



Six Key Areas where Hydrocarbon Leaks and Spills May Occur Within a Fuel Storage Facility

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There are many complexities of transporting and storing fuel. A weak link in the chain creates potential for disaster, so it's vital not to only rely on point gas sensors but to consider the complete "liquid phase" leak detection system.

1 Above Ground Detection

• Rapid detector response is essential. Sensors such as the TraceTek Fast Fuel Sensor (TT-FFS) respond to liquid fuel spills within 5 seconds.

 Sensors and controllers are rated for hazardous area installations. (ATEX and/or IEC EX approval).



TraceTek Fast Fuel sensor installer within a tank bund for catastrophic leak detection.

3 Detection Around Pumps and Sumps

- Leaks from above ground areas where a lot of bolted flanges, rotating parts, valve packing are likely places for leaks to develop.
- The Fast Fuel Sensor is a good choice because it is quick to react to surface spills and it can be re-set and re-used.



Above ground storage tanks monitored by a TraceTek Fast Fuel Sensor within the rain water gulley.

2 Detection Within Rainwater Outfalls

- A critical consideration is the deployment of a sensor to detect very thin layers of fuel on water and report this remotely to a control room.
- Monitoring the surface of rain water accumulations before the water is discharged can prevent environmental infractions and punitive fines.



Rain water outfall monitored by a Fast Fuel Sensor attached to a float assembly.

4 Detection On Above Ground Pipes

- Aside from the safety considerations the real value of pipeline monitoring is for the prevention of environmental damage.
- Installing a sensing cable at the bottom of a pipe allows detection of leaking fuel at any point along its length and provide a pinpoint leak location to the nearest metre.



TraceTek fuel sensing cable installed within a slotted conduit below the perimeter of a large fuel storage tank.

6 Detection Below Fuel Storage Tanks

- Detecting leaks from corroded tank bottoms is one of the bigger challenges for tank farm operators.
- Placing sensor cables in parallel runs below the tanks floor is an effective way to monitor tanks with corrosion, especially on large crude oil tanks.

Many liquid chemicals can be detected:

- Gasoline
- Jet FuelDiesel
- Crude Oil
- Diluted Bitumen (Dilbit)
- Gas Condensates
- Solvents
- Alcohols: Ethanol, Methanol, Isopropanol
- Aqueous chemicals: Nitric, Sulphuric, Hydrofluoric acids



TraceTek TT5000 sensing cable with UV protection installed on the bottom of overhead pipes.

5 Detection On Below Ground Pipes

- The primary intention of leak detection on underground pipes is to detect fuel seeping into the soil long before it damages the environment.
- Leaks with a low flow rate that develop into a large spill are not detected by SCADA.
- TT5000 sensing cable detects the presence of fuel regardless of the size of the leak.



Transfer pipe protected with TraceTek hydrocarbon sensing cable.



TraceTek TT5000-HUV installed around the flange at the base of the tank.





Aquilar Limited - Providing world leading systems for leak detection in critical industrial and commercial environments.

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