



Impatience *is a Virtue*

By Thomas Suski

New gas detection tools provide hygiene data without waiting for downloads.

As consumers, we have an insatiable desire for instant gratification. Consider some technological breakthroughs of the past few years, and it's clear that we don't like to wait for things.

It wasn't enough that e-mail could deliver a message to someone on the other side of the world within seconds. We now have instant messaging. It wasn't enough that we could browse Web sites for the latest news from around the globe. We now have RSS feeds that deliver news and information right to our computers the moment that news is posted.

The latest advancements in gas detection technology have given industrial hygienists a similar benefit. The instrument itself now can provide immediate access to data without having to leave the work site to download the information. The ability to view data in the field means more than just convenience. It can have a positive impact on safety and productivity.

Data Collection

Many gas detectors provide far more than the immediate life-saving benefit of alerting the user to a potential hazard. Certain instruments also have been designed as recording devices that can collect data regarding atmospheric hazards. Knowing where they are, when they occurred and how they may affect personnel is the first step in eliminating or

■ Impatience is a Virtue

minimizing the hazards.

Until now, data needed to be transferred to a personal computer for analysis and evaluation. With common business software programs, the data could be plotted on a graph to present a clearer depiction of what was happening in the field.

Over the years, technology has made this process easier and more automated. At first, downloading the data required connecting the instrument to a PC via a datalink device. Later, the introduction of instrument docking systems simplified and automated this process. With such a system, all a user needs to do is connect the instrument to the docking system and walk away. The device then automatically will download the hygiene data according to a predetermined schedule. The computer that is connected to the docking system stores the records for proof of compliance and for further analysis.

Further technological breakthroughs enabled these docking systems to network via an Ethernet cable or wirelessly to a central server. This eliminates the need to have a stand-alone PC at every work site or instrument docking system location.

While these advancements have made the downloading process more automated and convenient, one problem remained. Until now, this data could not be read or used in any way until it was transferred to a PC. This has been a real inconvenience when collecting data in more remote locations. A laptop computer could be used in some cases. But, unlike gas detectors, laptops are not designed for use and abuse in the harsh conditions common to industrial work sites.

Without immediate feedback, industrial hygienists and safety professionals were left to take atmospheric readings without knowing if they collected any useful data. The only way to tell was to take the gas detector back to an office to download the data.

New Technology, New Benefits

With the newest breakthroughs in gas detection, this limitation is a thing of the past. Now,

New IH instruments are easier to calibrate and operate.

when atmospheric readings are taken during a work shift, survey or insurance audit, the user can view data right on the instrument's display. Newer displays even can present the information graphically or numerically for quick analysis and ease of understanding.

Eventually, the user may want the data transferred to a computer for storage and further analysis. But immediately knowing whether or not good data has been captured helps the user avoid taking more samples than necessary, or having to redo the survey altogether.

Data Types

In discussing what kind of data can be stored and displayed in the field, it is important to distinguish between event logging and data logging. An event logger will record only the atmospheric readings when the instrument goes into alarm. The event logger, for example, may be able to hold 15 or so alarm events in memory. After that, the oldest event is overwritten when a new alarm event occurs.

Capturing full hygiene data requires an instrument data logger. A data logger records and electronically stores gas readings taken in specific and, oftentimes, adjustable time intervals. This information not only is helpful in keeping workers safe, it allows the company to monitor the general safety of a facility. Industrial hygienists then can identify areas that require new work procedures or preventative actions.



Having the ability to view data in the field, such as short-term exposure limits (STEL) and time-weighted averages (TWA) can be very helpful in understanding worker safety and exposure during a shift.

STEL refers to the average amount of gas in parts per million that a worker can be exposed to in a 15-minute period with no long-term health effects. If the STEL is exceeded, the worker must leave the area for at least 1 hour before returning to work, and that limit must not be exceeded more than four times in an 8-hour shift.

TWA refers to the average amount of gas that a worker is exposed to in an 8-hour shift. If the amount of gas exceeds a predetermined threshold, then the worker must not re-enter that environment for the remainder of the work day.

It is possible, however, to have your data logger act like an event logger. Instead of setting a time interval for capturing data, the instrument records the information only when the instrument is in alarm. Another recently developed tool allows the user to manually activate data logging with the push of a button. In this case, the instrument

■ Impatience is a Virtue

acts like a camera, taking a snapshot of data at a particular moment in time.

More New Tools

It also may be helpful to collect and review data from different sites within a facility. Using a different gas detector at each site for this purpose can be unnecessarily expensive. Otherwise, data logs would have to be downloaded and then manually separated based on the time that the readings were taken.

Why conduct such a labor-intensive process when new tools are available to accomplish this task automatically? Among the newest technologies available in gas detection allow for an instrument to be configured for a specific site, or even a specific user. Not only can all instrument settings (such as high and low alarm settings) be customized for multiple work environments or workers, it's an easy way



New IH instrumentation can provide instant access to data, which can have a positive influence on safety and productivity.

to collect site-specific data when the instrument is shared.

A Higher Purpose

The speed of innovation is astounding. Some of the capabilities and benefits described here are things that most of us couldn't have dreamed of 5 or 10 years ago. New technology not only tries to satisfy a need, it raises the bar for future achievements. With gas detection, the technology also is motivated by the higher purpose of protecting human life. This is apparent in the expanded role of gas detectors over the years. What began as way to detect and alert has grown into a powerful and indispensable tool for those professionals dedicated to improving and maintaining workplace safety.

OH

Thomas Suski is marketing communications manager for Industrial Scientific Corp. in Oakdale, Pa. He can be reached at tsuski@indsci.com.