A HYBRID EFS SOLUTION TO MONITOR 'STICKY' GASES AND OTHER HAZARDS AT AN ENGINE MANUFACTURING AND TEST SITE

CASE STUDY

In this case, Crowcon's EFS team worked closely with the client to develop a customised solution to detect various gas hazards including 'sticky' gases at an engine manufacture, test and development site.

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Detecting Gas Saving Lives

THE CUSTOMER IN THIS CASE ALSO NEEDED THEIR SYSTEM TO INTEGRATE WITH EXISTING SYSTEMS RUN BY ITS PARENT COMPANY. OUR EFS TEAM DEVELOPED A HYBRID SOLUTION WITH A CONTROLLER BASED ON A GM64 CORE.

The Need - Requirements

In this case, Crowcon's EFS team worked closely with the client to develop a customised solution to detect various gas hazards including 'sticky' gases at an engine manufacture, test and development site. So-called 'sticky' gases are very hard to monitor with conventional sampling systems because, as their name suggests, they tend to stick to and react with many surfaces, including the tubes used for sampling.

The customer in this case also needed their system to integrate with existing systems run by its parent company. Our EFS team developed a hybrid solution with a controller based on a GM64 core.

THERE WERE MULTIPLE GAS HAZARDS PRESENT, INCLUDING STICKY GASES, BUT POINT GAS DETECTORS COULD NOT BE USED IN THE TEST CELLS DUE TO THEIR VERY HIGH TEMPERATURES.

Detecting leaks in a very challenging environment

The client need to monitor any gases that might leak from engine test cells into the observation corridor. There were multiple gas hazards present, including sticky gases, but point gas detectors could not be used in the test cells due to their very high temperatures. Generally, when point detectors are not an option a sample system is used instead. However sticky gases, as we have seen, are difficult to detect with sample systems and can present problems even for portable detectors. Prior to calling in the EFS team, the client had been using portable gas monitors in the target area. .

CROWCON WORKED COLLABORATIVELY WITH THE TEAM TO EFFECTIVELY SCOPE OUT THE REQUIREMENTS OF THE PROJECT.

The value of partnership working

Partnership working was key to the success of this project. The EFS design team made several site visits and worked closely with both the end user and installation partner throughout the design process, to make sure the project scope was clearly defined and agreed upon. Collaboration with the customer and, where needed, other project partners is a hallmark of EFS design and it was very helpful in this case.

AS SOON AS THE SYSTEM WAS INSTALLED, THE CUSTOMER HAD COMPREHENSIVE, REAL-TIME MONITORING OF GASES IN AN AREA THAT WAS HARD (IF NOT IMPOSSIBLE) TO MONITOR PROPERLY WITH CONVENTIONAL METHODS.

Find out how we can help

For this challenge, the EFS team designed a hybrid solution that deployed both point detection and a specialist environmental sampling unit (ESU) sampling system for the test cells.

The ESU sampling system can cope with sticky gases because it uses a sampling chamber that draws in samples with an electric fan, rather than tubing. The EFS team made sure the system could also withstand the very high temperatures in the test cell, by monitoring multiple points and ensuring that all samples are cooled before they reach the gas sensors. The system uses fixed point monitors for the observation corridor.

For system operation, the EFS team designed a bespoke hybrid controller, based on a GM64 core. This allowed the customer to link the new hybrid system with their other systems using ModBus RS485 functionality, and gave them data logging capability.

As soon as the system was installed, the customer had comprehensive, real-time monitoring of gases in an area that was hard (if not impossible) to monitor properly with conventional methods.

'This was a really challenging case due to the presence of both sticky gases and high temperatures,' says Andy Avenell, Head of Sales Support and Team Leader of Crowcon's EFS team. 'We worked closely with the client on this project and we're proud to say that our innovative, customised hybrid solution met all of their requirements.

If you have a challenging site that you need to monitor for gas hazards, our EFS team could be just the team you need. Please complete our contact form, and we'll be in touch for a chat.

Click HERE to access the form

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