

Do Our Emergency Plans Include Resiliency?

Hazards are ever-present in the steel plant environment, and a heightened awareness and emphasis on safety is a necessary priority for our industry. This monthly column, coordinated by members of the AIST Safety & Health Technology Committee, focuses on procedures and practices to promote a safe working environment for everyone.



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Emergency planning is defined as a course of action developed to mitigate the damage of potential events that could endanger an organization's ability to function. Many companies have emergency plans that comply with the regulatory requirement as outlined in OSHA 30 CFR 1910.38.

These require procedures for reporting an emergency, designating and communicating an emergency evacuation route, training employees on when and how to evacuate, having a process to account for employees after evacuation, having a system to notify employees of an emergency, and training employees on the plan. These are all very good things to focus on, but they were not very helpful when hit with an emergency such as a worldwide pandemic.

The COVID-19 pandemic unexpectedly changed the usual way of doing things as they were no longer an option. Businesses and governments scrambled to develop new protocols, obtain needed supplies and communicate effectively, and we all struggled to reinvent the activities of everyday life. No amount of forecasting or planning could have prepared for this specific event, but the more valuable lesson learned was that many companies' emergency plans lacked resiliency.

Resiliency is defined as "an ability to recover from or adjust easily to adversity or change."¹ In many ways, emergency plans helped companies to gain a footing and manage data/knowledge during a time of confusion and anxiety, but they did not really prepare companies for the pandemic. Emergency planning has preparedness as its main activity, but it should also include resource management, potential threat identification and training, among

other initiatives. Most importantly, an emergency plan must have resiliency. Merging preparedness and resiliency together yields a new perspective on the emergency planning process. There are four characteristics of resiliency: diversity, efficiency, adaptability and cohesion.

Diversity

Diversity exists in multiple forms and behavior. There is simply no single way in which a crisis can be managed. There must be a process in place to obtain multiple views and ideas; a diverse thought process at the time of a crisis can bring tremendous clarity on what needs to be done. Therefore, when the pandemic hit, one of the first activities was to form a management committee which involved representatives from various functions such as human resources, safety, engineering, operations and legal. Together, a path was developed for pandemic-related issues and how they would be safely and effectively managed.

Efficiency

Efficiency is to perform with modest resource consumption. Many times during an emergency, the thought process is to throw everything at the problem regardless of how effective or efficient the result. This leads to not only a tremendous amount of waste but, more importantly, overlapping resources, resulting in slowing down the process and causing confusion within the organization. This was experienced early on in the pandemic when resources were sourced and distributed only to find out they not useful and, in many

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Figure 1



An example of resilient emergency plans and the inclusive and diverse systems in place.

cases, distracted from the action that needed to be taken. The steps taken during an emergency must be efficient if they are going to be effective.

Adaptability

Adaptability possesses the flexibility required to respond to new pressures. Being adaptable is one of the most important elements of emergency planning. A crisis has no playbook, no predictable outcome and no easy response as it morphs and adapts as time goes on. Having an emergency plan is great, but it must be flexible in order to respond to constantly changing conditions.

Cohesion

Cohesion is the relationship and linkages between system variables and elements. Cohesion includes the involvement of not just management, but also of stakeholders within the system in which the organization works and lives. This includes the management team, the employees, the labor representatives, the local emergency responders and the surrounding community. Involvement and feedback from the entire stakeholder group is a key element of cohesion and

makes the emergency plan that much more resilient.

We need to be able to respond to changes by adapting ourselves to new contexts and managing the risk of what we are facing.⁶ This is done by making resilient emergency plans that are inclusive and diverse systems, as summarized in Fig. 1. By following the four characteristics of resilient systems (diversity, efficiency, adaptability and cohesion), an organization's response to any emergency — including a pandemic — will be much enhanced, but it takes knowledge, coordination and communication.

