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Preventing Incidents & Fatalities
Eight questions every senior leader should ask
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WHO WOULD HAVE THOUGHT that with general injury rates declining the rate of fatal workplace injuries would not decline at a similar or faster pace? (BLS, 2008; Hamalainen, Takala & Saarela, 2006; HSE, 2008; Takala, 2005). And, who could have predicted that locations with superior safety history would suddenly experience fatalities, life-altering injuries or catastrophic events?

Many organizations have been caught off guard because they were relying on injury rate performance to predict future success (Manuele, 2008). As occupational injury data show, most of these events do not result from unknown or unpredictable circumstances, or from weird occurrences. The major causes of life-altering injuries and fatalities continue to include the basics: falls, failures of key permitting systems such as de-energizing equipment, confined space entry, line breaking and mishaps related to mobile equipment (NIOSH, 2006; BLS, 2008).

In the experience of the authors and their colleagues, these life-altering events occur when companies accept deviation as normal, fail to manage control systems and tolerate substandard processes. In other words, these incidents were not inevitable, nor were the resultant pain and suffering. The exposures were known and the root causes shared common threads. Had organizations followed a basic prevention mechanism and ensured that prevention methods were robustly applied, most of these events could have been avoided. Above all, the prevention mechanism for stopping life-altering injuries and catastrophic events requires a rigorous level of oversight and participation from senior leadership.

This article provides guidelines that senior leaders can use to maintain a sense of vulnerability even when no disastrous event has occurred recently and especially when the lagging indicators are “favorable.” Additionally, it suggests actions that senior leaders should take if a fatality or catastrophic event occurs.

The Connection Between Leadership & Workplace Safety

The relative infrequency of fatalities and other serious events can cause them to seem random, beyond any reasonable degree of anticipation and prevention. In fact, most of these events result from high energy potential exposures that are identifiable, measurable and manageable. The lessons of prominent incidents such as the space shuttle *Columbia,* Oxy’s *Piper Alpha,* Esso Longford and BP Texas City, as well as lessons from single fatality events, are that alongside the proximate causes of each incident is an underlying fabric of systems, mechanisms and culture that allowed risk in the work- place to persist and often to become acceptable (CAIB, 2001; Cullen, 1990; Baker, 2007; Hopkins, 2000).

All components of an organization’s safety fabric lend themselves to senior leaders’ influence and intervention. The decisions leaders make, the things they say, the systems they implement and oversee, and the value they place on safety with respect to other objectives affect:

- work practices and sustained behaviors that increase or reduce hazards;
- the level to which the culture supports safety objectives and activities;
- workers' own interest in safety and safety activities.

Creating an organization that eliminates fatalities and life-altering injuries cannot be delegated. It requires the integrated involvement of the entire organization, from the CEO to each worker.

Culture, Leadership & Safety

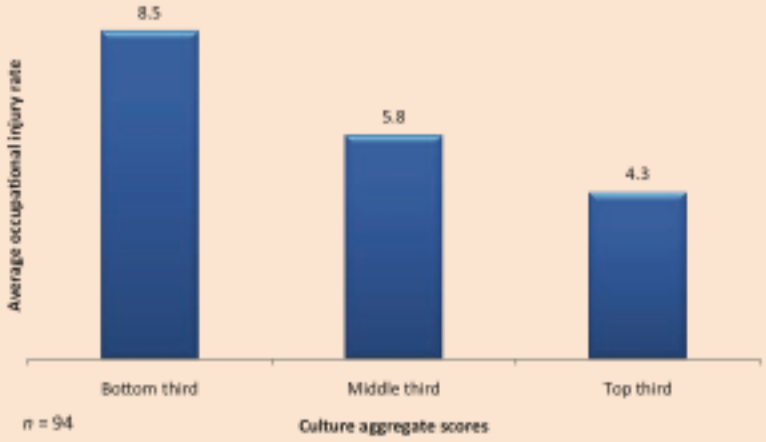
Among the strongest indicators of safety performance are workplace culture and leadership quality (Hidley, 1998). An extensive body of research identifies nine measurable cultural characteristics that, in addition to predicting safety outcomes (such as level of safe behavior, injury rates and event reporting) (Hofmann, 1999; Bell, O'Connell, Reeder, et al., 2008), have been shown to predict variables indirectly related to safety, such as turnover (Ferris, 1985), citizenship behavior (Coyle-Shapiro & Conway, 2005; Konovsky & Pugh, 1994), trust in the organization (Kickul, Gun- dry & Posig, 2004), and trust of employees, innovation and creativity (Ruppel & Harrington, 2000). These characteristics are:

