

Case Study

OIL REFINERIES

Refineries are high risk facilities with hazards mainly arising from the processing of crude hydrocarbons at high temperature and pressure. Despite the rigorous HS&E processes in place at these sites, oil spills can and do occur.

PROBLEM

Oil refineries are often located on rivers, in coastal areas or ports to accommodate the requirements for cooling water and easy access to transportation. Accidental oil spills from process malfunctions and routine operations contaminate the groundwater and waterways. Most facilities such as TOTAL Energies in Belgium and Shell Company in the Netherlands operate a “no-oil-in-water” policy, so when spills do occur, operations need to be reviewed and actions taken to mitigate and avoid damage. Some oil refineries employ their own on-site wastewater treatment plant (VWWTP) to treat process water before discharging into the environment.

But excessive oil contaminations in the settling ponds reaching the VWWTP can quickly overwhelming the facility lead to contamination into the environment. Likewise, oil terminals or tank farms store and transfer hydrocarbon to transport vessels as in the case of the China National Petroleum Corporation. The transfer points are critical areas where spills and leaks can readily occur. Delays in detecting leaks result in lost product, increased downtime and damage to reputation, environment and local infrastructure. Earlier detection allows for easier containment of large spills and enables improved coordination of efforts with authorities to manage the spill response.



Recommendations

DETECTION RANGE
BEST IN CLASS



REAL TIME ALERTS OVER
SMS & EMAIL



IP68 PROTECTION
AGAINST ALL WEATHER



MINIMIZE FALSE ALARMS
REAL TIME DATALOGGING



DNV CERTIFIED FOR
ZONE 1 AREAS



SOLUTION

Installing oil spill monitoring on an oil refinery settling pond allows operator to monitor excesses of oils or major sheens before the oil is release into their Waste Water Treatment Plants (WWTP). Monitoring the water in rainwater collectors across the refinery or oil terminal or tank farms provide early indication if there is a excessive oil or potential spill in the area, which can then be isolated. The ROW ATEX enables the detection of a wide range of oils. Delivering alerts directly through existing systems or standalone installation ROW ATEX is a flexible solution for real-time response to spills.

Designed specifically for use in hazardous environments (areas designated as Zone 1, installation and configuration of alarm settings is simple and maintenance is minimal. ROW ATEX detects oil even in flowing water, making it suitable for installation near outflows where other methods may not be acceptable. Early warning of spills can assist in identifying and improving operations, meeting regulatory requirements and can even aid evacuation if necessary to reduce loss of life due to release of flammable substances.

