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Q&A: Better Emergency Preparedness On The Plant Floor

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by Joel Hans, Managing Editor, Manufacturing.net

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Last month, Federal Signal, a designer and manufacturer of products and systems that aim to make emergency communications easier and more effective, released a survey outlining some of the major challenges that emergency preparedness professionals face daily, particularly in light of recent major natural events. In order to learn more about how these challenges are reflected within a manufacturing company — both for incidents inside the company's four walls, such as a fire, and for natural events that could threaten a business — we got in touch with Ray White, Federal Signal's director of Integrated Systems.

Manufacturing.net: The survey has previously shown that the public simply isn't aware of the importance of emergency preparedness? Is this reflected at all in a manufacturing setting?

Ray White: Though the general public at large may not take the initiative to prepare for an emergency as seriously as they should, I do believe most people in the manufacturing industry take the consequences of an emergency seriously. Nevertheless, it is true that businesses are more inclined to be prepared and have the necessary assets in place to deal with a possible emergency, whether it is a natural disaster such as a tornado, or man-made event such as a fire, explosion or toxic gas leak.



Unlike the general public, businesses — particularly large industrial and manufacturing facilities — have more clearly mandated responsibilities and readily defined liabilities. This includes everything from government regulations and directives to compliance with insurance mandates and guidelines. Just as important, the need to be prepared is tied directly to issues that can adversely affect profitability. In other words, businesses generally have a vested interest in making sure they can cope quickly and effectively with events such as power outages or chemical spills in order to limit possible harm to personnel and damage to facilities, and get production back on stream as quickly as possible.

M.net: What is the communication barrier like in a more enclosed setting like a plant? With more older workers, are they going through the same problems as the regular public?

White: There are actually multiple barriers including cultural, environmental and technological, challenges that can affect timely and effective decision-making in a crisis situation. Among the most common cultural barriers are different languages spoken by people in the facility. There's also the challenge of dealing with the needs of the physically impaired, including employees with mobility or hearing disabilities. Among the environmental barriers that need to be addressed are the unique and possibly hazardous characteristics of the materials being used in the plant, as well as excessive noise levels on the plant floor.

While technology has played a major role in expanding the reach of emergency communications, there are also some drawbacks that have come to light over the past few years. This includes taking responsibility for making sure all employees are familiar with how to use technologies incorporated into an emergency communications plan. For instance, while younger employees may be comfortable with communicating via text message, that may not be the case with older employees. There is also the need to assure that there is adequate bandwidth available to deal with a sudden and overwhelming increase in phone traffic that would accompany an emergency situation. Consequently, it becomes critical to have contingency plans and assets in place in the event of a network or phone system crash or a complete power outage.

M.net: What are some of the best methods for navigating all these varied modes of communication?

White: I would stress the need to automate emergency communications as much as possible. This is not only the best recommended approach, but possibly the only way to assure there is no single point of failure in the system. This automation will enable both management and employees to focus more on their day-to-day decision-making rather than on communication.

I would point to disasters such as the one that occurred at the Texas City refinery years ago to make the case for automating response systems wherever possible. In this instance, the response was seriously hampered when key management personnel were killed in the initial explosion, thereby disrupting the required approval process for subsequent emergency procedures.

Technology allows us to automate a growing number of the emergency response processes. This includes everything from remote fire detectors to gas-leak sensors. It also covers the highly sophisticated scenario-management software capable of automating a myriad of emergency response activities, including expediting communications with local first responders and community safety officials. Again, the idea is to eliminate the potential for a single point of failure impacting the effectiveness of the entire system.

M.net: Do businesses (and manufacturers in particular) have a certain degree of "apathy" in regards to following warnings, as many in the public do?

White: I really don't believe that's the case, at least not to any degree that is obvious or measurable. A legitimate business cannot afford to be complacent when it comes to responding to a warning or being prepared for an emergency. Beyond government regulations there is also the insurance requirement previously mentioned. On top of that, there is too much at stake in terms of profitability and being able to get production back up and running as quickly as possible in today's competitive business environment.

M.net: Are there some ways that companies could work better with public emergency managers to stay aware of possible issues that might affect their business?

White: We see a lot of cooperation between the private and public sectors, and that level of cooperation has been growing consistently over the years. While it's true that much of the cooperation has been mandated through regulation, businesses and the public sector clearly have common interests when it comes to the need for seamless and rapid emergency communications. It almost goes without saying that any major plant dealing with hazardous or toxic materials is going to have a direct communications link and emergency response plan in place with local first responders and safety officials. By the same token, emergency managers in communities have made significant strides in being able to communicate effectively with manufacturing facilities where a large number of people may be threatened by a natural disaster such as a tornado.

M.net: Are there lessons from the public emergency managers that could be applied to the plant floor, when it comes to external events, such as tornadoes, as well as internal ones, like a fire inside of the building?

White: There is much that has been shared between the public and private sectors. Though often overlooked, the

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government entities serve as an important repository for a diverse range of information, much of which directly addresses the needs of private-sector manufacturing facilities. The Department of Homeland Security (DHS) and the Federal Emergency Management Administration (FEMA), for instance, continue to make important contributions with regard to overall disaster planning strategies. At the same time, other agencies, namely the National Oceanic and Atmospheric Administration (NOAA) and the National Weather Service (NWS), perform substantial research with the specific goal of improving how people perceive and respond to emergency warnings and notifications. We believe the partnership between the public and private sectors will continue to strengthen in the years ahead.

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