Service Overview: Process Safety Services UAE

Category Overview

NPM’s Process Safety Services UAE help high-hazard operations prevent major incidents, protect people and assets, and demonstrate compliance to UAE authorities and insurers. Work spans workshops, quantification, and field validation, integrated with your PSM and operational routines.

- Identify credible loss-of-containment scenarios and evaluate barriers across the lifecycle.
- Translate engineering risk findings into pragmatic safeguards and actions tied to equipment tags and procedures.
- Apply recognised methods (HAZOP, LOPA, QRA, modelling) and align with UAE regulatory expectations.
- Assure traceability from study findings to MOC, pre-startup sign-offs, and CMMS tasks.
- Deliver measurable outcomes: fewer top-tier incidents, stronger barrier assurance, and risk-informed investments.

> Defensible outputs for OSHAD, Dubai Civil Defence, and free zone authorities, with transparent assumptions and records that stand up to regulator and insurer scrutiny.

Services Included in This Category

Key services delivered across design, construction, commissioning, and operations. Durations reflect the page content and vary by scope and complexity.

Service	What It Covers	Typical Duration
HAZOP Study Services UAE	Node-by-node deviations, causes, consequences, safeguards; start-up/shutdown focus; action register integration.	2–4 weeks (single unit incl. prep and reporting)
HAZID Study Services UAE	Early-phase hazards, interfaces, SIMOPS, and permitting pathways.	Varies by project phase
Process Hazard Analysis Services UAE (PHA)	Lifecycle programme combining HAZOP/What-If/checklists with unified risk ranking and traceability.	Varies by facility size and scope
What If Analysis Services UAE	Rapid scenario prompts for non-routine operations, bypasses, emergency procedures, or SIMOPS.	Rapid; scope-dependent sessions
FMEA Services UAE	Failure modes, effects, detection controls; links to maintenance and spares decisions.	Varies by asset coverage
FMECA Services UAE	Adds criticality (severity/occurrence/detectability) to guide redundancy and maintenance strategy.	Varies by criticality scope
SWIFT Study Services UAE	Structured prompts for minor modifications or mid-project checkpoints; MOC-ready outputs.	Half–1 day workshop
LOPA Study Services UAE	Semi-quantitative verification of IPL adequacy; target SILs; transparent assumptions.	Often within 2–4 week HAZOP/LOPA package

Bowtie Analysis Services UAE	Visual barrier mapping with performance standards and assurance links for MAHs.	Varies by number of MAHs
Quantitative Risk Assessment Services UAE (QRA)	Frequency and consequence analysis; individual/societal risk; approvals support.	6–10 weeks when combined with modelling and validation
Facility Siting Study Services UAE	Occupied building exposure to blast, fire, toxic; siting, hardening, and occupancy controls.	Varies by buildings and scenarios
Fire And Explosion Risk Assessment Services UAE (FERA)	Scenarios, heat flux/overpressure, detection/suppression, emergency readiness, Civil Defence alignment.	Varies by facility complexity
Consequence Modelling Services UAE	Jet/pool fires, VCE, BLEVE; calibrated to local met data and geometry; decision support.	Often part of 6–10 week programmes with QRA
Toxic Dispersion Modelling Services UAE	Ammonia/chlorine/H2S dispersion; terrain/wake effects; informs detection and emergency planning.	Varies; often integrated with QRA/siting
SIL Assessment Services UAE	Target SILs and functional requirements for SIFs identified in PHA/LOPA; auditor-ready records.	Scope-dependent workshops
SIL Verification Services UAE	Reliability calculations, proof test strategies, and options to close shortfalls vs target SILs.	Varies by number of SIFs
SIL Validation Services UAE	Field verification of as-built SIFs, test coordination, cause-and-effect checks, punch items.	Aligned to commissioning windows
Functional Safety Management Services UAE (FSM)	Lifecycle governance for SIS: roles, procedures, competency, document control, audit trails.	Programme-based; organisation-specific
Process Safety Management Services UAE (PSM)	System design/strengthening across leadership, risk, procedures, training, MI, MOC, emergency planning.	Programme-based; portfolio-specific
Management Of Change Services UAE (MOC)	Workflows, thresholds, and integration with PHA revalidation and pre-startup reviews.	System implementation; ongoing support
Pre Startup Safety Review Services UAE (PSSR)	Readiness verification, closure of actions, procedures, training, SIF validation, punch items.	Aligned to commissioning timelines
Mechanical Integrity Program Services UAE (MI)	Scopes, intervals, methods, and criteria tied to risk/criticality; CMMS integration and trending.	Programme-based; CMMS-integrated
Safety Critical Elements Management Services UAE (SCE)	Define SCEs, performance standards, and assurance tasks with barrier line-of-sight to maintenance.	Programme-based; barrier dashboarding
Barrier Management Program Services UAE	Bowtie-based barrier frameworks, owners, verification routines, impairment management, KPIs.	Programme-based; operations-embedded
Occupied Building Risk Assessment Services UAE (OBRA)	Siting criteria, overpressure/thermal/toxic assessment; relocation/strengthening/usage controls.	Varies by buildings and hazards
Inherently Safer Design Review Services UAE	Substitution, minimisation, moderation, simplification opportunities at concept/FEED.	Aligned to design gates
Design Hazard Review Services UAE	Iterative hazard reviews across gates (HAZID to HAZOP), closing action loops with vendors/disciplines.	Aligned to design maturity

Industries Typically Served

- Oil & Gas: upstream, pipelines and terminals, refining, petrochemical processing.
- Power generation (gas turbines, steam cycles) and water desalination utilities.
- Manufacturing with solvents, resins, dusts, or pressurised gases.
- Logistics and warehousing of flammable/toxic materials and aerosols.
- Construction and commissioning of greenfield/brownfield projects (hot works, energised systems).

Why NPM

- Experienced facilitators with quantification capability and clean, auditable records.
- Consultants who have engineered and operated the systems assessed; field-validated safeguards.
- Tool-agnostic; integrates with existing CAD standards, tag databases, and risk matrices.
- Independence and professional integrity; governance framework referenced via CABINET NPM.
- Outputs aligned to UAE regulatory context and operational realities; precise for technical authorities and clear for supervisors.