

Offshore Brownfield Modification Engineering Training Course

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Overview

Offshore Brownfield Modification Engineering Training Course is a one-week advanced course for facilities, project, piping, construction, commissioning, operations, and assurance teams who leave with a Brownfield Modification and Tie-In Execution Basis. Participants connect as-built verification, offshore tie-in engineering, constructability, shutdown planning, simultaneous operations, commissioning, and handover. The course resolves outdated data, constrained space, operating interfaces, and short execution windows through traceable engineering decisions. Agile Leaders Training Center presents offshore brownfield modification practice.

Who Should Attend

- Facilities functions responsible for modification scope, design basis, and technical approval
- Project functions responsible for brownfield planning, estimates, interfaces, and delivery
- Piping and process functions responsible for tie-in points, isolation, and system integration
- Construction functions responsible for access, lifting, sequencing, work packs, and temporary works
- Operations and commissioning functions responsible for shutdowns, reinstatement, testing, and acceptance
- Assurance functions responsible for verification, change control, records, and handover evidence

The course assumes participants review operating-facility drawings, surveys, engineering packages, shutdown plans, construction work packs, or commissioning evidence at work, and it leaves out greenfield concept design, detailed piping calculations, and general maintenance planning.

Departments and Industries

The course supports departments and industries that modify operating facilities under space, production, access, and shutdown constraints.

- Offshore oil and gas platforms, floating facilities, terminals, and subsea tiebacks
- Refineries, gas plants, petrochemical sites, and industrial process facilities
- Facilities engineering, brownfield projects, piping, process, structural, and electrical departments
- Construction, hook-up, commissioning, operations, maintenance, and shutdown functions
- Engineering contractors, fabricators, installation contractors, and equipment suppliers
- Technical assurance, inspection, integrity, document-control, and management-of-change teams

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Learning Objectives

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

- Analyze existing-facility data and brownfield constraints
- Apply process-piping requirements to modification decisions
- Compare tie-in, isolation, and shutdown methods
- Evaluate constructability, temporary works, and simultaneous operations
- Prioritize commissioning, reinstatement, and handover evidence
- Build a Brownfield Modification and Tie-In Execution Basis

Course Agenda

Day 1: Define the Brownfield Basis

- Brownfield Scope and Operating-Constraint Register
- Modification Lifecycle and Decision-Gate Map
- Existing Drawing, Data, and Assumption Index
- As-Built Survey and Discrepancy Management Plan
- Weight, Space, Access, and Utility Capacity Dashboard

Day 2: Engineer Interfaces and Tie-Ins

- ASME B31.3-2024 Process Piping Applicability Map
- API 570 In-Service Alteration Evidence Checklist
- Piping, Process, Structural, and Control Interface Matrix
- Tie-In Point Selection and Connection Method Study
- Isolation, Depressurization, Drainage, and Blinding Philosophy

Day 3: Plan Constructable Work Packs

- Three-Dimensional Survey and Clash-Review Workflow
- Prefabrication, Tolerance, and Field-Fit Strategy
- Lift Route, Temporary Works, and Access Assessment
- Constructability Review and Work-Pack Maturity Gate
- Materials, Traceability, Inspection, and Test Plan

Day 4: Control Shutdown and Commissioning

- Shutdown Window and Tie-In Campaign Schedule
- Simultaneous Operations Interface and Permit Matrix
- Hook-Up Sequence and Production-Impact Control Plan
- Pre-Commissioning, Leak-Test, and Reinstatement Pack
- Management-of-Change, Punch-List, and Handover Register

Day 5: Practice Brownfield Decisions

- Suggested Exercise: Reconcile an As-Built Discrepancy
- Suggested Exercise: Select a Tie-In and Isolation Method
- Suggested Exercise: Challenge Constructability and Work-Pack Readiness
- Suggested Exercise: Sequence a Shutdown and Reinstatement
- Capstone Exercise: Present the Brownfield Modification and Tie-In Execution Basis

Practical Exercises

The course uses suggested activities to convert existing-facility evidence into executable modification decisions.

- Suggested activity: reconcile drawings, survey findings, assumptions, weight, space, and utility constraints.
- Suggested activity: compare tie-in methods against process, piping, isolation, shutdown, and inspection requirements.
- Suggested activity: test a work pack against access, lifting, temporary works, fabrication tolerances, and simultaneous operations.
- Suggested activity: defend the execution basis through shutdown, commissioning, change control, handover, and as-built evidence.

FAQs

Who suits offshore brownfield modification engineering training, and what does it assume?

Facilities, project, piping, process, structural, construction, commissioning, operations, and assurance functions suit the course. It assumes experience reviewing facility data, engineering packages, work packs, shutdowns, or system handover evidence.

How does offshore brownfield modification engineering differ from greenfield offshore design?

Offshore brownfield modification engineering begins with an operating asset, uncertain as-built data, constrained weight and space, live interfaces, short shutdowns, and production impacts. Greenfield design has fewer existing-facility constraints and more freedom to establish layout and systems.

What evidence is needed before selecting an offshore tie-in point?

Verified drawings, surveys, service conditions, materials, wall condition, loads, access, isolation capability, shutdown availability, connection method, inspection requirements, downstream impacts, and operating acceptance support tie-in point selection.

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How are simultaneous operations controlled during offshore brownfield work?

Simultaneous operations are controlled through activity mapping, interface ownership, isolations, permits, operating limits, communication links, exclusion zones, contingency actions, stop criteria, and coordinated schedule decisions.

What defines readiness for offshore brownfield commissioning and handover?

Commissioning and handover readiness is defined by completed work packs, inspection evidence, test results, reinstatement checks, punch status, approved changes, operating procedures, training needs, updated drawings, and accepted as-built records.

Conclusion

Participants take back a Brownfield Modification and Tie-In Execution Basis linking verified conditions, interfaces, tie-ins, work packs, shutdowns, commissioning, and records. It changes fragmented modification inputs into one traceable execution decision set. Teams can update the basis as surveys, design, fabrication, operations, schedule, testing, and handover evidence changes.

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