

SUBSEA INTEGRITY MANAGEMENT

“Safeguarding Subsea Assets through Proactive Integrity Strategies”

Schedule

Venue (InHouse)	Fees
At Your Organization Premises	Ask For The Quotation

► **Available delivery methods:** In-House Training

Introduction

Subsea Integrity Management (SSIM) is essential to ensuring the continued safety, operability, and environmental compliance of offshore oil and gas infrastructure. This comprehensive 5-day course equips integrity engineers, inspectors, and offshore asset managers with the technical knowledge, regulatory understanding, and practical tools to effectively manage the integrity of subsea systems, including pipelines, risers, umbilicals, structures, and wellheads.

Objectives

Upon completion of this training, participants will be able to:

- Understand the life cycle of subsea systems and their degradation mechanisms
- Apply risk-based methodologies to monitor and manage subsea integrity
- Implement inspection, monitoring, and maintenance (IM&M) strategies
- Interpret and apply international standards and regulations (ISO 13628, DNV, API)
- Develop, review, and audit Subsea Integrity Management Systems (SSIMS)

Why Attend

- Learn best practices in subsea inspection and intervention
- Enhance your ability to identify early warning signs of failure
- Reduce operational risk and costly unplanned shutdowns
- Ensure long-term integrity of critical subsea infrastructure

Target Audience

- Subsea engineers and asset integrity professionals
- Offshore inspection and maintenance teams
- Subsea pipeline and riser specialists
- Risk, reliability, and compliance managers
- Project managers and technical auditors

Individual Benefits

- Develop hands-on skills in risk-based integrity planning
- Gain confidence in decision-making around subsea threats
- Become proficient in interpreting IM&M data
- Prepare for leadership roles in offshore integrity

Organizational Benefits

- Improve subsea asset reliability and uptime
- Comply with industry standards and regulators
- Optimize inspection intervals and cost-efficiency
- Mitigate environmental and reputational risk

Instructional Methodology

- Instructor-led lectures with real subsea failure case studies
- Interactive group exercises and workshops
- Hands-on review of inspection tools and ROV data
- Integrity assessment scenarios using real datasets
- Course wrap-up with presentations and evaluation

Course Outline

DETAILED 5-DAY COURSE OUTLINE (CUSTOMIZABLE)

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: Introduction to Subsea Integrity Management

- Module 1: Subsea Systems Overview & Failure Mechanisms (07:30 – 09:30)
- Components: pipelines, risers, jumpers, umbilicals, trees
- Common degradation modes: corrosion, fatigue, impact
- Module 2: Regulatory Framework & Standards (09:45 – 11:15)
- ISO 13628, API RP 17N, DNV-RP-F116, NORSOK
- Module 3: Lifecycle of Subsea Integrity (11:30 – 01:00)
- Design, operation, inspection, decommissioning
- Module 4: Case Studies – Subsea Incidents and Lessons (02:00 – 03:30)

Day 2: Threat Identification & Risk Assessment

- Module 1: Risk-Based Integrity Management (RBIM) (07:30 – 09:30)
- Risk matrix, likelihood, consequence, and risk ranking
- Module 2: Threat Categories – External/Internal/Operational (09:45 – 11:15)
- Geohazards, corrosion, VIV, erosion, marine growth
- Module 3: Failure Modes and Effects Analysis (FMEA/FMECA) (11:30 – 01:00)
- Module 4: Workshop – Subsea Threat Risk Mapping (02:00 – 03:30)

Day 3: Inspection, Monitoring & Intervention

- Module 1: Subsea Inspection Technologies (ROV, AUV, CP, UT) (07:30 – 09:30)
- Module 2: Inspection Planning & Frequency Optimization (09:45 – 11:15)
- Module 3: Monitoring Methods – Sensors, Strain Gauges, Leak Detectors (11:30 – 01:00)
- Module 4: Data Review Workshop – IM&M Report Analysis (02:00 – 03:30)

Day 4: Repair Strategies & Integrity Improvement

- Module 1: Subsea Repair Techniques and Emergency Response (07:30 – 09:30)
- Clamps, spool replacements, composite wraps, habitat welding
- Module 2: Subsea Asset Integrity Performance KPIs (09:45 – 11:15)
- Module 3: Degradation Trending and Predictive Analytics (11:30 – 01:00)
- Module 4: Exercise – Subsea Integrity Decision-Making Scenario (02:00 – 03:30)

Day 5: Subsea Integrity Management System (SSIMS)

- Module 1: Components of a Subsea Integrity Management Plan (07:30 – 09:30)
- Governance, risk register, anomaly management
- Module 2: SSIMS Review and Continuous Improvement (09:45 – 11:15)
- Module 3: Capstone Project – Subsea Integrity Case Study (11:30 – 01:00)
- Team presentations with Q&A
- Module 4: Certification Ceremony and Wrap-Up (02:00 – 03:30)

Certification

Certificate of Completion – Subsea Integrity Management Includes SSIMS templates, threat matrix, inspection sample reports, and checklists

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