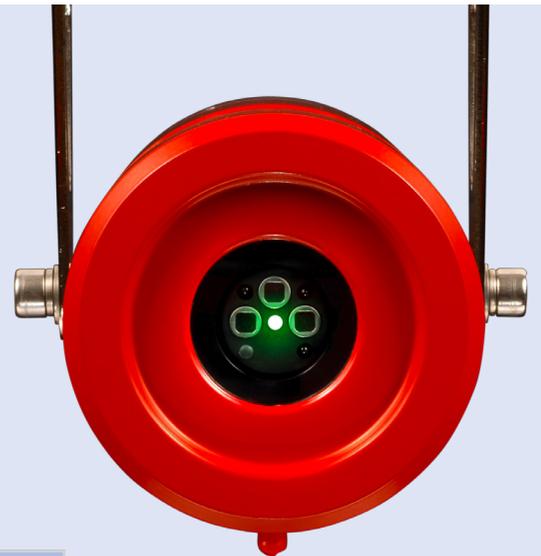
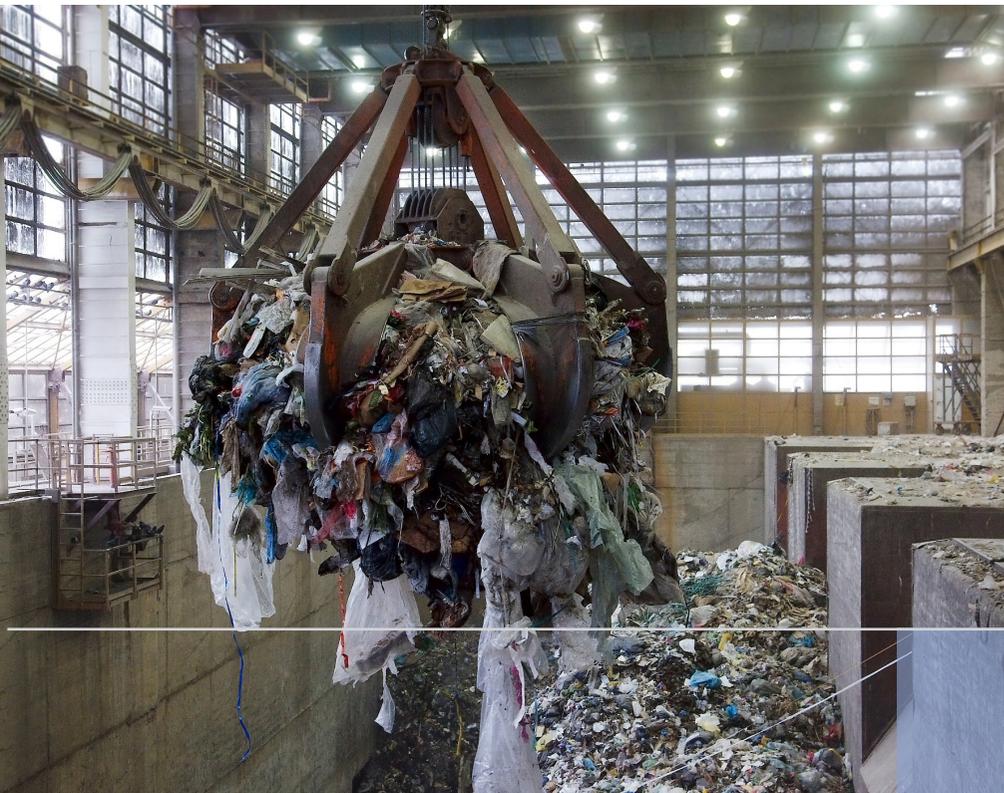


Flame Detection Systems for Waste Management Facilities



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Waste management facilities are prone to costly and dangerous fire outbreaks. Intelligent visual flame detectors and multi-spectrum IR flame detectors can help waste management teams quickly identify and respond to a fire. Both detection methods are more efficient alternatives to heat detection systems.

The [UK Waste Industry Safety and Health Forum¹](#) recommends the use of CCTV video flame detectors and multi-spectrum flame detectors at facilities where combustible waste is stored. Viking Integrated Safety's VSF301 and VSF300 are both CCTV video flame detectors, while our VSF303 is a IR3 (triple infrared radiation) multi-spectrum flame detector, suitable for waste Management applications.

Fires at Waste Management Facilities

In April 2021, three fires broke out at facilities in England, Scotland, and Wales. The results are costly, both to the taxpayers and to the environment.

