Electrical Safety Training for Utilities

Service Objectives

A modular, utilities-specific programme that turns standards and corporate rules into safe, repeatable field behaviour across live systems.

- Translate NFPA 70E, IEC 60364 and IEEE 1584 into practical switching, isolation, testing and restoration procedures aligned with UAE authority expectations.
- Plan and verify safe states: interpret single-line diagrams, feeder/bus configurations and protection coordination; apply test-before-touch and grounding.
- Integrate LOTO with PTW: set clear demarcation between utility and customer assets; manage contractor controls under utility authorisation.
- Control arc-flash risk: identify boundaries, select PPE by incident energy and validate safe approach distances in substations and switchyards.
- Strengthen communication: control-room to field discipline, clear roles, documented switching orders, overrides and changes; manage simultaneous operations.
- Apply in UAE realities: high heat, coastal corrosion, dust ingress and urban cable-fault contexts; emergency energisation/de-energisation protocols.

> The programme uses your PTW forms, tagging schemes and single-line diagrams so competence builds around your systems. Formal authorisation remains the client organisation’s responsibility.

Who This Service Is For

- UAE utilities operating generation, transmission and distribution networks (including multi-site, multi-operator grids).
- Grid operations controllers; substation and switchgear technicians; relay/protection and commissioning engineers.
- Field crews: cable jointers, line crews, generation plant electricians; authorised/competent persons under electrical safety rules.
- Supervisors, planners and HSE advisors who authorise switching or isolation/energisation plans.
- Contractors working under utility permits during outages or emergency repairs; teams interfacing at customer substations.

Duration & Process Overview

Typical delivery: two-day blended course (12–14 hours) covering foundations, substation/switchgear safety, LOTO/PTW/switching and arc-flash risk.

Optional add-ons: field clinics on grounding and live-line awareness (6–8 hours); supervisor clinics; compressed refreshers (4–6 hours).

Delivery formats: on-site at substations, depots and generation sites, virtual or hybrid; rolling cohorts to reach all shifts.

Class sizes: 10–16 for workshops; 6–8 for hands-on practicals to ensure safe supervision and focused coaching.

Methodology

Phase	Objective / What It Covers	Duration / Deliverable
Pre-delivery needs analysis	Align to asset portfolio, PTW/LOTO, tagging schemes, single-line diagrams and incident learning.	Customised training scope and scenarios.
Foundations: Electrical Safety Rules & Standards	Align utility rules with NFPA 70E / IEC 60364 and UAE authority expectations (OSHAD, Dubai Municipality, Civil Defence).	4 hours.
Substations & Switchgear Safety	Racking, interlocks, arc-resistant gear, test instruments and proving-dead protocols; facility walkdown.	6–8 hours.
LOTO, PTW & Switching Orders	Permit flow, tagging and verification using client procedures and SLDs; utility/customer demarcation.	6 hours.
Arc-Flash Risk & PPE Selection	Hazard identification, boundaries and incident-energy-based PPE selection; validation in substations/switchyards.	4 hours.
Overhead/Underground Works & Grounding	Live-line awareness, induced-voltage controls, equipotential grounding, step-and-touch voltage control.	6 hours (practical clinic).
Emergency Response & Incident Learning	Test-before-touch and proving-dead under time pressure; tabletop and after-action review.	3–4 hours.
Scenario-based exercises	Apply end-to-end behaviours to cable faults, transformer change-outs, emergency backfeeds and black start contingencies.	Integrated practical scenarios.
Assessment & Certification	Written assessment, scenario-based evaluation and observed practicals; certificate noting modules, hours and outcomes.	NPM certificate of completion.