- Procedural justice: Fairness and transparency of supervisor's decision-making process.
- Leader-member exchange: Level of mutual trust and respect between employee and supervisor. Employees treated with dignity.
- Management credibility: Management actions consistent with words.
- Perceived organizational support: Employees perceive that the organization values them.
- Work group relations: Level of mutual trust and respect among coworkers.
- Teamwork: Ability of the work group to effectively get things done.
- Organizational value for safety: Extent to which employees perceive that the organization is serious about safety performance.
- Upward communication: Extent to which safety concerns, suggestions and ideas flow upward through the organization.
- Approaching others: Extent to which workers are comfortable speaking to one another about safety.

Figure 1

Culture Predicts Outcomes

This study included 94 organizations for whom 12 months of occupational injury rate data were tracked. The top third of the organizations that scored consistently high across all scales averaged an occupational injury rate of 4.3 injuries per 100 employees per year, while the bottom third averaged 8.5. Companies in the middle third averaged 5.8 occupational injuries per 100 employees per year.



How employees perceive these nine dimensions has been shown to correlate to injury rate. Figure 1 illustrates the results of a study of 94 organizations (representing eight countries and 18 industries) that assessed these dimensions (Bell, et al., 2008). Results show that organizations where employees rate these dimensions consistently more positively across all scales had significantly lower occupational injury rates compared to those that scored consistently more negatively. Organizations in the middle had injury rates between the high and low groups.

The difference between the three groups is statistically significant: (df(94), -.331, $p < .01$). A similar study of low-injury-rate companies (those with an occupational injury rate less than 3.0) shows the same relationship holds true.

Not surprisingly, leadership has been shown to influence culture. Figure 2 illustrates the results of a study that examined the relationships between how the top site-level leader is perceived by direct reports on safety leadership best practices, defined as vision, credibility, action orientation, collaboration, communication, recognition and feedback, and accountability (Krause & Weekley, 2005), and site-level scores on the nine dimensions described. The study showed strong positive correlations between subordinate ratings of each best practice and overall ratings of each dimension of organizational culture. The leadership overall score (the aggregate of the seven best practices) predicted culture overall (Bell, et al., 2008).

In addition to culture, leaders must consider the climate of the organization with respect to catastrophic events. Climate refers to what is most important in the short term. It is influenced by a host of factors, but most often the biggest factor is what leadership is focusing on and discussing. Safety performance can suffer when the focus is on short-term gains and not long-term sustainability. When organizations are under cost-cutting pressures or are being pushed in other performance areas, such as production velocity, then leadership typically focuses less on safety.

During these times, basic, underlying safety systems can be undermined or eliminated. While in some instances the effect can be seen immediately through the relaxation of safety standards, other changes may not be seen until much later. These insidious, in-the-moment changes can lead to significant events years later. The leaders who made these changes may be long gone and may not understand the ultimate impact of their decisions.

Eight Key Questions

While no one can guarantee that an organization will never have a serious incident, senior leaders can employ behaviors and practices to set the tone and climate around how vigorously the organization creates and sustains a focus on the prevention of exposure to serious hazards (Erickson, 1997; Stricoff, 2007). During their combined experience of nearly 100 years in the safety field, the authors have noted a common pattern of behaviors and practices among leaders of organizations with outstanding safety performance.

