

FIRE AND GAS MAPPING...

IMPROVE HAZARD DETECTION AND WORKPLACE SAFETY

Fire and gas mapping (FGM) is used to improve safety and reduce the effects of flammable gas releases, toxic gas releases and fire hazards found at major hazard facilities. If you manage or work at locations with fire and gas hazards, fire and gas mapping can be used to accurately design an effective fire and gas detection system to mitigate the specific hazards found at the facility. Equinox Automation is a specialist instrumentation and control engineering consultancy offering

a range of engineering services. The company has experienced engineers that have delivered FGM studies across a broad range of New Zealand industries including offshore facilities, oil and gas production, hydrogen production and storage, process industry, geothermal binary power plants, compressor stations, and industrial ammonia refrigeration plants. "An effective fire and gas system (FGS) is a final barrier to reducing harm when all other barriers have failed," says Hardie McLaren, founder/senior engineer at Equinox Automation. McLaren says that New Plymouth-based Equinox Automation is

expert in process industry fire and gas systems and detection technologies. The main purpose of an FGS found in industrial plants is to detect a hazard early and to reduce the effects of a hazard before it escalates. To achieve this, a FGS should have the many primary functions built into the system: detecting and warning people of hazards, activating automatic shutdowns and initiating emergency operating procedures. "FGM is an engineering process that can be used in the design phase of a project, or as a method to evaluate existing systems. This process involves a range of

engineering tasks," says McLaren. These could include:

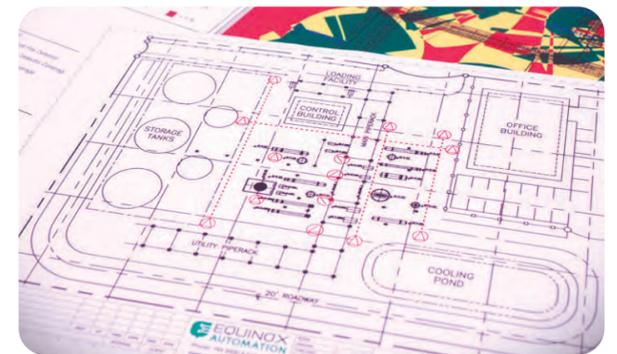
- Reviewing of site fire and gas hazard risks.
- Hazard screening – gas dispersion modelling, fire modelling.
- Fire and gas risk assessments.
- Selecting detector coverage targets to reduce facility hazard risks.
- Developing coverage maps with specialist 3D software.
- Layout optimisation to ensure no blind spots and lowest quantity of detectors.
- Designing coverage verification.
- Optimised gas detector positioning with CFD modeling.

the FGS can be used as a risk reduction credit within LOPA risk assessments. "So, while improving process plant safety, an effective FGS will significantly reduce project costs related to functional safety risk reduction achieved with safety instrumented systems (SIS). Lead process safety engineer of one local energy utility business was thankful the team at Equinox Automation was on hand to assist: "Their expertise and recommendations will make a significant difference at our facility, and we are grateful for their support". McLaren adds that Equinox Automation is committed to helping industries improve workplace safety with "safer and more effective fire and gas system designs to help protect people, assets, and the environment from harm caused by fire and gas hazards". Contact Equinox Automation Today – they would love to hear about your fire & gas projects. For more information phone 0800 4 EQUINOX or visit www.equinoxautomation.co.nz.

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Equinox Automation instrumentation and control engineer, Jefferson Potgieter, and founder/senior I&C engineer, Hardie McLaren.



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