**PRESS RELEASE**

Effective emergency shutdown system solutions a safety necessity

***30 June, 2014:*** *The implementation of a comprehensive Fire and Gas Detection and proactive emergency shutdown (ESD) system solution is essential in ensuring the protection of active plants and associated assets of substantial value, and is invaluable in averting any type of potentially catastrophic failure.*

MSA is a global leader in the development, manufacture and supply of sophisticated products that protect people's health and safety, and offers comprehensive *Fire and Gas Flame Detection/ESD* solutions*.* MSA Africa product manager for Fixed Gas and Flame detection **Robbie Taitz** notes that the primary function of an ESD solution is essential to prevent the escalation of a potential catastrophe before it becomes uncontrollable.

"One of the most important aspects of a proactive *Fire and Gas Detection/*ESD solution is that safety should be at the fundamental core of the system, and should not be viewed merely as a business area requiring minimal insurance compliance. Instead, it should be a system that is installed with the sole purpose of actively identifying and addressing pre-emptive critical failure. The ESD should be a system which allows for emergency shutdown to be carried out independent of human intervention," he explains.

A competent *Fire and Gas Detection*/ESD system is vital for any large scale plant that faces two prevalent dangers, namely; flammability and toxicity. Another issue to take into consideration is danger to any human populations in the nearby environment. As a result, Taitz notes that the operation implementing the *Fire and Gas Detection/*ESD must undertake a study to determine precisely what features are required to form part of the solution.

"The ESD solution should feature a detection system that senses a variety of threats, including; flammability and toxicity of gases, flames, leaks and ultra-sonic leaks. It is also essential to select products that comply with internationally recognised standards, and that all of the components are properly tested and verified,” he continues.

Taitz indicates that these detectors transfer signals back to the system controller to be processed. "If a sensor is activated, the operator in the control room acknowledges the fault, and a technician will be sent out to evaluate the problem. The detectors have a built-in fault condition indicator which informs the operator whether the warning is only a detector fault, or a serious safety issue."

According to Taitz, it is important that the safety system functions efficiently in the event of an incident occurring at any point in the plant's operational lifespan. "Therefore, operations need to purchase safety products that comply with an internationally recognised Safety Integrity Level (SIL) standards. SIL is a measurement of performance required for a safety instrumented function."

SIL is categorised into four ratings; SIL 1, SIL 2, SIL 3 and SIL 4. Taitz adds: "SIL 3 4 rated products are almost indestructible, and are used in applications where safety is vital, such as in space programmes, where any degree of system failure is not tolerated. SIL 3 rated products are highly reliable and are most commonly used in hazardous industries such as oil and gas."

Taitz stresses the importance of ensuring that an entire *Fire and Gas Detection/* ESD solution is SIL-rated, and not merely certain components. "This defeats the purpose of the safety integrity, as it results in a system that is not a safety integrity system, but simply contains safety integrity components. Without a competent core safety detection system, an ESD solution becomes obsolete."

In order to ensure that the system in place is as safe as possible, Taitz recommends plotting a gas map of the facility. "This determines the most likely areas where gas will flow if there is a leak. A conservative view is taken of the minimalistic positions that have to be covered with reasonable likelihood of the gas being identified by a detector. In the higher risk areas, there will be a high coverage rate of detectors and, as the risk areas decrease, the level of detection will decrease too."

**MSA Africa supplies a range of fixed sensors for protecting a plant. These include;**

**Ultima OPIR 5 combustible gas detector**   
This open path infraredinstrument monitors and detects methane and propane, as well as other combustible gases. The Ultima OPIR offers dual detection for both small and large gas leaks. The digital display and adjustable mounting arms ensure easy alignment. The Ultima OPIR also features multiple communication outputs for complete status and control capabilities.

**FlameGard 5 UV/IR-H2 flame detector**   
The instrument is designed to monitor the ultraviolet and infrared spectral ranges in order to detect hydrogen fires. The wide operating temperature range allows for operation at higher ambient temperatures. An event logging feature stores fault and alarm history.

**PrimaX I gas transmitter**   
Designed to offer the user dependable and accurate gas detection, this instrument detects both toxic gases and oxygen. It features a 4 to 20 mA transmission output signal and optional HART digital communication. The PrimaX I also features easily replaceable plug-in sensors, making it ideal for use in various industrial environments.

**UltraSonic EX-5 gas leak detector**   
Instantly detects pressurised gas leaks, while the patented Senssonic self-test feature ensures a full failsafe operation. The UltraSonic EX-5 gas leak detector is engineered to eliminate interference and background noise, while ensuring reliable gas detection in areas with high levels of ultrasound.

Due to the cost driven nature of local industries, Taitz admits that cheap and inferior products are a major concern. "These substandard products are subsequently placed into hazardous environments, despite failing to meet any compliance standards, and provide no safety guarantee whatsoever. Although the overall cost for a safety integrity system and an ESD solution can prove costly, it is certainly an investment that pays for itself in the long term," he concludes.

***Ends***

**Notes to the Editor**There are numerous photographs specific to this press release. Please visit <http://media.ngage.co.za> and click the MSA Africa link.

**About MSA**MSA been the world's leading manufacturer of high-quality safety products since 1914. MSA products may be simple to use and maintain, but they’re also highly-sophisticated devices and protective gear - the result of countless R&D hours, relentless testing, and an unwavering commitment to quality that saves lives and protects thousands of men and women each and every day. Many of MSA's most popular products integrate multiple combinations of electronics, mechanical systems, and advanced materials to ensure that users around the world remain protected in even the most hazardous of situations. MSA's dedication to safety has been the key to its impressive year-over-year growth. In eight of the past ten years, MSA has achieved record growth numbers, with annual revenues of more than US$1 billion.

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