Arc Flash Training for Oil & Gas

Service Objectives

This industry-specific training turns recognised best practice into field-ready behaviours for oil and gas assets.

- Apply NFPA 70E and IEEE 1584 to real switchgear, MCC rooms, and process-area equipment.
- Recognise and quantify arc flash risk; define arc flash boundaries; interpret incident energy labels.
- Integrate arc flash controls with hot work restrictions and explosive atmosphere precautions (Zone 1/Zone 2).
- Plan and supervise energised work only when justified; document approvals to meet UAE regulatory expectations.
- Select suitable arc-rated PPE (IEC 61482/NFPA 70E); verify insulated tools and test instrument ratings.
- Respond effectively to arc flash events while coordinating with process safety requirements.

> Built around NFPA 70E, IEEE 1584, and IEC 61482, aligned with OSHAD, Dubai Municipality EHS Guidelines, and ADNOC Codes of Practice. Outputs support audit-ready compliance and consistent field decisions.

Who This Service Is For

- Electrical engineers, I&E technicians, electrical supervisors, PTW coordinators, commissioning and turnaround crews, and specialised contractors handling MV/HV (6.6 kV/11 kV/33 kV), MCCs, e-houses, and temporary power.
- Offshore platform and FPSO teams; onshore refinery and gas plant maintenance planners working under SIMOPS and tight schedules.
- HSE managers and compliance officers reviewing energised work permits, electrical isolation plans, and LOTO procedures.
- Oil and gas organisations with multi-tier contractors needing a common, auditable baseline for PPE selection, tools, testing protocols, and documentation.
- Operations across refineries, gas processing plants, pipelines, tank farms, and offshore installations, including hazardous areas (Zone 1/Zone 2).
- Supervisors seeking alignment with corporate electrical safety standards and UAE/ADNOC expectations.

Duration & Process Overview

- Formats: 1-day essentials; 2-day practitioner; 3-day advanced with extended practicals and PTW/SIMOPS integration.
- Delivery: on-site (classroom plus representative equipment walkdown where access permits), virtual instructor-led, or hybrid.

- Cohorts: 8–16 participants for optimal interaction; larger groups split; dedicated sessions for supervisors and PTW authorities available.
- Customisation: materials, scenarios, and assessments tuned to your drawings, single-line diagrams, job plans, labels, and PPE inventory.

Methodology

Modules reflect how electrical work is executed in hydrocarbons environments, integrated with PTW, isolations, and contractor controls.

Phase / Module	Objective / What It Covers	Typical Duration / Deliverable
Foundations of Arc Flash	Arc physics, incident energy, approach boundaries; shock vs. arc flash in hydrocarbon facilities.	1.5 hours
Equipment & Scenarios	MV/HV switchgear racking, MCCs, e-houses, offshore skids; temporary power during turnarounds.	2 hours
Labels & Calculations	Interpreting IEEE 1584 outputs; label elements; boundary planning; UAE practices.	1 hour
PPE & Tools	IEC 61482 arc-rated PPE, ATPV selection; insulated tools; test instrument categories/ratings.	1 hour
Permits, LOTO & Supervision	PTW integration; energised work justification; isolation confirmation; contractor control.	1.5 hours
Emergency Response	Initial response to arc flash; coordination with process safety; post-incident actions.	1 hour
Practical Exercises	Hands-on label interpretation, PPE donning/doffing drills, and PTW-constrained diagnostics scenarios.	Integrated across modules
Assessment & Certification	Knowledge checks; practical label exercise; supervised planning task aligning boundaries, PPE, PTW/LOTO.	Certificate of completion; evidence for compliance

Module Snapshots

- **Foundations:** Build shared understanding of incident energy and approach limits before applying site rules.
- **Equipment & Scenarios:** Practice hazard recognition on switchgear line-ups, MCCs, offshore packages, and temporary power.
- **Labels & Calculations:** Read labels accurately and translate into task boundaries and PPE categories.
- **PPE & Tools:** Match PPE and instruments to prospective fault levels and task requirements.
- **Permits & Supervision:** Embed justification, isolations, and contractor control into PTW workflows.
- **Emergency Response:** Coordinate electrical and process safety actions after an event.