SIL Training UAE

Service Objectives

Build practical, demonstrable competence to apply IEC 61508/61511 across the safety lifecycle in UAE operating contexts.

- Translate IEC 61508/61511 into day-to-day engineering, operations, and HSE workflows.
- Determine target SILs via robust LOPA with credible initiating events, IPL credits, and independence checks.
- Develop audit-ready SRS/SIF specifications, including voting, setpoints, bypass rules, and proof-test strategies.
- Calculate PFDavg/PFH and select devices/architectures that meet SIL targets.
- Plan proof-test intervals and impairment management to sustain performance over the asset lifecycle.
- Document competence and lifecycle evidence that satisfy UAE regulatory and corporate assurance expectations.

> Outcomes focus on defensible decisions that avoid common pitfalls (over-crediting IPLs, underestimating common cause, and proof-test intervals that erode real risk reduction).

Who This Service Is For

- Organisations that operate or specify SIS and must demonstrate competence in SIL determination, SIF design, and lifecycle management.
- Process, control, and instrumentation engineers; EHS/process safety managers; maintenance and reliability teams.
- Project managers/EPC stakeholders involved in specification, FAT/SAT, commissioning, and change management.
- Operations supervisors and permit-to-work coordinators managing overrides, impairment risk, and shutdown logic.
- Auditors and compliance officers seeking clarity on IEC 61511 evidence, aligned to UAE expectations.
- Applicable across UAE facilities in oil and gas, petrochemicals, LNG, power generation, utilities, and high-hazard manufacturing.

Duration & Process Overview

- On-site intensive: 2–3 days; ideal group size 8–16; hands-on with local procedures and equipment.
- Virtual (live): 4–6 sessions × 3 hours; suitable for distributed teams; recordings optional for internal review.
- Blended: Self-study plus 2-day practical workshop to align baseline knowledge before exercises.

- Pre-training scoping integrates site procedures and anonymised data; certificate of completion issued; refreshers typically every 2–3 years.

Methodology

A progressive, exercise-driven path from risk concepts to instrumentation design and operational governance, aligned to UAE regulatory context (OSHAD, Dubai Municipality EHS, UAE Civil Defence) and IEC 61511.

Phase	Objective	Deliverable
Pre-training scoping	Align content to site safeguards, devices, and shutdown philosophies.	Tailored case studies using anonymised UAE process data.
Fundamentals & UAE context	Establish functional safety principles and local compliance expectations.	Mapped requirements (IEC 61508/61511) to daily workflows.
Scenario building & LOPA	Define initiating events, IPLs, and modifiers; set target SILs credibly.	Worked LOPA examples with independence and credit checks.
SRS/SIF specification	Translate risk targets into clear SIF definitions and rules.	SRS templates covering logic, voting, setpoints, bypass, proof tests.
PFDavg/PFH & architecture	Select devices/architectures (e.g., 1oo1, 1oo2, 2oo3) that meet targets.	Calculations with failure data and diagnostic coverage assumptions.
Proof testing & impairment	Plan intervals and manage overrides to sustain availability.	Proof-test strategies, bypass/override controls, maintenance coordination.
Lifecycle governance	Embed MoC, competence, and audit-ready documentation.	Lifecycle evidence packs aligned to corporate and regulator needs.
Assessment & certification	Verify understanding and application, not just recall.	Knowledge checks, group exercises, mini LOPA/SRS; certificate of completion.
Post-training clinics (optional)	Reinforce adoption and close observed skill gaps.	Coaching sessions and template adoption support.