Through this work, and through examination of their colleagues' work with more than 7,000 leaders among 500 leadership teams, the authors have noted a distinct difference in the leadership practices of organizations that struggle with serious and fatal events compared to those that do not.

For example, in organizations where serious injuries were an issue, senior leaders seldom, if ever, knew the company's history of serious incidents, while leaders in higher-performing organizations tended to know the names of injured employees and expressed concern for them as individuals.

By comparing this work to independent reports of serious workplace events, such as *Piper Alpha,* Esso Longford and *Columbia,* the authors identified eight qualities that tend to exist among leaders of organizations that maintain a sense of vulnerability and that have sustainable systems to recognize risk before an event happens.

These qualities are framed as questions that senior leaders can ask themselves to assess whether they and their organizations are doing what is necessary to prevent serious incidents. All members of the senior leadership team, including all functions, should be able to answer

these questions. Having continual command of the answers to these questions strongly suggests that a leader is doing the right things to sponsor serious incident prevention.

QUESTION 1: When was the last fatality, life- altering injury or catastrophic event in this organization and what were the victims' names?

Fundamentally, prevention takes an emotional commitment. In the authors' experience, the primary motive driving leaders to improve safety is empathy and compassion. Leaders with this commitment are more effective at ensuring sustainability in fatality prevention (Spigener, 2007).

Talking only about metrics such as frequency rates depersonalizes the information. When leaders think or talk mostly about injury classification (e.g., lost time, restricted), they can quickly forget about the event's impact on the employee, his/her family and coworkers. It also makes leaders less likely to have the emotional connection and commitment necessary to sustain their focus. Life-altering injuries profoundly affect a person's ability to lead the type of life s/he did before the event. A worker disfigured from a burn is not worried about injury classification; s/he is a person whose life has just changed.

One factor that helps determine success in safety is top management's demonstrated concern (Griffiths, 1985; Petersen 2000). At the same time, catastrophic events, fatalities and life-altering injuries are relatively rare. As time passes, the emotional impact associated with the event diminishes, and the urgency of the rigorous application of prevention mechanisms wanes. Additionally, as new leaders join the organization, they may be unable to relate personally to past serious events and to the emotions associated with them. Keeping this personal information in front of the leaders decreases the likelihood that they will become detached from the prevention process and helps ensure sufficient motivation to lead safety performance.

QUESTION 2: Do any of my behaviors as a leader suggest, even unintentionally, that fatalities are acceptable and a part of doing business? Do any of our systems suggest the same?

This question may seem odd in comparison with the first. How could anyone suggest that a responsible member of senior leadership would send messages that fatalities are acceptable? And who would allow systems that imply fatalities are acceptable or that the factors which might contribute to these events would be tolerated?

These questions are not about intent. No reasonable person would intentionally or explicitly send this message. However, actions can be misinterpreted or misread, and systems can indirectly reward undesired behaviors. Senior leaders who open themselves up to the scrutiny of this question position themselves to uncover unintentional drivers of undesired behaviors. Consider what messages might be received in the following examples:

- Measurement of safety performance is based on a single indicator of performance (e.g., Baker, 2007), such as the OSHA incident rate. In such a system, a fatality and a small cut requiring a stitch would be counted equally. Which has a greater consequence to the location manager: having one fatality or having three "minor" OSHA recordable injuries?

- Use of a compensation system that allows leaders to receive a safety bonus when they meet their case rate number, even if a fatality has occurred.

- Implementation of an employee incentive program that bases pay on injury rates (e.g., Krause & McCorquodale, 1996).

- Senior leaders have retrospective discussions with their direct reports when an injury occurs, yet rarely discuss and review proactive prevention activities.

- Leadership sets up a system that routinely forgives people for making fatal risk errors.

