

Refineries

SPECIAL HAZARD APPLICATION

Refineries are industrial facilities where crude oil is processed and refined to produce various petroleum products. These products include gasoline, diesel fuel, jet fuel, heating oil, lubricants, asphalt, and petrochemicals used in the manufacturing of plastics, chemicals, and other materials. High temperatures, corrosive substances, toxic and hazardous materials, explosive atmospheres, and vibration are a few of the factors associated with these extremely harsh environments.

Each refinery has an extensive network of pipelines, storage tanks, and processing equipment containing various materials including crude oil, refined products, and chemicals. Malfunctioning or poorly maintained equipment such as pumps, valves, compressors, heat exchangers, and boilers can lead to leaks, spills, or overheating, which in turn may result in fires.

Linear heat detection can be strategically placed on or around critical process equipment to monitor for overheating, insulation failure, or leaks. Linear heat detection can be integrated with the refinery's control and monitoring systems. This integration enables automated responses such as activating fire suppression systems, shutting down equipment, or initiating emergency procedures in the event of a detected fire or overheating event.

All refinery installations must comply with relevant international, state, and local regulations. Detecting refinery fires requires a combination of safety management systems, comprehensive risk assessments, rigorous maintenance programs, effective training, and continuous monitoring of operations and equipment. Hardware or process failures create fire risks that can endanger both personnel and the facility. Having equipment on site to monitor these critical processes can minimize possible danger as well as operational downtime.

