CIQURIX

WORKING IN THE DUST

Reliably detecting fire in a busy waste transfer station with high levels of airborne contaminants

SUMMARY

An independent waste operator needed a reliable and regulatorily compliant fire detection solution for the main processing building at their 20 acre waste transfer station. The site handles around 750,000 tonnes of domestic and commercial waste every year. The processing building is a busy area, with continuous plant and vehicle movements, and a dusty atmosphere.

CHALLENGE

This is a busy site handling unsorted mixed waste, and the risk of fire starting is high. They needed a way to rapidly detect fire without false activations. The traditional approach to early fire detection is to detect smoke, but high ceilings and airborne dust both make this ineffective. Another approach explored was to use thermal temperature detection cameras, but this was also found to be ineffective - as well as not meeting the regulations and requirements of the insurers and Environment Agency. There are multiple legitimate sources of heat in the building, raising the allowable trigger temperature for a thermal camera well above that required for early detection. The size of the piles of waste means that the surface temperature doesn't change significantly for an embedded fire.

DETECT MULTIPLE FIRES IN SECONDS

ALL LIGHT LEVELS - DAY & NIGHT

BOTH INDOORS & OUTDOORS

SEE FIRE AT UP TO 180 METRES

SOLUTION

The site tasked their fire & security provider to propose a solution. They recommended Ciqurix's CORE video flame detection system, having used it previously. It rapidly detects real fire but doesn't respond to heat, dust, fumes or steam, all of which are routinely present in this building. A building plan and measurements were sent to Ciqurix, who modelled the space and helped the installer work out the coverage and detector placements. Once installed, Ciqurix attended site to help the installer commission the system and it was certified to BS5839-1.

RESULTS

Four XFP video flame detectors and a CORE Control Hub were installed, linked to the site fire system, which is monitored off-site. The system also provides a live video feed from each video detector to the site staff, accessible from their PCs and mobile devices. Below is an example of the 3D model prepared to calculate coverage, compared to the actual view from one of the video detectors. The site are very happy with the system, which is performing well, and the insurer and Environment Agency are both satisfied.

MINIMAL DISRUPTION DURING INSTALL

ENVIRONMENT AGENCY ACCEPTED SOLUTION

ZERO FALSE ALARMS SINCE COMMISSIONING

INSURANCE COMPANY SATISFIED