

# Preventing Fatal Accidents in FPSOs

## Keeping an eye on your safety

Floating Production Storage and Offloading (FPSO) installations, offshore oil and gas platforms, rigs, and similar installations are all susceptible to fatal accidents. Hazards in these facilities include gas leaks, spills, fires, and explosions, all of which put personnel, equipment, and the environment at risk. At the same time, the processes in the facilities can produce nontoxic gases. When these accumulate in high concentrations, they deplete oxygen, causing hazardous conditions to personnel who are not properly protected.

Since these facilities are used for processing and producing petroleum, combustible, and gas, by their very nature the potential for leaks of hydrocarbons, hydrogen, H<sub>2</sub>S (to name a few) and ignitions is enormous.

## Challenges

Many areas in these facilities are very challenging:

- Production areas (drilling pits and pipes) and offloading areas (piping connecting to loading vessels) are prone to high-pressure leaks, spills, and fugitive emissions
- Turbines/engines enclosures present a combination of heat, pressure, and vibrations that can create leakage
- Facilities with compressors, pumps, and valves, as well as Heating, Ventilation and Air-Conditioning (HVAC) ducts can all malfunction and cause ignitions
- Control rooms, operation and residence cabins, captain bridges, kitchen areas and dining rooms can all be subject to leaks of toxic gases

## Solutions

Spectrex's flame detectors and open-path gas monitoring systems enable early detection of flames, gas leaks and toxic gases in FPSOs, minimizing the risks of fire and preventing fatal accidents.



**The Next Generation of SharpEye™  
Quad-Sense™ 40/40 Flame Detectors**  
- field-proven, reliable detectors that provide the fastest, longest detection of hydrocarbon-based fuel and gas fires.



**Quasar 900** - open-path detection system that provides innovative continuous IR technology monitoring for combustible hydrocarbon gases at very low concentrations, ensuring reliable and accurate protection.



**Quasar 950 open-path H<sub>2</sub>S gas detector**  
- open-path toxic gas detectors for hydrogen sulfide, which is pervasive in FPSOs and similar facilities. The detectors provide extremely reliable detection in all weather conditions.



In these environments, monitoring hazardous gases and detecting flames are essential to protect people, machines, and the installations themselves. Detectors must be able to detect flames, ignition, toxic gases, and combustible gases, functioning optimally under challenging environmental conditions, including extreme temperatures and harsh winds.