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COURSE BROCHURE

Pipeline Threat Assessment and Integrity Plan Development Training Course

15 – 19 March 2027
Singapore

Pipeline Threat Assessment and Integrity Plan Development Training Course

Ref: 2492_94444 **Date:** 15 – 19 March 2027 **Location:** Singapore **Fees:** 9300 GBP

Pipeline Threat Assessment and Integrity Plan Development is a 1-week training course for pipeline integrity engineers who rank threats on onshore and offshore lines and turn inspection findings into a pipeline integrity management plan. Ageing networks, tighter operator scrutiny and costly unplanned releases make a threat-led approach to inspection and repair a priority for every pipeline owner. Jupiter Prime Training delivers this course for engineers who carry that responsibility.

Why Pipeline Threat Assessment Matters Now

Three forces shape pipeline threat work today. Many networks run beyond their design life, so corrosion, cracking and third-party damage accumulate unevenly. Asset owners and insurers expect evidence that repairs follow risk rather than habit. Inspection tools produce dense anomaly data that adds value only when engineers act on it. Operators that handle this well extend service life and avoid releases; those that do not face shutdowns, environmental harm and lasting reputational damage.

Who Gains Most from Pipeline Threat Assessment

- Engineers who own threat registers and segment risk ranking for onshore and offshore lines
- Specialists who specify in-line inspection runs and validate tool anomaly reports
- Corrosion engineers responsible for cathodic protection, coatings and internal corrosion control
- Maintenance planners who schedule digs, sleeves, clamps and cut-out replacements
- Technical leads who set reassessment intervals and report integrity status to asset owners

An integrity group gains most when its corrosion, inspection and repair specialists attend together.

Pipeline Threat Assessment Capabilities

Participants move from listing pipeline hazards to ranking them by segment, sizing defects and committing repair budgets where consequence and likelihood are highest.

- Assess time-dependent, stable and random threats segment by segment — the asset owner's risk ranking
- Specify in-line inspection tool selection and run acceptance criteria — inspection contractors and operations
- Calculate remaining strength and safe operating pressure for metal-loss defects — repair priority decisions
- Weigh pressure testing, direct assessment and in-line inspection for unpiggable lines — the assessment method choice
- Design reassessment intervals from corrosion growth rates — maintenance budget planning
- Build a segment-level integrity plan with mitigation actions — operations and senior engineering

Key Pipeline Threat Assessment Terms

- Threat register — a list of every mechanism that could fail a pipeline segment, with evidence and status.
- In-line inspection — internal survey by an instrumented pig recording wall loss, dents and cracks.
- Remaining strength — the pressure a corroded pipe can still safely contain, from defect size and material grade.
- Corrosion growth rate — the speed at which wall loss deepens, estimated from repeated inspections.
- Consequence of failure — the safety, environmental and business impact if a segment leaks or ruptures.
- Reassessment interval — the maximum time allowed before a segment is inspected again, set from defect growth and safety margins.

Pipeline Threat Assessment Day by Day

Day 1: Pipeline Threats and Segment Context

- Threat Categories: Time-Dependent, Stable And Random — Screening Every Segment
- Route Data, Alignment Sheets And Class Locations — Defining Segment Boundaries
- Onshore Versus Offshore Threat Profiles — Adapting Assessment Scope
- Third-Party Damage And Geohazard Exposure — Prioritising Patrol And Surveys
- Threat Register Structure And Evidence Gaps — Planning Data Collection

Day 2: Inspection Methods and Anomaly Data

- Magnetic Flux Leakage And Ultrasonic Tools — Matching Technology To Threat
- Piggability Review, Launchers And Cleaning Runs — Securing Valid Inspection Data
- Anomaly Listing, Tool Tolerance And Dig Verification — Accepting Vendor Results
- Direct Assessment For Unpiggable Lines — Choosing Indirect Survey Techniques
- Hydrostatic Pressure Testing — Weighing Proof Of Strength Against Downtime

Day 3: Corrosion and Defect Assessment

- External Corrosion, Coatings And Cathodic Protection Surveys — Targeting Remediation
- Internal Corrosion From Water, Carbon Dioxide And Bacteria — Inhibitor Strategy
- Metal-Loss Remaining Strength Calculations — Setting Safe Operating Pressure
- Dents, Gouges And Crack-Like Features — Deciding Immediate Response
- Corrosion Growth Rate Estimation — Forecasting Future Defect Severity

Day 4: Risk Ranking and Repair Decisions

- Likelihood And Consequence Scoring By Segment — Ranking Integrity Spend
- High-Consequence Areas And Offshore Exposure — Weighting Population And Environment
- Repair Options: Sleeves, Clamps, Composites And Cut-Outs — Selecting Fit Repairs
- Pressure Reduction And Temporary Measures — Managing Risk Before Repair
- Reassessment Interval Setting — Balancing Safety Margin And Inspection Cost

Day 5: Practising the Pipeline Integrity Management Plan

- Segment Threat Register Applied To A Case Line — Confirming Assessment Scope
- Inspection Data Review For The Case Line — Accepting Dig Priorities
- Risk Ranking And Repair Schedule For The Case Line — Allocating Budget
- Integrity Performance Indicators And Records — Reporting Status To Asset Owners
- Pipeline Integrity Management Plan Assembly — Final Mitigation And Inspection Schedule

Applying Pipeline Threat Assessment After the Course

- Rebuild the threat register for one priority pipeline using segment boundaries and evidence gaps identified on the course.
- Review the latest in-line inspection anomaly list against remaining strength and growth rates, then reset dig priorities and reassessment intervals.

Pipeline Threat Assessment Questions FAQ

What is Pipeline Threat Assessment and why does it matter now?

Pipeline threat assessment is the structured identification and ranking of every mechanism that could cause a line to fail. It matters now because ageing onshore and offshore networks carry growing corrosion risk.

Which roles gain most from Pipeline Threat Assessment and Integrity Plan Development?

Pipeline integrity engineers gain most, alongside corrosion specialists and maintenance planners. You benefit when you own threat registers, accept inspection reports or decide which defects are repaired first and when lines are inspected again.

How does Pipeline Threat Assessment differ from a pigging or operations course?

Pipeline threat assessment focuses on deciding what to inspect, how to judge defects and where to repair first. A pigging course covers tool handling; this course turns that data into risk-based integrity decisions.

What do you bring back from Pipeline Threat Assessment and Integrity Plan Development?

You bring back a draft integrity plan for a case pipeline. It holds a segment threat register, accepted inspection findings, remaining strength results, a ranked repair schedule and reassessment intervals that your group can adapt for its own lines.

Pipeline Threat Assessment: The Way Forward

The pipeline integrity management plan built on the course first informs which segments receive digs and repairs in the coming maintenance cycle. Integrity engineers, corrosion specialists and maintenance planners use it to align inspection runs, mitigation and budgets. After its first use, revisit corrosion growth assumptions against fresh inspection data and adjust reassessment intervals before the next run.