptime and lifecycle cost efficiency
- Reduced operational and environmental risk exposure
- Standardized processes for inspection and integrity assurance
- Enhanced decision-making through integrity data analytics
- Stronger compliance with asset-related regulations and audits

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings – Key asset integrity frameworks, standards, and performance drivers
- Case Studies – Real-life integrity incidents and operational lessons
- Workshops – RBI planning, corrosion mapping, and lifecycle modeling
- Peer Exchange – Group discussions on AIM challenges and best practices
- Tools – Templates for integrity KPIs, RBI matrices, inspection plans, and audit checklists

Course Outline

Detailed 5-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM **Daily Format:** 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Asset Integrity Management

- Module 1: Introduction to Asset Integrity and ISO 55000 (07:30 – 09:30) • Asset types, criticality, and lifecycle phases • Integrity, reliability, and safety integration
- Module 2: Components of an AIMS Framework (09:45 – 11:15) • Elements of a comprehensive asset integrity strategy • Policy, governance, and stakeholder roles
- Module 3: Workshop – Assessing Current Integrity Practices (11:30 – 01:00) • Gap analysis based on organizational maturity
- Module 4: Asset Classification and Risk Ranking (02:00 – 03:30) • Asset criticality analysis and prioritization

Day 2: Risk-Based Inspection and Degradation Mechanisms

- Module 5: Risk-Based Inspection Principles (07:30 – 09:30) • Introduction to API 580 and 581 standards • Probability of failure vs. consequence analysis
- Module 6: Planning and Executing RBI Programs (09:45 – 11:15) • Data collection, analysis, and risk matrices • Inspection planning and optimization
- Module 7: Workshop – Creating an RBI Matrix (11:30 – 01:00) • Identifying inspection intervals based on risk
- Module 8: Asset Degradation and Damage Mechanisms (02:00 – 03:30) • Corrosion types, fatigue, creep, erosion, and embrittlement

Day 3: Inspection, Monitoring, and Fitness-for-Service

- Module 9: Inspection Methods and Techniques (07:30 – 09:30) • NDT, UT, radiography, acoustic emissions, and drones • Visual inspections and sensor integration
- Module 10: Fitness-for-Service (FFS) Assessments (09:45 – 11:15) • API 579 overview and assessment levels • When and how to apply FFS
- Module 11: Workshop – Basic FFS Case Study (11:30 – 01:00) • Evaluating asset integrity based on inspection data
- Module 12: Condition Monitoring and Online Systems (02:00 – 03:30) • Real-time data usage for predictive maintenance

Day 4: Managing Asset Life and Reliability Improvement

- Module 13: Remaining Life Estimation and Failure Analysis (07:30 – 09:30) • LCM calculations, failure forecasting, and end-of-life planning
- Module 14: Failure Modes and Root Cause Analysis (09:45 – 11:15) • FMEA, RCA, and incident investigation models
- Module 15: Workshop – Integrity Incident Simulation (11:30 – 01:00) • Analyzing a case failure using RCA principles
- Module 16: Reliability-Centered Maintenance (RCM) Integration (02:00 – 03:30) • Transitioning from reactive to proactive maintenance

Day 5: Audit, Performance, and Continuous Improvement

- Module 17: Auditing and Reporting on Asset Integrity (07:30 – 09:30) • Preparing for compliance and certification audits
- Module 18: AIM Performance Metrics and KPIs (09:45 – 11:15) • Leading and lagging indicators for integrity performance
- Module 19: Workshop – Developing Integrity Dashboards (11:30 – 01:00) • Defining KPIs and creating a reporting framework
- Module 20: Continuous Improvement and Final Review (02:00 – 03:30) • Integrity program evaluation and action planning

Certification

Participants will receive a Certificate of Completion in Asset Integrity Management, validating their capabilities in implementing and sustaining integrity systems that ensure the safe, reliable, and cost-effective operation of physical assets.

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