CONCEPT

Industrial Firefighting and Fire Team Leadership: Foam Operations and Fire Ground Command

25 – 29 January 2027
London - Central London four-star



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Ref: 79_9156 **Date:** 25 – 29 January 2027 **Location:** London - Central London four-star **Fees:** 25300 SAR

Introduction:

Industrial firefighting at a refinery, tank farm, chemical plant or high-bay warehouse fails when the fire team arrives without a plan, misjudges the fuel, or starts an attack the water and foam supply cannot sustain. A burning storage tank or a pressurised gas leak escalates in minutes, and a poor tactical call puts the crew at risk. This Core Concept course prepares the people who lead facility fire teams to size up industrial fires, run fixed and mobile suppression, command the fire ground and review the outcome. Participants work through timed scenarios and leave with an Industrial Fire Pre-Incident Plan and Fire Team Tactical Worksheet for their own site.

Course Objectives:

- Assess industrial fire scenarios by fuel type, container, exposure and escalation potential, including flammable liquid, pressurised gas and energised electrical fires
- Operate and direct deluge, water spray, sprinkler, foam and clean-agent systems during an incident and judge when fixed protection has failed
- Calculate foam concentrate, finished foam and cooling water demand for a given fire and match it to available pumping and supply
- Lead a fire team on the fire ground, assigning sectors, crews and safety roles and switching between offensive, defensive and transitional modes
- Coordinate search, rescue and casualty removal within the hazard zone while keeping crew accountability
- Produce an Industrial Fire Pre-Incident Plan and Fire Team Tactical Worksheet, and run a structured post-fire review

Target Audience:

- Leaders of facility fire brigades and on-site fire teams at process, storage and utility sites
- Shift supervisors who take first command of a fire before external crews arrive
- Emergency response team leaders responsible for fire attack, rescue and fire water resources
- Safety supervisors who direct fixed fire protection during an incident and plan fire drills
- Fire protection technicians who brief fire teams on system status during an incident
- Deputy fire team leaders preparing to take charge of crews and fire ground sectors

Course Outline:

Day 1: Industrial Fire Behaviour and Fire Ground Hazards

- Combustion Chemistry and Heat Transfer in Enclosed and Open Process Areas
- Flammable Liquid Fire Behaviour: Flash Point, Spill Fires and Pool Fires
- Pressurised Gas Hazards: Jet Fire, Vapour Cloud Ignition and BLEVE Mechanisms
- Storage Tank Fire Types: Rim Seal, Full Surface, Boilover and Slopover
- Energised Electrical Equipment and Transformer Fire Hazards

Day 2: Fire Brigade Standards and Suppression System Design

- NFPA 1081 Facility Fire Brigade Member Qualifications: Incipient, Advanced Exterior and Interior Duties
- NFPA 1021 Fire Officer Competencies Applied to Industrial Team Leaders
- Foam Types and Proportioning Methods Under NFPA 11: Low, Medium and High Expansion
- Water Spray and Deluge System Operation Under NFPA 15
- Sprinkler Performance and Impairment Status Under NFPA 13 and NFPA 25

Day 3: Fire Team Command and Tactical Operations

- Fire Ground Size-Up Using the Pre-Incident Plan and Plant Process Isolation
- Offensive, Defensive and Transitional Attack Mode Decision Matrix
- Fire Team Sector Assignment, Crew Accountability Boards and Safety Officer Role
- Foam Monitor, Hose Line and Cooling Stream Deployment Plan
- Fire Water Demand and Foam Concentrate Calculation Worksheet

Day 4: Escalation, Rescue and Complex Fire Cases

- Exposure Protection and Cooling of Adjacent Tanks, Vessels and Pipe Racks
- Search, Rescue and Casualty Removal Inside the Hot Zone
- Gaseous Clean Agent and Dry Chemical Discharge: Re-Entry and Reignition Risks
- Failure Cases: Loss of Fire Water, Foam Blanket Breakdown and Runoff Containment
- Industrial Fire Case Reviews from Refining, Chemicals and Logistics Warehousing

Day 5: Fire Ground Simulations and the Pre-Incident Plan

- Tank Farm Full Surface Fire Simulation with Foam Attack and Exposure Cooling
- Gas Compressor Jet Fire Simulation with Isolation and Rescue Injects
- Warehouse Rack Fire Drill Design and Live Exercise Evaluation Sheet
- Post-Fire Operational Review Using an After-Action Report Template
- Industrial Fire Pre-Incident Plan and Fire Team Tactical Worksheet Build

Skills You Will Gain:

- Industrial Fire Size-Up
- Attack Mode Selection
- Foam and Fire Water Calculation
- Fixed Suppression System Operation
- Fire Ground Sector Command
- Hot Zone Rescue Coordination
- Fire Drill Design
- After-Action Review

Why Attend This Course:

- Leave with an Industrial Fire Pre-Incident Plan and Fire Team Tactical Worksheet built for a real hazard at your own site
- Make attack and withdrawal decisions under time pressure in tank, gas and warehouse fire simulations
- Check whether your fire water, foam stock and pumping capacity can support the fires your site could face
- Compare fire team practice with peers from oil and gas, petrochemicals, power generation and logistics

Conclusion:

Industrial fires are won or lost in the first minutes of command: the fuel must be read correctly, fixed protection used well and the fire team deployed in a mode the water and foam supply can sustain. This course moves from industrial fire behaviour, through brigade standards and suppression systems, to fire ground command, escalation control and rescue. The final day tests those decisions in timed simulations and produces an Industrial Fire Pre-Incident Plan and Fire Team Tactical Worksheet that participants take back to their site.