World expert in *data center* fire protection

Uruguay visit

Steven Joseph, Director of Data Center Market Development for Xtralis America has been involved in fire protection activities, focusing on critical infrastructure fire detection technologies, specifically air sampling type systems.

Steven has experience in electrical engineering, marketing and business management; he consults on fire detection practices for industry, including leading corporations throughout the Americas. The company that does its job is nothing less than the leading manufacturer of smoke detection systems.

In a performance-based world, it is critical to avoid any business disruption. A few minutes "offline" is enough to cause production losses. And, if this were a fire, the setup costs to start up the equipment would skyrocket. And if the interruption lasted days, the company would also face the cost of lost business opportunities, relations with its customers would be seriously impaired and crucial information would be destroyed. A serious fire can disrupt operations for weeks, even compromising the continuity of the business. According to a Swiss insurance company, when a fire breaks out in a company's information storage area, 70% of these companies go out of business after two years.

Some statistics speak for themselves: eBay had a 22-hour failure resulting in a $4 billion loss; Extrada, a three-hour failure resulting in a $1.5 billion loss; America On Line (AOL), a 19-hour failure resulting in a $4.8 billion loss.

The main risks at telecommunications centers and data centers are the effects of exposure to smoke, the great airflow caused by the HVAC system, and the difficulty in accessing certain smoke detectors for testing and maintenance.

One of the main concerns when considering a fire suppression system in these telecommunications centers, data centers, data processing centers (DPCs), is smoke pollution. Intuitively, we may believe that heat is the enemy from which we are protecting or alerting ourselves, but, in fact, the great source of damage and disruption is smoke. Due to its highly corrosive nature and its ability to penetrate the contents of a room, smoke is capable of inflicting damage to electronic components, even long after it has been purged from the area.

In fact, according to U.S. Federal Communications Commission data, 95% of the fire damage within these locations is not due to temperature increase.

The cost of effective fire detection and suppression equipment is an investment with a high return when compared to the cost of business interruption as a result of exposure to smoke.

One of the biggest challenges for effective fire detection is the effect caused by the cooling system. With the advent of new technologies and high-density electronics, the heat per square meter generated onsite has increased. To cope with this increase in heat loads, HVAC systems have had to develop greater cooling capabilities to remove heat generated inside cabinets, thereby increasing air changes per hour in the rooms. Failure to cool this equipment will result in overheating, and then ignition of combustible materials found in the cabinets, causing fire. Mechanical cooling and airflow movement are essential parameters in the design of a smoke detection system.

Any smoke that is generated by the impending fire event is quickly transported, mixed and diluted all over the area. In this situation, the smoke will not concentrate on the ceiling for easy detection.

Because of the threat posed by smoke damage, early warning of a possible fire event is paramount. The end user would like to be warned with enough time to be able to investigate long before the danger is imminent. Ideally, there should be time to take minor, non-disturbing actions to correct the possible fire event before damage and interruption can occur.

Aspirating smoke early detection systems offer great advantages when timely detection is required. These systems consist of a series of pipe networks in the protected area. Sampling holes are located at intervals along the pipe. The detector activates and continuously sucks air samples through the pipes into it, as if it were an intake fan. In the detector, the air sample is analyzed to determine if there is smoke content.

The great difference between the operation of a traditional smoke detection system - with detectors located only on the site's roof - and an early aspirating smoke detection system, with a level of sensitivity that in some cases is 1,000 times higher than that of specific ionic or photoelectric detectors, is precisely the flexibility of being able to locate the latter in the points where we achieve the timely detection, in most cases in air returns.

Since Xtralis developed the innovative Aspirating Smoke Detector (ASD) technology nearly 30 years ago under the Vesda brand, its methodology has been applied by customers around the world for harsh environments, and to ensure safe and timely evacuation.

Vesda detectors are available in a wide variety of models to suit a wide range of environments and applications. From very large to small open spaces, and from the cleanest to the dirtiest environments, Vesda provides reliable, very early and highly sensitive smoke detection.

Abelenda Hermanos SRL is the uninterrupted distributor of Xtralis/ Vesda for Uruguay since 2001.