JUPITER PRIME
Consulting • Training • Advisory
جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Petroleum Facility Integrity Operating Windows Training Course

19 – 23 April 2027
Vienna

jupiterprime.uk
info@jupiterprime.uk
Registered in the United Kingdom and Saudi Arabia

Petroleum Facility Integrity Operating Windows Training Course

Ref: 1457_54173 **Date:** 19 – 23 April 2027 **Location:** Vienna **Fees:** 6600 GBP

Petroleum Facility Integrity Operating Windows is a 1-week training course for integrity, inspection and maintenance engineers in production and refining sites, built around one work product: an integrity operating window register for a named asset. Process excursions now erode equipment faster than inspection intervals assume, so plants need limits that operators can see and act on. Jupiter Prime Training delivers this subject for petroleum facility teams.

Why Petroleum Facility Integrity Operating Windows Matters Now

Three forces push operating windows up the agenda. Crude slates and feed gas compositions shift more often, changing corrosion and cracking rates overnight. Ageing plants run beyond their original design life with thinner margins. Control room staff turn over, so tacit knowledge of safe limits must be written down. A site that sets clear critical, standard and informational limits catches damage before it reaches a loss of containment; one that does not relies on luck between turnarounds. The course draws on Risk-Based Inspection RBI and the bow-tie barrier model.

Who Gains Most from Petroleum Facility Integrity Operating Windows

- Integrity engineers who own damage mechanism reviews and corrosion loops
- Inspection engineers who set thickness monitoring locations and intervals
- Process engineers who define operating envelopes for units and wells
- Maintenance planners who schedule repairs raised by anomalies
- Operations supervisors who respond to alarms and excursion reports

A unit team that sends its integrity, process and operations members together gains most, because window ownership crosses all three.

Petroleum Facility Integrity Operating Windows Capabilities

Participants turn damage mechanism knowledge into measurable process limits and response actions.

- Assess damage mechanisms per corrosion loop — inspection scope decisions
- Specify critical and standard limits for key process variables — control room operators
- Design excursion response actions and escalation times — shift supervisors
- Calculate remaining life after an excursion — run-or-repair decisions
- Build an anomaly register with risk ranking — maintenance planners
- Communicate window breaches through barrier health dashboards — site leadership

Key Petroleum Facility Integrity Operating Windows Terms

- Integrity operating window — a set limit on a process variable beyond which equipment degradation accelerates beyond what the inspection plan assumes.
- Critical limit — a window boundary whose breach requires immediate operator action to prevent rapid damage or release.
- Corrosion loop — a group of piping and vessels sharing the same material, process conditions and damage mechanisms.
- Damage mechanism review — a structured study naming how each item of equipment can degrade under its process conditions.
- Anomaly — any finding that shows equipment outside its expected condition, awaiting assessment and disposition.
- Fitness-for-service — an engineering assessment deciding whether damaged equipment can keep operating safely and for how long.

Petroleum Facility Integrity Operating Windows Day by Day

Day 1: Degradation Drivers in Petroleum Plants

- Corrosion Loop Mapping — Where Damage Mechanisms Cluster in Units
- Damage Mechanism Review Sheets — Which Variables Drive Degradation
- Crude and Feed Variability Profiles — Changing Corrosion Rate Assumptions
- Sour Service and Wet H2S Cracking — Material Selection Limits
- High Temperature Hydrogen Attack Curves — Safe Temperature and Pressure Pairs

Day 2: Setting Window Limits

- Critical, Standard and Informational Limit Tiers — Response Urgency
- Process Variable Selection Matrix — Which Parameters Earn a Window
- Limit Derivation from Corrosion Rate Data — Defensible Boundaries
- Alarm Rationalisation Links — Avoiding Operator Alarm Floods
- Window Ownership Charts — Who Approves and Changes a Limit

Day 3: Inspection and Barrier Links

- RBI Likelihood Updates from Excursions — Inspection Interval Changes
- Thickness Monitoring Location Placement — Detecting Window Breach Damage
- Bow-Tie Barrier Mapping — Preventive Controls Around Containment
- Barrier Health Indicators — Leading Signals for Site Leadership
- Management of Change Triggers — When a Window Must Be Reset

Day 4: Anomaly Handling and Remaining Life

- Anomaly Register Structure — Capture, Rank and Close Findings
- Temporary Repair Clamps and Sleeves — Interim Risk Acceptance
- Fitness-for-Service Screening Levels — Run, Repair or Replace
- Remaining Life Calculation After Excursions — Revised Next Inspection
- Deferral Approval Rules — Postponing Work Without Hidden Risk

Day 5: Practising the Integrity Operating Window Register

- Loop and Mechanism Review for a Chosen Unit — Applying Day 1
- Limit Setting Exercise on Live Variables — Applying Day 2
- Excursion Scenario Drill with RBI Update — Applying Days 3 and 4
- Peer Challenge of Draft Limits — Testing Defensibility
- Integrity Operating Window Register — Completed for the Named Asset

Applying Petroleum Facility Integrity Operating Windows After the Course

- Lead a damage mechanism review for one corrosion loop and propose its critical and standard limits.
- Run a monthly excursion review that feeds remaining life updates into the anomaly register.

Petroleum Facility Integrity Operating Windows Questions FAQ

What are petroleum facility integrity operating windows and why do they matter now?

They are set limits on process variables that keep equipment degradation within inspection plan assumptions. Shifting feeds and ageing plants make unseen excursions a leading cause of unplanned damage, so written limits matter more each year.

Which roles gain most from petroleum facility integrity operating windows?

Integrity, inspection and process engineers gain most, alongside maintenance planners and operations supervisors. Together they own the limits, the monitoring and the response, so shared training closes gaps between them.

How does petroleum facility integrity operating windows training differ from an RBI course?

It works from the process side rather than the inspection side. An RBI course ranks equipment for inspection; here you set the process limits that keep those rankings valid and respond when limits are breached.

What do you bring back from petroleum facility integrity operating windows training?

You bring back a drafted register of limits for one asset, with damage mechanisms, limit tiers, response actions and owners, ready for review by your unit team.

Petroleum Facility Integrity Operating Windows: The Way Forward

The integrity operating window register first informs which process variables gain alarms and response actions on the chosen unit. Process engineers, inspectors and shift supervisors use it daily to judge excursions. After its first quarter of use, revisit whether each limit tier still matches the corrosion data gathered, and retire limits that never trigger.