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Offshore Topsides Risk-Based Inspection Training Course

18 – 22 January 2027
Geneva

Offshore Topsides Risk-Based Inspection Training Course

Ref: 2917_111064 **Date:** 18 – 22 January 2027 **Location:** Geneva **Fees:** 7500 GBP

Offshore Topsides Risk-Based Inspection is a 1-week training course for inspection and integrity engineers on platforms, risers and marine structures, and it ends with an inspection plan for one offshore system. Ageing installations, limited bed space and costly access mean every inspection campaign must target the equipment most likely to fail with the worst outcome. Jupiter Prime Training runs this course on offshore topsides risk-based inspection.

Why Offshore Topsides Risk-Based Inspection Matters Now

Three forces shape offshore topsides risk-based inspection today. Many platforms are running past their original design life, so corrosion and fatigue findings rise each campaign. Personnel on board are limited by bed space and helicopter capacity, which makes every inspection hour scarce. Operators and insurers ask for clear evidence that inspection effort follows risk rather than habit. An operator that ranks its topsides well finds wall loss and cracking before a leak; one that inspects by calendar alone spends campaigns on low-risk items while a riser clamp or deluge line degrades unnoticed.

Who Gains Most from Offshore Topsides Risk-Based Inspection

- Engineers who set inspection scopes for topsides piping and pressure equipment
- Specialists who assess corrosion and degradation in the marine environment
- Engineers who look after risers, caissons and conductor supports
- Planners who fit inspection work into offshore campaigns and shutdowns
- Engineers who judge the condition of jackets, decks and hull structures

An offshore asset integrity group gains most when its piping, structural and campaign planning members attend together and agree one ranking.

Offshore Topsides Risk-Based Inspection Capabilities

The outcomes move from identifying how offshore equipment degrades to placing each item on a ranked campaign list.

- Assess the damage mechanisms acting on topsides piping, risers and marine steel — the integrity engineer
- Calculate likelihood of failure from corrosion rates, inspection history and coating condition — the inspection planner
- Weigh consequence of failure by inventory, ignition, personnel and environmental exposure — the installation manager
- Build a risk matrix that ranks items into inspection priority bands — the campaign planner
- Specify inspection methods and intervals that match each risk band — the inspection contractor
- Communicate the ranked plan and its residual risks — offshore leadership

Key Offshore Topsides Risk-Based Inspection Terms

- Risk-based inspection — setting what, how and when to inspect by combining likelihood and consequence of failure for each item.
- Damage mechanism — a process such as corrosion, erosion or fatigue that degrades equipment over time.
- Splash zone — the band of a structure or riser alternately wetted and dried by waves, where corrosion is fastest.
- Corrosion under insulation — wall loss hidden beneath insulation where trapped seawater or rain meets warm steel.
- Consequence of failure — the safety, environmental and production effect if an item leaks or breaks.
- Inspection interval — the time allowed between inspections of an item, set by its risk and remaining life.

Offshore Topsides Risk-Based Inspection Day by Day

Day 1: The Offshore Integrity Picture

- Offshore Asset Breakdown — Topsides, Risers, Jackets and Hull Systems
- Inspection History Review — What Past Campaigns Reveal About Condition
- Access and Bed Space Constraints — Limits on Offshore Inspection Effort
- Calendar Versus Risk Planning — Where Fixed Intervals Waste Campaigns
- Corrosion Loop Definition — Grouping Items With Shared Conditions

Day 2: Damage Mechanisms in the Marine Environment

- Splash Zone and Atmospheric Corrosion — Coatings and Exposed Steel
- Corrosion Under Insulation and Pipe Supports — Hidden Wall Loss
- Internal Corrosion and Erosion — Produced Water, Sand and Souring
- Fatigue in Risers and Small-Bore Connections — Vibration and Wave Loads
- Cathodic Protection Performance — Anode Depletion on Submerged Steel

Day 3: Likelihood and Consequence Ranking

- Likelihood of Failure Scoring — Corrosion Rate, Age and Confidence
- Consequence of Failure Scoring — Inventory, Ignition and Escape Routes
- Risk Matrix Construction — Priority Bands for Offshore Equipment
- Remaining Life Estimation — Wall Thickness Trends and Retirement Limits
- Ranking Sensitivity Check — How Uncertain Data Moves Priorities

Day 4: Methods, Intervals and Campaigns

- Inspection Method Selection — Visual, Ultrasonic, Radiography and Rope Access
- Underwater and Remote Inspection — Divers, Vehicles and Riser Crawlers
- Interval Setting by Risk Band — Balancing Effort Against Exposure
- Campaign Packaging — Grouping Work Around Shutdowns and Vessel Time
- Findings Feedback Loop — Updating Rankings After Each Campaign

Day 5: Practising the Offshore Inspection Plan

- System Selection and Loop Mapping — Applying Day One Breakdown to a Case
- Mechanism Screening Sheet — Applying Marine Damage Mechanisms to Items
- Risk Ranking Table — Applying Likelihood and Consequence Scores
- Method and Interval Assignment — Applying Campaign Choices to Each Band
- Inspection Plan for One Offshore System — Completed and Peer Challenged

Applying Offshore Topsides Risk-Based Inspection After the Course

- Rank one topsides corrosion loop by likelihood and consequence and compare the result with its current fixed inspection interval.
- Review the next offshore campaign scope and move effort from low-risk items to splash zone, insulation and riser locations that rank higher.

Offshore Topsides Risk-Based Inspection Questions FAQ

What is offshore topsides risk-based inspection and why does it matter now?

It is the planning of offshore inspection by ranking each item on how likely it is to fail and how severe failure would be. It matters because ageing platforms and scarce offshore personnel demand that campaigns target the highest risks first.

Which roles gain most from offshore topsides risk-based inspection?

Inspection and integrity engineers for platforms, risers and marine structures gain most. Corrosion specialists and campaign planners also benefit.

How does offshore topsides risk-based inspection differ from a course on onshore plant inspection?

It focuses on offshore conditions: splash zone corrosion, riser fatigue, cathodic protection, limited bed space and vessel-based access. Onshore plant courses assume easier access and different damage drivers, so their rankings and intervals do not transfer directly.

What do you bring back from offshore topsides risk-based inspection?

You bring back a ranked inspection plan for one offshore system, with damage mechanisms, risk scores, methods and intervals.

Offshore Topsides Risk-Based Inspection: The Way Forward

The inspection plan for one offshore system shows where campaign effort should go and why. Its first use is the scope of the next offshore campaign, where it shifts hours towards higher-ranked items. Integrity engineers, planners and installation managers all rely on it. After the campaign, feed the findings back and check whether the likelihood scores held true.