FIRE AND SECURITY – NEW FIRE SUPPRESSION TECHNOLOGIES

Stopping a fire in the early stages can save lives and millions of Ringgit worth of equipment where a business is concerned. In the event of a fire, companies are now trying to use safer methods of suppressing the fire in order not to disrupt business activity, damage sensitive equipment or adversely affect the health of the people experiencing the fire.

According to Tyco Engineering and Construction (M) Sdn Bhd General Manager, Francis Seaw, fire suppression technologies have improved over time in Malaysia to the extent that when they are deployed, people can continue to breathe normally. In most fire-protected environments, the suppression technology used is either wet systems or gaseous systems.

"If there is a fire in a room and a gaseous system is used, when the gas is released, everyone can now continue breathing and operating as per normal," he said.

Fire is simply a fast oxidation process during which light and heat are released. If fuel or energy are removed from the fire, it will go out, and if oxygen is displaced from the reaction zone, the fire will be "suffocated". But when a fire is suffocated, there will no longer be an adequate supply of oxygen for people or for the human brain.

According to Seaw, conventional extinguishing agents were certainly reliable but at the same time, they represented a danger to anyone in the room or environment where the fire takes place.

Companies in Malaysia are however moving towards Inergen, a mixture of the inert gas argon, nitrogen and a small amount of carbon dioxide (CO_2). Here, the low concentration of CO_2 is harmless to the human organism, but during the extinguishing process, it stimulates an involuntary deepening of breathing, which guarantees an adequate supply of oxygen to the blood stream.

Seaw said that every mountaineer who prepares for the "thin air" above the clouds is familiar with the practice of deep breathing. Mountaineers train to achieve the same effect, which the CO_2 content of Inergen automatically produces by stimulating breathing.

This fully automatic stimulation of breathing works even with people who are unconscious or asleep.

Seaw added that modern extinguishing systems must not only protect people and property but in this current age, they are only acceptable if they feature the highest possible degree of environmental compatibility. In this case, all the constituents of Inergen—argon, nitrogen and carbon dioxide—are taken straight from the air and is natural in origin.

"Once the extinguishing has been completed, they return unchanged to the atmosphere, without contaminating the environment," he said.

Another new technology that has recently been released promises safety for any electronic equipment present. This revolutionary technology utilises a new sustainable, clean chemical agent that fights fires without causing any damage to electronics, works of art, irreplaceable artifacts and other critical assets.

"This technology provides the ideal solution for hospitals, museums,

NOVEC fire protection liquid poured over a laptop without causing damage to the computer equipment.

libraries, telecommunications centers and other facilities seeking to protect critical assets that could be damaged by ordinary fire suppression systems," he said.

This technology uses the 3M® NOVEC™ 1230 Fire Protection Fluid. It looks exactly like water, but does not cause the type of damage associated with water when putting out a fire.

"In fact, items can even be immersed in the agent," he said adding that the fire protection fluid has a low boiling point, safe-guarding sensitive and valuable items.

Seaw said currently this new technology is used by the company's Sapphire Suppression System line of products.

The Sapphire Suppression System detects fire at invisible levels, identifying particles of combustion before they turn into damaging flames, he said.

The agent is stored in pressurised containers as a liquid and vaporises when discharged.

On another note, Seaw said where fire detection equipment was concerned, companies preferred detection devices that could adapt to the changing environment. He said detectors nowadays are known as virtual detectors as it could be set to operate to behave and operate in different modes.

"During peak hours when a room consists of people who smoke, these advanced detectors could be set in several different modes which changes their sensitivity at different periods of a given day," said Karpal Singh, the company's Senior Manager.

Karpal said that detectors nowadays were multi-functional. "One detector can be a smoke detector as well as a heat detector and can operate in two different modes," he said.

"These devices have hybrid functionality and could be programmed to detect either heat or smoke," he said adding that most false alarms happen because detection is not smart.

"We can preset certain behavioural patterns of the environment into the detection. For example, if a particular room is occupied between a certain time and the pattern of the people here smoked, we can turn the device into a heat detector during that time of the day. In the evening, you can turn it into a smoke detector," he added.

Karpal said educating the Malaysian public with regard to fire safety was important albeit it was a slow learning process. He also said fire detection and security among small businesses were often taken for granted.

In Malaysia, factories had to be certified that they had appropriate fire detection and suppression systems before a certificate of fitness is issued, however people did not take alarms seriously due to numerous false alarms.

The problem with lots of buildings, people don't take claims seriously. Detection systems are taken off due to false alarms. Furthermore, a lot of sprinkler heads for instance have been painted over. "If the sprinkler head is meant for a 60 degree Celsius burst, if it is painted over, it will only burst at 80 to 100 degree Celsius," he said quoting that even large hotels are guilty of such acts.

In a move that is seen positive to the fire and security industry, Bomba Malaysia now issues certificates of fitness on a yearly basis upon inspection that all the necessary regulations are complied with. This regulation came into force last year.

Seaw added that early detection is important and unfortunately, fire awareness education were only conducted by Bomba and not by businesses in Malaysia.

"In addition to that, Bomba which also produces fire precaution leaflets are left unread by people," Seaw said.

He said as Malaysia was reaching developed nation status, the government had to take a pro-active part in discussing with fire security companies in coming out with programs to educate businesses and consumers on better fire and security protection.

"The fire and security companies cannot do it alone, if we do so, it would look as if we are promoting our products and the consumer won't hear nor listen," he said.

ENGINEERS JOKES COLUMN

COOL

An engineer was crossing a road one day when a frog called up to him and said, "If you kiss me, I'll turn into a beautiful princess".
He bent over, picked up the frog and put it in his pocket. The frog spoke up again and said, "If you kiss me and turn me back into a beautiful princess, I will stay with you for one week."

The engineer took the frog out of his pocket, smiled at it and returned it to the pocket. The frog then cried out, "If you kiss me and turn me back into a princess, I'll stay with you and do ANYTHING you want." Again the engineer took the frog out, smiled at it and put it back into his pocket.

Finally, the frog asked, "What is the matter? I've told you I'm a beautiful princess, I'll stay with you for a week and do anything you want. Why won't you kiss me?"
The engineer said, "Look I'm an engineer. I don't have time for a girlfriend, but a talking frog, now that's cool.