Engineering Management for Facility Decommissioning and Demolition

25 – 29 July 2027
Bali

AGILE LEADERS
Training Center

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Ref: 101_87777 **Date:** 25 – 29 July 2027 **Location:** Bali **Fees:** 6500 Euro

Overview

Industrial plant end-of-life programs require disciplined engineering oversight to control structural collapse risks, hazardous substance exposures, and escalating asset disposal expenses. This practical programme prepares technical managers to navigate engineering management for facility decommissioning and demolition across complex operating environments. Participants examine structural dismantling techniques, decontamination protocols, waste characterisation frameworks, and demolition sequencing plans that maintain contractor safety and environmental containment. Professionals complete the course with actionable project execution checklists, contract scopes, and hazard evaluation matrices. This course is delivered by Agile Leaders Training Center.

Who Should Attend

- Engineers responsible for managing aging plant end-of-life programs and asset retirement obligations.
- Specialists responsible for environmental decontamination, hazardous waste classification, and site remediation.
- Planners responsible for drafting technical demolition work packs, rigging plans, and contractor task risk assessments.
- Project leaders responsible for structural cut-and-lower operations, explosive demolition review, and heavy lift coordination.
- Safety professionals responsible for structural integrity validation, isolation verification, and demolition site safety assurance.

Departments and Industries

This course serves technical teams executing decommissioning and asset disposal programmes across high-hazard processing and infrastructure environments.

- Decommissioning and Asset Retirement Units in Petrochemical and Refining Facilities
- Plant Maintenance and Modifications Groups in Power Generation and Utilities
- Site Remediation and Capital Projects Teams in Chemical and Process Manufacturing
- Infrastructure Dismantling Divisions in Mining and Mineral Processing Operations
- Offshore Topsides and Terminal Decommissioning Teams in Oil and Gas Logistics

Learning Objectives

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

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- Apply structural stability calculations to develop sequential facility demolition plans.
- Diagnose residual chemical, radiological, and mechanical hazards across plant inventories.
- Evaluate contractor lifting and rigging schemes using crane capacity and stability charts.
- Build contaminated equipment decontamination workflows meeting rigorous environmental containment standards.
- Prioritise material reclamation streams using circular economy waste hierarchy matrices.
- Construct site verification registries using demolition verification check sheets.

Course Agenda

Day 1: Decommissioning Feasibility and Characterisation

- Asset Retirement Obligation Scoping using Work Breakdown Structure Templates
- Hazardous Material Inventory Auditing using EN 14899 Waste Sampling Protocols
- Process Equipment Inventory Documentation using Process and Instrumentation Diagrams
- Structural Condition Surveys using Non-Destructive Testing and Ultrasonic Thickness Gauging
- Decommissioning Risk Screening using Failure Mode, Effects, and Criticality Analysis

Day 2: Utility Isolation, Decontamination, and Asset Preservation

- Positive Mechanical Energy Isolation Protocols using Blind Flange Schedules and Lockout Systems
- Chemical Pipe and Vessel Flushing Verification via Residual Gas Draeger Tube Testing
- Asbestos and Refractory Ceramic Fibre Removal Planning under ISO 17025 Air Monitoring
- Salvage Value Appraisal Modelling using Scrap Metal Commodity Indices and Yield Worksheets
- Equipment Preservation Workflows using Inert Nitrogen Purging Procedures

Day 3: Structural Demolition Engineering and Sequencing

- Structural Pre-Weakening Calculations using Temporary Shoring and Bracing Models
- Mechanical Shearing and Hydraulic Crushing Methodologies under BS 6187 Codes of Practice
- Controlled Collapse Sequencing using Finite Element Structural Collapse Modelling
- Crane Selection and Pick Planning using Heavy Lift Rigging Calculation Worksheets
- Fall Zone Boundary Calculations using Ballistic and Impact Exclusion Envelope Models

Day 4: Environmental Protection and Waste Management

- Groundwater Runoff Protection Planning using Sediment Barrier and Containment Berm Layouts
- Demolition Dust Suppression System Sizing using Atomised Mist Delivery Calculations
- Hazardous Soil Segregation using In-Situ X-Ray Fluorescence Screening Logs
- Concrete Crushing and Rubble Recycling Verification using Standard Sieve Gradation Analysis
- Waste Consignment Tracking Matrices using Manifest Verification Logbooks

Day 5: Demolition Execution Management and Site Clearance

- Demolition Safety Management Plans using Daily Pre-Task Hazard Analysis Briefings
- Contractor Execution Verification Auditing using Method Statement Compliance Checklists
- Ground Slab and Underground Foundation Removal using Hydraulic Breaker Vibration Limits
- Final Site Condition Validation using End-State Environmental Verification Protocols
- Capstone Integrated Plant Demolition Simulation and Site Handover Portfolio Review

Practical Exercises

Participants work through technical scenarios to produce actionable demolition planning documentation.

- Suggested activity: Formulate an isolation and de-inventory schedule for a hydrocarbon storage manifold.
- Suggested activity: Calculate the exclusion zone boundary and shoring requirements for a pre-weakened distillation column.
- Suggested activity: Design a hazardous waste consignment tracking register for heavy metal contaminated piping.
- Suggested activity: Assemble a contractor method statement verification matrix for hydraulic shear dismantling.

FAQs

What engineering disciplines does this program address?

The syllabus integrates civil, structural, mechanical, and environmental engineering principles to cover load recalculations, mechanical plant dismantling, hazardous substance management, and ground stability throughout facility decommissioning.

Are explosive demolition techniques addressed in this curriculum?

Controlled explosive felling is evaluated alongside mechanical shearing, high-reach hydraulic processing, and cut-and-lower methods, focusing on engineering calculations, blast drop zones, pre-weakening structural integrity, and risk governance.

Which industry standards are referenced across the modules?

The training references established engineering codes and demolition practices including BS 6187, relevant ISO environmental standards, structural Eurocodes for temporary works, and international waste classification guidelines.

How are hazardous materials addressed in the technical planning?

Hazardous substances such as asbestos, heavy metals, refractory fibres, and pyrophoric scale are covered through sampling plans, decontamination verification procedures, and enclosed extraction engineering controls.

Conclusion

Participants return to their facilities prepared to direct decommissioning projects with technical rigour and commercial clarity. By embedding structural calculation protocols, environmental containment controls, and contractor governance systems, managers prevent catastrophic failures, safeguard field personnel, and deliver compliant site handovers that minimize liabilities across all phases of industrial asset retirement.