By Peter M. Curtis

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Yesteryear's Protocols Live No More

The unexpected rules in 2010

At the beginning of the year, I wrote a column entitled "The Next Decade: Expectations for the Unexpected," and since then we have experienced a worldwide flurry of natural and manmade disasters such as the Eyjafjallajökull volcano eruption in Iceland, earthquakes in Haiti and Chile, the catastrophic oil spill in the Gulf of Mexico, and flash flooding here in Arkansas, Tennessee, North Dakota, and abroad in France and China. This year's events demonstrated that preparedness makes the difference between recovery and chaos when managing the aftermath of disasters. The biggest disappointments that we are experiencing are caused by the absence of updated plans and procedures and the failure to follow protocols that would reduce the effects of such disasters, as well as inadequate training to handle critical events with confidence.

You may be asking how all this havoc relates to critical systems? My answer is that the lessons we learn from these disasters can be applied to the mission critical industry. We can be better prepared for the unexpected if we pay attention.

Unfortunately, the lessons we learned from these disasters come at the cost of capital expense, and more importantly, human life. We need to assess our professional skill levels, with the goal of becoming more proficient and aligning with today's digital society requirements. Then, when an event does occur, we can manage problems by acting with confidence and situational awareness before a disaster escalates into something much worse.

Outages and other mishaps due to human error are becoming commonplace in the mission-critical industry, and more equipment failures have cascaded into extended outages and caused personal injuries. For instance, complacency can cause personnel to shortcut lockout-tagout protocols and other electrical safety procedures.

Also, the protocol of yesteryear is gone, made obsolete by modern technology. As a result, it is time to revise 20-year-old plans and refresh existing procedures. We can no longer operate with a crisis mentality because today's events unfold in the blink of an eye and can escalate much quicker than ever before. It is imperative that we strive to prepare so that we may quickly solve problems before they escalate to an unmanageable event. To be successful in handling and responding to emergencies, preparedness is key. Continued training and scenario drilling are vital to confidently dealing with all situations. In fact, the aviation industry, the military, and law enforcement agencies offer excellent models and best practices utilizing training drills and continuing education.

Figures as diverse and familiar as Benjamin Franklin, Henry Ford, and John Wooden have all been quoted as saying, "Failing to prepare is preparing to fail." And, of course, failure is not an option in a truly mission-critical industry. Every failure scenario that poses risk and threat to life safety and infrastructure must be identified and a commensurate plan developed to avoid/minimize downtime.

In our digital society, humans and technology conflict, and machines and infrastructure complexity are increasing beyond our controllable limits. However, people can do extremely well in controlling complex critical infrastructures when

Most Commonly Cited OSHA Safety Violations In 2009 & Resulting Injuries

Violations	Consequences
• 3,321 Lockout/Tagout • $1,950,134 in penalties • 3,079 Electrical Wiring • $813,462 in penalties • 2,556 Electrical Systems • $757,568 in penalties • 2,364 Machine Guarding • $2,277,629 in penalties	• Electrical hazards injured more than 46,000 workers in the past decade • Electrical hazards cause over 300 electrocutions and 4,000 injuries each year • Every 30 minutes electricity severely injures someone on the job • Recovery from burns and shocks is very slow and painful

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their operation is fully understood. When a new system is deployed, operators need time to learn and drill the operational procedures during both normal and abnormal scenarios. The most dangerous time is when operators don't know how to react during an emergency and make poor critical decisions that lead to cascading failures and personal injury.

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Another key element in minimizing a crisis is ensuring that we carefully listen to all levels of management and early warning signs so that appropriate responses are carried out as soon as they surface. Situations tend to escalate despite red flags due to unrealistic milestones. Projects may be compromised because workers condition themselves to rationalize inaction and then accept a growing problem for the sake of bureaucratic goals. It's also essential that all chains of command avoid complacency just because an incident hasn't occurred recently.

A lack of formal procedures, inadequate education, and slapdash training results in scrambling to implement quick fix solutions that are often unsuccessful. Emergency-response plans need to be created and drill-tested regularly to ensure that they will work properly when they are really needed. This is the only way that we can have confidence in our people and systems. In the wake of the current oil spill disaster in the Gulf and the recent rash of natural disasters, we can only hope that these situations are the wakeup call to all industries that rigorous standards of safety and planning need to be in play in order to effectively and efficiently handle potentially disastrous emergency situations. Too many times we have seen a loss of life resulting from operational failures that could have been avoided, or at least handled in a safe manner. So it's time to "drill, baby, drill" with education and training because the protocol of yesteryear is gone, and the future is moving faster than dog years. ■