Knowledge

A large part of any emergency plan execution depends on knowledge. Most every decision made during an emergency is based on the knowledge of the decision-maker at the time.⁴ This knowledge can come from various sources such as those directly affected by the emergency, those responding, professional emergency responders and the general community. Some of the knowledge is formal and absolute,

such as industrial hygiene sampling (air, water, etc.). Other knowledge is contextual in nature and is the result of subjective interpretation by the gatherer. When knowledge is lacking, leaders often make decisions based solely upon experience. The diversity of knowledge can create problems as gaps can exist between what is true and what is perceived. This gap came to light during the early stages of the COVID-19 pandemic when medical experts initially disagreed on the usage of masks and other forms of personal protection. When dealing with these knowledge gaps, it is important to rely upon the resiliency of the system to make good decisions. Sometimes factual knowledge becomes obsolete in a fast-moving emergency, and this is where contextual knowledge must be overlaid on factual knowledge so leadership has the best knowledge possible to make critical decisions. None of this is easy or intuitive, as it must consider the resiliency of the emergency plan as it relates to the diversity of those involved in the process.

Collaboration is a critical part of a resilient emergency process as it brings different disciplines together in a common goal. There are many cases where the most critical of decisions can only be made when there is agreement among the various diverse stakeholders participating. This takes coordination and effort and does not occur naturally. Emergency plans need to include a resilient process to identify key stakeholders,

what role they will play, and what process will be used for communication and consensus when needed. To put off this type of planning leads to confusion, delays and mistakes made during the emergency response.

When developing the emergency response plan, it is critical to ensure the plan is resilient. This takes time and effort and, most of all, collaboration among various stakeholders. Not everyone will want to go the same direction or have the same thoughts, so it is best to have a problem-solving process in place ahead of time. There are various processes to use, but one that is functional and easy to use with good results is the Delphi Technique.⁵

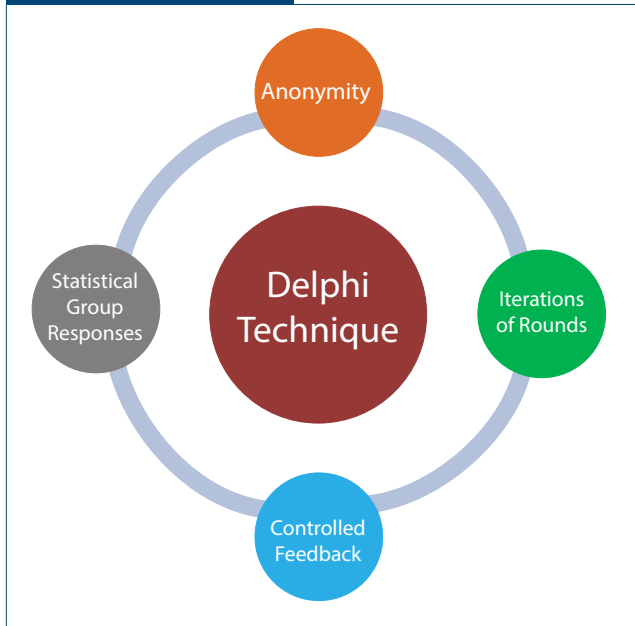
The Delphi Technique

This technique is cost-effective, flexible, fast and versatile when looking for consensus among a group of people. It is a qualitative process that relies upon the judgment of those involved, so choosing the participants is an important component. Once the parameters of an emergency response plan are outlined, the Delphi Technique would be used to gather input and a consensus decision of specifics involved. These specifics include who the stakeholders are, how involved the community is, the method and frequency of communication, what exists in writing versus verbal communication, and similar plan components. It is a process that involves receptive rounds of questions through multiple iterations to collect data from the participant experts. It has four components — anonymity, iteration of rounds, controlled feedback and statistical group response, as shown in Fig. 2.

Conclusions

As with many other aspects of safety, simply complying with the regulatory requirements will only take us so far. We have learned from the recent COVID-19 pandemic that emergency plans can be enhanced when they are resilient. This includes diversity of thought and participation, an efficient use of resources, an ability to adapt to rapid changes, and cohesion in both decisions and actions. Developing such a plan takes time and dedicated organization effort at all levels, but the payoff when needed cannot be calculated. There are good tools that can be used for such planning; the one mentioned in this paper is the Delphi Technique, which is simple, easy to use and effective, but there are others.

Figure 2



The Delphi Technique and the four rounds.

Having a resilient emergency plan is only as good as the training and practice associated with it. An emergency plan must be practiced on a consistent basis. Too many plans are developed and then simply placed on the shelf not to be looked at until needed. Don't make that mistake. Be prepared, be ready and develop a resilient emergency plan today.

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