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>
> Nico Declercq,
> Chief Technical Officer, A&E Security N.V.

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Kurt De Kesel, Head Technical Department, IVM

Outbreaks of fire in waste management plants is an ongoing concern, given stringent environmental regulations governing the emission levels generated by waste incineration.

SCENARIO

Environmental concerns have led to stringent legislation governing waste management. The EU's approach is based on three principles: waste prevention, recycling and reuse, and improving on final disposal and monitoring. Waste that cannot be recycled or reused must be safely incinerated, with landfill only used as a last resort. The IVM waste management plant near Ghent, Belgium handles local household waste. The waste is stored in a gigantic trough (bunker) before it is lifted to the ovens using cranes. It's at this stage that fires can break out, caused by the interaction of various combustible materials — polluting the environment and impacting the health of the local population.

IVM needed a fire detection solution to provide timely alerts of potential outbreaks. "With tough limits on emission levels from incinerators and strict ongoing monitoring, it's imperative to prevent fires which can result in fines or even plant closure," noted Nico Declercq, Chief Technical Officer for A&E Security N.V., the company supplying the fire detection system to IVM.

Sii cameras quickly recognize and send alerts of hot spots within the scene.

SOLUTIONS

IVM was seeking a cost-effective and robust solution, which utilized the minimum number of cameras while offering the greatest amount of coverage. Many of the current solutions are unreliable, result in multiple false alarms, require external servers and software, and offer a narrow field of view. Based on the site parameters, Vumii and A&E Security N.V. decided on the Sii AT fire detection camera with wide angle field of view lens. The ruggedized cameras are designed to survive in extreme environments including hazardous industrial areas. Embedded with fire detection and fire risk assessment software, the camera detects and clearly visualizes developing hot spots which could result in spontaneous combustion and fire. The camera measures the temperature and raises the alert when it exceeds a preset threshold. The customer is able to receive three different alarms: siren activation (signal from dry contact activates a siren), via communication (system logs the x,y location of the threat and sends it to PCs or mobile devices) and onscreen (graphical display which pinpoints the hot spot).

SUCCESS

Having heard of the successful use of similar fire detection solutions in other facilities, IVM was confident that the Sii AT was the right system for the job. "The results have met our expectations," said Kurt De Kesel, Head Technical Department, IVM. "Sii AT provides full bunker coverage and accurate real-time alerts, allowing the plant operators to act quickly to prevent smoldering hot spots developing into full blown fires," he said.

The innovative software features the Active Fire Detection Algorithm which identifies active fires, while the High Risk of Fire Detection Algorithm detects when a fire is about to occur. "Accurate up to 9km, the system is able to discern and identify up to six fire sources in a scene, while avoiding false alarms from hot spots. These versatile systems can provide both safety and security of equipment and personnel, enabling the prevention or containment of fires with minimal or no damage to facilities," concluded Nico Declercq.