Management safety practices are among the best predictors of accident rates and compliance with safety behaviors (Hayes, Perander, Smecko, et al., 1998). What leaders emphasize, intentionally or not, affects safety outcomes (Diaz & Cabrera, 1997). Not surprisingly, among organizations with which the authors have worked, leaders who are aware of how their decisions and actions affect the organization tend to be more sensitive to safety issues even when the subject at hand is not specific to safety.

This study examined the relationships between how the top site-level leader is perceived by direct reports on safety leadership best practices, and site-level scores on the nine dimensions of organizational culture.

QUESTION 3: What is the difference between process safety and personal safety? Do our facilities require compliance with the process safety standards?

While senior leaders are not expected to be the SH&E professionals in their organization, leaders must understand several fundamental concepts. Most critical is the difference between process safety and personal safety.

Process safety refers to the prevention of catastrophic events associated with the storage, handling, production and use of hazardous chemicals.

In particular, process safety management (PSM) focuses on the prevention of fires, explosions and major releases of toxic materials (Baker, 2007). PSM is designed to protect workers and the surrounding public. Its elements are largely engineering focused and address design, operation and maintenance of processes that use chemicals.

Personal safety refers to the prevention of employee injuries by aligning the three factors that meet at the working interface—equipment, processes and what people do—in a way that limits exposure (Krause, 2005). Examining the interaction of the worker with the technology allows organizations to identify exposures most readily.

Equipment and tools take time to degrade, and work processes are observed through the way they are performed by workers. Exposure is minimized by having skilled and motivated employees who work safely, following accurate and current procedures, and who use the right set of tools and equipment in surroundings that are inherently safe. So, a strong indicator and powerful focus of personal safety is worker activity, not seen in isolation but included as a component of the organization's systems (Krause & Weekley, 2005).

Managing process safety well does not automatically mean that personal safety is being managed well, and vice versa (Hopkins, 2009). An organization can achieve low injury rates by focusing on personal safety yet still have significant exposures due to flaws in the PSM system (e.g., poor equipment design, uncontrolled equipment changes). Fundamental leadership skills and approaches, however, can be taught, monitored and coached for managing both.

On a practical level, knowledge of the distinction between process and personal safety helps

leaders to more accurately assess the state of safety functioning across the organization (and avoid situations such as BP Texas City where good performance in personal safety was mistaken for good performance overall). On a broader level, knowledge of fundamental safety concepts is critical to establishing management credibility, defined as behaviors that foster trust in subordinates, which correlates to effective safety outcomes (Bell, et al., 2008).

QUESTION 4: What are the major sources of exposure that have caused or could cause major events (fatalities, life-altering injuries, fires and explosions)?

In addition to understanding the difference between process safety and personal safety and the typical elements that make up each, senior leadership must understand the exposures associated with the serious mishaps that have occurred and the exposures with the greatest potential for major events.

This knowledge should be combined with an understanding of what would most likely cause these exposures to persist. When armed with this information, senior leaders are in a position to routinely review the indicators of whether these exposures are being managed. Additionally, knowing the major sources of exposure positions leaders to ask about exposure, for example, when visiting locations or when considering budget requests.

When looking for major exposures, ask whether the organization has any safety rules that can result in termination if violated. Many organizations call these cardinal safety rules, crucial safety decisions, life critical safety procedures or similar names. These rules point to exposures that are known to cause fatalities or catastrophic events (e.g., fall protection, hot work permits, lock-out/tag-out, confined space entry). They are considered so safety critical that the penalty for violation is the harshest.

Having the rule and threatening dismissal are not enough. These exposures must be routinely monitored and tracked to ensure behavioral reliability. They are the focus of a fatality prevention program. Similar to the importance of understanding the distinction between process and personal safety, knowledge of the organization's safety landscape allows leaders to shape safety functioning, which is associated with worker compliance and positive safety outcomes (Simard & Marchand, 1997).

To be continued in next issue.

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