Permit To Work Training for Petrochemical Plants

Service Objectives

- Embed a robust Control of Work (CoW) regime for non-routine tasks on petrochemical units.
- Differentiate permit classes and set task/location-specific controls and hazardous area boundaries.
- Derive and verify process/electrical isolations from P&IDs/SLDs; apply LOTO and positive isolation standards.
- Link task risk assessment with gas testing strategy (LEL/O2/toxics) and authority to proceed.
- Plan and control SIMOPS; manage simultaneous permits, shift handovers, and auditable records.
- Identify and correct PTW system weaknesses revealed by audits, incidents, or near misses.

> Aligned with UAE and international practice: OSHAD Codes of Practice, Dubai Municipality and Civil Defence hot work controls, ISO 45001, IEC 61511 interfaces, and API/NFPA guidance (with EEMUA where relevant).

Who This Service Is For

- Roles: production supervisors, maintenance planners, operations engineers, HSE coordinators, contractor supervisors.
- Support functions: permit office administrators, Control Room Operators (CROs), Authorised Gas Testers.
- Facilities: ethylene crackers, reformers, aromatics and polymerisation units, tank farms, loading terminals, central utilities (steam/power/nitrogen).
- Off-plot/high-hazard areas: manifolds, flare systems, waste-water treatment, pipe racks; intersections with work at height, excavation, and mobile equipment.
- Operations context: integrated petrochemical clusters or single-unit specialty chemical plants; contractor mobilisations, shutdowns/turnarounds, emergency repairs, peak SIMOPS windows.

Duration & Process Overview

- On-site instructor-led: 1–2 days with unit walk-downs, isolation practice, and permit office workflow.
- Virtual live: 4 × 2-hour sessions using interactive cases and client-adapted scenarios.
- Blended: 2–3 hours e-learning plus 1 day practical focused on high-value drills.
- Train-the-Trainer: 2 days plus co-delivery with coaching and assessment tools.

> Refresher option (half-day) available. Sessions can be staged across shifts and aligned with Control Room availability.

Methodology

Structured progression from PTW principles to petrochemical unit scenarios, reinforced by case studies and assessed exercises.

Phase	Objective	Duration / Deliverable
Needs analysis & site materials	Understand procedures and work patterns; collect P&IDs, SLDs, permits, isolation certificates, SDS/job packs.	Pre-course; tailored scenarios and assessment plan.
CoW governance & roles	Clarify Permit Requester, Issuer/Authoriser, Performing Authority, Gas Tester, Area Authority, and hierarchy.	Classroom block; role clarity and expectations.
Permit types & hazardous boundaries	Hot, cold, confined space, electrical, excavation, work at height; define controls and classified area limits.	Exercises on permit classification and controls.
Isolation planning & LOTO drills	Read P&IDs/SLDs to derive process/electrical isolations; apply LOTO; verify zero energy; document isolation certificates.	Practical drill; isolation plan and certificate practice.
Gas testing strategy	Set LEL/O2/toxic tests, acceptance criteria, and monitoring approach linked to task risk assessment.	Scenario plans for hot work/confined space.
SIMOPS planning & control	Spatially separate workfronts, schedule tests, prevent ignition source encroachment; align with Control Room operations.	SIMOPS planning practice on congested units/tank farms.
Contractor interface & handovers	Toolbox talks, dynamic risk assessment, permit extensions/shift handovers during shutdown density.	Scenario-based drills reflecting client forms.
Records, traceability & closure	Build an auditable trail from request to closure with clean handovers and complete documentation.	Completed example permit packs and handover steps.
Case studies & improvements	Learn from petrochemical incidents and audit findings; reinforce good practice.	Actionable lessons integrated into exercises.
Assessment & certification	Scenario-based written assessment and practical permit exercise using P&IDs/SLDs; permit office walk-through where practicable.	Assessed exercises; Certificate of Completion issued by NPM.

> Typical operational outcomes: fewer permit cancellations and delays, cleaner shift handovers, and measurable reductions in hot work deviations, isolation violations, and confined space non-conformances.