Nominee: BRYLAND FIRE PROTECTION LIMITED

Nomination title: MULTI-AREA FIRE PROTECTION OF A DATA CENTRE FACILITY USING AN IG55 EXTINGUISHING SYSTEM

"When a key client successfully secured a contract to modify and build a data centre facility in Ipswich for one of their major clients' Bryland Fire Protection were more than happy to provide our services for the fire suppression system solution. The project brief was to provide protection to three areas; a Data Hall housing contained, cooled aisle arrangements, a Plant Room and a Battery Room. As there was limited space for storage of suppression cylinders, we were tasked with providing the most cost effective solution to protect all 3 areas with the minimum amount of cylinder footprint space.

The project specification was to provide an IG55 Divertor Valve or Multi-Area system. This method of protection provides a single bank of suppression cylinders suitably sized to protect the largest risk. A number of valves (in this case 3) are then utilised to divert the required concentration of inert gas to the area in alarm, thus protecting multiple areas from a single bank of cylinders. Utilising the largest capacity cylinder available, 140 litre pressurised to 300 bar pressure, we were able to provide the smallest possible footprint of equipment saving on valuable space for the client.

IG55 is an inert gas blend consisting of a 50:50 mixture of two gases found naturally in the atmosphere: Argon (Ar) and Nitrogen (N2). An IG55 discharge results in a gas mixture with a density similar to that of air. Therefore extinguishant hold times are greatly increased and the need for room sealing is kept to a minimum.

IG55 extinguishes fire by physically removing oxygen from the atmosphere. In occupied areas, people can breathe safely for short periods of time at design concentrations. There are no toxicological factors associated with the use of IG55 and it will not decompose or produce any by-products when exposed to high heat fires or flames.

Pressure relief vents are also installed within each area to ensure that the volume of suppressant gas discharging in to the risk causes no damage. Pressure relief must be considered with all gaseous fire suppression systems and Bryland Fire uses the latest calculation software to ensure all parameters are considered with each system we recommend.

IG55 is a colourless, odourless gas. It is environmentally neutral, having zero ozone depletion potential (ODP) and zero global warming potential (GWP). There is no post discharge residue and therefore no costly clean-up operations are required for the customer following a system

discharge, meaning down-time of customer operations within the area is kept to an absolute minimum.

Bryland Fire are a fire protection systems integrator and have developed excellent relationships with all the major manufacturers of fire equipment in the U.K. over many years. Having our own in-house design team, we were able to complete the full system design, providing equipment details to our manufacturing partners for delivery. Once delivery of the required equipment is received at site, our mechanical and electrical installation teams completed the system installations closely monitored by our dedicated Project Manager and Site Supervisor.

A total of 10 No. 140 litre cylinders pressurised to 300 bar were installed to provide protection to the largest risk, with divertor valves for the other areas each requiring 2 off cylinders per risk from this main cylinder bank. All systems had their own dedicated system pipe networks and distribution nozzles. Each room was appropriately supported with a coincidence or "double-knock" smoke detection system to activate the discharge into the space on receipt of an alarm condition. We also installed a series of High Sensitivity Smoke Detection systems. These were arranged within the risk to provide the earliest possible warning of a fire providing total peace-of-mind for the customer."

Why nominee should win

- **Bryland Fire provide innovative fire protection solutions for the Data Centre industry using their own, in-house design team and trusted fire industry manufacturers.**
- **This Data Centre has an IG55 Fire Suppression System designed and installed by Bryland Fire providing 24/7 protection, 365 days a year.**
- **We installed an IG55 Divertor Valve system for its environmentally friendly credentials and minimum cylinder footprint space.**
- **IG55 is ideal for providing protection to data centres as it does not damage sensitive equipment.**
- **Bryland Fire partner the very best manufacturers in the industry to offer solutions to meet the requirements of our many prestigious clients.**