

LNG SAFETY: Fire and Gas Detection, Notification and Suppression

Liquefied natural gas (LNG) is economical and its global use is growing, but the process has risks.

SAFETY PROTECTION IS PARAMOUNT.

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LNG HAZARD DETECTION CHALLENGES:

- ▲ Performance and design requirements vary by facility/zone/area
- ▲ Flammable and non-flammable hazards create need for multiple detection types and technologies
- ▲ Environmental factors such as wind and extreme low temperatures increase complexity of design
- ▲ False alarm sources increase potential for unintended activations

COMPLETE SOLUTIONS MUST:

- ▲ Provide reliable detection under varying environmental factors
- ▲ Include detector types and technologies to address needs at different parts of the process
- ▲ Provide immunity to false alarm sources and be unaffected by electromagnetic interferences
- ▲ Integrate detection, notification, and suppression functionality
- ▲ Automatically initiate corrective action, including engaging the emergency shutdown system
- ▲ Place and aim detection equipment for optimum coverage
- ▲ Validate performance during commissioning
- ▲ Use performance-based design that adheres to codes and standards



FIRE AND GAS DETECTION AND SUPPRESSION SOLUTIONS

Producing, storing and transporting LNG is a multifaceted process with numerous volatile operations and hazards. Designing a comprehensive and effective fire and gas detection and mitigation system to protect an LNG plant is equally complex, requiring thorough analysis and planning by Det-Tronics experts. Requirements

have to be carefully assessed, plans and sites have to be reviewed, surveyed and mapped out. Appropriate devices (such as the FlexSight™ LS2000 Line-of-sight Infrared Gas Detector, pictured, at left) have to be placed, tested and integrated into the detection and suppression network.

Det-Tronics will:

- ▲ Determine detector placements to eliminate blind spots and maximize coverage
- ▲ Integrate detectors, fire suppression and notification devices to improve response times and system performance
- ▲ Navigate code requirements and application complexities to achieve desired results

DET-TRONICS PIONEERED FLAME DETECTION. TODAY CUSTOMERS WORLDWIDE TRUST US TO PROVIDE FIRE & GAS SAFETY SYSTEM SOLUTIONS.

Protecting LNG processing and storage sites and transportation vessels requires high-performance flame and gas detection and suppression systems. Det-Tronics understands what is needed to meet and exceed the requirements of the Authorities Having Jurisdiction (AHJ):

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| ▲ NFPA 59A / CSA Z276-15—govern LNG facility design in the U.S. and Canada | ▲ IEC61508—Safety Instrumented Systems |
| ▲ NFPA 72—governs fire system performance in the U.S. | ▲ EN/IEC 60079-29-1,2—series for gas detectors/controllers |
| ▲ FM 3260 and FM 6310/6324—govern flame and gas performance in U.S. | ▲ EN 54 series—governs fire detection and alarm systems in Europe |

REQUEST THE WHITE PAPER:

“Compliance Tips: Fire and Gas Detection and Suppression Systems for LNG Facilities”

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