Waste facilities are home to many hazardous and flammable materials. Batteries, for example, are known to cause millions of pounds worth of fire damage each year. But despite calls to reduce the levels of hazardous materials at waste facilities, they are extremely hard to control. For that reason, accidents are still common.

Once a fire breaks out at a waste management facility, it can be difficult to put out and prevent spreading. In the UK, recent fires have smouldered for months at a time.

For that reason, it's very important to put out fires almost as soon as they start. Traditional heat detectors are commonly used in waste management facilities. However, using heat detectors alone can be insufficient. Without fast identification, fires can spread quickly.

Visual and IR flame detectors are a better alternative to heat detectors alone. Video and infrared systems can be used to quickly verify a fire.



Flame Detection System Requirements

In a waste management facility, flame detection systems must operate efficiently to avoid fast-spreading fires. For that reason, they need to meet a number of requirements:

■ Providing Complete Hazard Coverage

Every section of the waste management facility that poses a hazard risk should be within detectable range. This should cover every part of the facility where combustible material is stored.

■ Operating in a Dust-Filled Environments

Waste management facilities are dirty and dusty, meaning airborne particles can trigger false alarms. Detectors must be able to distinguish the difference between flames and dust to avoid the unnecessary activation of automatic fire suppression systems.

■ Delivering Fast Response Times to Small Fires

To be extinguished in time, fires must be detected when they are very small. However, waste management facilities are often expansive, with fire detectors located a long distance from a fire's starting point. Detectors must therefore have the capacity to detect small fires quickly, even from far away.

¹ WISH Forum. (2020, March 3). WISH Guidance. <https://www.wishforum.org.uk/wp-content/uploads/2020/05/WASTE-28.pdf>

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■ High False Alarm Immunity

Shutting waste management facilities and cleaning up following the automatic triggering of fire suppression systems can lead to major expenses. False alarms must be avoided and detectors must continue to accurately & consistently identify real fires.

■ Operating in a Dust-Filled Environment

Waste management facilities are dirty and dusty, meaning airborne particles can trigger false alarms. Detectors must be able to distinguish the difference between flames and dust to avoid the unnecessary activation of automatic fire suppression systems.

■ Easy Maintenance & Testing

Regular testing is essential at waste management facilities. Ease of testing and maintenance is important, as it saves time, money, and resources in the long run.



Benefits of Viking VSF Flame Detectors

Viking's intelligent visual flame detectors and IR3 multi-spectrum flame detectors are optimized for performance in waste management environments.

1. Unrivaled False Alarm Immunity

Viking VSF detectors have been proven to produce a low rate of false alarm. Our products' infrared and video capabilities are less prone to common causes of false alarms like dust and machinery emissions.

2. Field of View Provides Wide Area Coverage

Viking detectors have a wide range of vision to avoid blind spots in waste management facilities, even with a limited number of detectors.

3. Fast Response to Threats

Our flame detection products have an average detection time of 5 seconds from the start of a fire outbreak, allowing facility teams to respond to a fire before it spreads.

4. Live Color Video (VSF301)

Visual flame detectors include an additional safety feature. Live CCTV color video makes it easy to visually verify a fire. It also includes an on-board SD card for event recording, making it possible to explain the cause of a fire.

5. Certified Performance

Viking products have been rigorously tested and are certified to perform to the robust FM3260 and EN54-10 standards. We can provide reference sites that are located in the UK, Europe, and the US.

6. Low Cost

Viking VSF detectors are low-cost and long-lasting, meaning they don't need to be frequently replaced.

Viking Intelligent Optical Flame Detection Portfolio



Viking VSF301

The Viking VSF301 is an explosion-proof video flame detector. It processes live video images to detect the characteristic properties of flames visually, by means of its FM- and SIL 2-certified flame detection algorithms and onboard digital signal processing (DSP). The detector provides live video images for situational awareness and has a Micro-SD memory card slot to record images for forensic analysis.

Viking VSF300

The Viking VSF300 is an explosion-proof intelligent video flame detector (iVFD) capable of detecting an n-heptane (gasoline) fire at 200 feet and JP4 (kerosene-gasoline blend jet fuel) at 300 feet. The detector processes live video images to detect the characteristic properties of flames using onboard digital signal processing (DSP) and advanced software algorithms.

Viking VSF303

The Viking VSF303 is an explosion-proof multi-spectrum infrared (IR3) flame detector. The device delivers superior performance, responding to hydrocarbon liquid fuel and gas fires at long distances. The VSF303 has been tested by Factory Mutual (FM) to detect a hydrocarbon fuel pan fire at 60 m (~ 200 feet) within 5 seconds.

