What Is Your Life-Saving Gas Monitor Trying to Tell You?

The bottom line is that, in a given day, a worker could be alerted to the same hazardous condition in many different ways, none of which clearly and efficiently tells the story of what’s happening.

BY JOSH FUTRELL

Competitive pressure continues to increase how much we all try to get done in a given day. During the course of a busy shift, workers are some of the most hazardous jobs will interact with dozens of pieces of equipment whose proper use can lead to life-or-death consequences. For protection from gas hazards, this often means working with a range of gas detection equipment, from personal monitors to area monitors and fixed systems. The industry has trended toward multi-color visual alerts that are used to communicate the differences between critical and non-critical events. Displays have moved toward graphical displays (which are able to display anything on them) versus segmented displays (which are restricted in terms of what icons and characters can be used). And the ability to configure equipment, tailoring it toward an individual company’s policies and procedures, has increased.

However, there is still a long way to go. Detectors are often poorly designed with confusing labels, controls, and color choices. New advances in user interface and display technology are needed. Workers are being asked to respond to alarms and to respond when there is a critical event, workers mistrusting equipment, etc. A more nuanced approach is often needed, which adds to the overhead of training.

Progress in Simplifying Hazard Communication

Portable gas detection manufacturers have been working to overcome these challenges for years. The industry is finally moving toward multi-color visual alerts that tell workers which gas has tripped, what the concentration is, and what action is needed. It is no longer acceptable for workers to look at a gas monitor and try to figure out what is going on. Today’s gas monitors are designed to make it easy for workers to easily understand what the alarm is and what action is needed.

What’s on Your Monitor?

The question is, “What is your gas monitor trying to tell you?”

One of the newest approaches to communicating gas hazards is the use of text-based alarm action messages. In addition to showing traditional gas readings, managers can create a customized message for each level of alarm for each gas type. This allows for a more detailed description of the hazard, which can help workers understand the situation and what action is needed.

Text-Based Alarm Action Messages

One of the newest approaches to communicating gas hazards is the use of text-based alarm action messages. In addition to showing traditional gas readings, managers can create a customized message for each level of alarm for each gas type. For example, one gas monitor might display a flashing high alarm icon, workers can be presented with the message “WEAR SCBA” on their monitors. Instead of an explosive gas reading of “40% LEL” and a flashing high alarm icon, workers can be presented with the message “EXPLOSION DANGER.” Teams do not have to think back to their training to try and recall company policy for a particular event. The policy can be presented in the moment, almost as if teams have a safety trainer with them at all times. This previously unprecedented flexibility improves safety, avoids confusion, and reduces hazard reaction time for users. It also takes experience out of the question. Regardless of whether a worker is new to the job or site or has years of experience working in and around gas hazards, text-based alarm action messages get them to respond appropriately and quickly. This can greatly simplify the training programs that are needed, shaving hours off of the curriculum and allowing the teams to focus more on the job at hand and less on interpreting the “beeps and blips” of equipment. This ultimately helps to ensure that work stops only when it needs to.

Wireless Communication

Another innovation in portable gas detection that is helping to improve the communication of hazards is the advent of wireless. Using mesh networks, Wi-Fi, or other RF approaches, portable monitors can be linked together, most often for the purpose of communicating alarms and data back to a central control station. By investing the time and money currently necessary to add wireless infrastructure and complex systems, companies can see in real time what is happening on their sites. As of today, wireless in gas detection is used primarily to enhance the response of people outside of the hazardous area. People a mile away can have an increased awareness of what is happening in the field; people 20 feet away from a hazard do not typically get the same benefits.

This won’t always be the case. In the near future, as wireless gas detection gets easier to deploy and more pervasive, it will become more about not being distracted by data away. It will be about connecting workers together to help them watch each other’s back during hazardous jobs and respond appropriately. It will become about bi-directional communication between central control and workers in the field, allowing more than just gas-related information to be shown on gas monitors (for example, central control could push a message to all workers such as “MUSTEK” or “LIGHTNING STRIKES”). Wireless will become more about integrating different systems together, blurring the line between portable gas detectors and fixed systems.

Looking Ahead

A day will come in the future where con-