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Defining **EHS leadership** 
in world class organizations



EXECUTIVE SUMMARY

The Campbell Institute™ at the National Safety Council is the Environmental, Health and Safety (EHS) center of excellence. Built on the belief that EHS is at the core of business vitality and is intrinsic to operational excellence and financial performance, the Institute helps organizations of all sizes and sectors achieve and sustain excellence.

A previously published cross-case analysis of Robert W. Campbell Award® winning applications determined that one of the keys to success in EHS stems from effective leadership. The present study, an extension of this earlier work, aims to provide a better understanding of the essential components of effective EHS leadership and the ways in which leadership is exercised.

In the spring of 2013, researchers at the Campbell Institute conducted qualitative interviews with past Campbell Award winners and Campbell Institute Charter Members. The interview questions were designed to better understand the various facets of EHS leadership and how authentic leadership is demonstrated by individuals in formal and informal positions of influence within world-class organizations. Specifically, the interviews focused on the CEO's commitment to EHS, the role of EHS in business decisions, the use of EHS metrics in performance reviews, leadership training, and worker empowerment. The purpose of this report was to confirm the importance of effective leadership in improving EHS performance and to disseminate these findings to other organizations seeking to develop new or tailor existing EHS initiatives.

Several important findings have emerged from this research effort:

- › **LEADERSHIP STYLE** Effective EHS leaders have the ability to inspire others to behave safely, recognize the connection between good safety and good business practices, possess up-to-date EHS knowledge, and have the communication skills to convey it. Furthermore, a combination of transactional and transformational leadership styles brings about remarkable achievements in EHS performance.
- › **ACCOUNTABILITY** Senior line management has ultimate responsibility and accountability for EHS policies and incidents. Effective leaders take the time to regularly relay messages of safety through various channels. Leaders also integrate EHS into performance reviews via leading and lagging indicators to demonstrate their organization's and personal commitment to worker safety.
- › **WORKER EMPOWERMENT** Worker empowerment regarding the development, distribution, and enforcement of EHS messages and policies is important for obtaining worker consensus and compliance. Equally important are leader-member exchanges and the encouragement of safety citizenship behavior to involve workers in safety initiatives.
- › **EHS AND ITS ROLE IN BUSINESS DECISIONS** EHS factors into all major business decisions, such as new product development, mergers, acquisitions and contractor relations.
- › **LEADERSHIP TRAINING** Leadership training is essential to ensuring that EHS leaders are grown within an organization. Such training focuses on the "soft skills" of effective EHS communication in addition to technical safety training.
- › **SAFETY CLIMATE AND CULTURE** Safety needs to be a value, not just a priority, if it is to be firmly embedded within an organization's culture. It is a leader's responsibility to recognize and celebrate safe behavior to emphasize the central role of EHS in the organization.

In short, this study found that leadership commitment and competence, trust and respect, and open communication generate internal motivation, worker empowerment, and voluntary participation. This results in a strong safety culture that can make the transition from being good to great.

One of the main implications of the present study is that there are multiple and diverse pathways to success in EHS leadership. Organizations that are comparable in terms of their EHS record, values, and culture attain their world-class reputation through various leadership methods, all successful. Overall, this study stresses the understanding that an organization needs trained leadership and competent steering performance from executive and management teams to convey the safety message and maintain company-wide commitment to safe work practices. Other organizations can evaluate their own leadership strategies and compare them to those who are truly *world class* using the findings and specific examples provided in this report.

Winning applications
can be found at
thecampbellinstitute.org/library.

BACKGROUND

Since its inception, the Campbell Institute has had a focused interest in the role of leadership in building quality organizations with exemplary EHS performance. In fact, organizations applying for the Campbell Award must provide concrete evidence of sustained commitment to EHS excellence through leadership. One of the Campbell Award review criteria specifically addresses organizational leadership, commitment to EHS goals, organizational culture and climate, as well as corporate citizenship. As a rule, organizations who received the Campbell Award over the years demonstrate that their leaders have the ability to create a strong safety culture by inspiring and motivating others within the organization to practice safe behavior. The Campbell Award recognizes organizations with leaders whose words and actions visibly demonstrate an unwavering belief in safety as a value rather than a business priority.

Defining World Class EHS: An Analysis of Leading EHS Management Practices of Robert W. Campbell Award Winners, a 2012 report published by the Campbell Institute to summarize the commonalities of Campbell Award-winning organizations, determined that effective leadership is an essential element of the formula for success in EHS. This comparative analysis of Campbell Award winners described EHS leadership as a multidimensional construct with the following key components:

- › Personal commitment and accountability at the highest organizational level;
- › Comprehensive leadership training of managers and executives;
- › Integration of EHS into performance measurement plans using relevant metrics; and
- › Worker empowerment.

The Campbell Institute's stance on the role of leadership in EHS has been informed by integration of empirical evidence and theory, drawing on decades of research in the fields of occupational safety and health, organizational and industrial psychology, human resource management, and communication. It is not surprising that *leadership* tends to have as many definitions as it does people who attempt to define it. However, most definitions tend to revolve around four basic tenets: (1) leadership is a dynamic process, (2) it involves influence, (3) it requires followership, and (4) it features goal attainment (Northouse, 2010).

Practitioners in business psychology have long been faced with the challenge of differentiating between good leaders and good managers. John Kotter's *Leading Change* (1996) describes management as

the act of keeping an organization, its people, and technology running smoothly. Managers plan, control, organize, budget, and solve problems. Leaders, on the other hand, develop a vision for the future, obtain the cooperation of those involved, and motivate others to take on the challenge of achieving future goals. Whereas management maintains the status quo and produces predictability, leadership encourages change and inspires others towards progress. Leadership capabilities, therefore, go beyond those of management alone – “Only leadership can blast through the many sources of corporate inertia. Only leadership can motivate the actions needed to alter behavior in any significant way. Only leadership can get change to stick by anchoring it in the very culture of an organization” (Kotter, 1996:30). This report will review the literature related to leadership, provide an in-depth analysis of leading EHS companies, and derive a common set of leadership principles that may be applied more broadly.

ELEMENTS OF EHS LEADERSHIP – LITERATURE REVIEW

LEADERSHIP STYLE

In EHS, as in any other business discipline, different leadership styles produce different outcomes. In a review of effective leadership actions for safety, Lekka (2012) identified two leadership styles with demonstrated positive outcomes for safety behavior. The first, *transformational leadership*, centers on a leader's ability to motivate workers to work safely by being a role model and showing concern for all workers. This type of leadership also encourages workers to engage in safety citizenship behaviors (Flin & Yule, 2004). The second style, *transactional*, refers to a system in which leaders reward their followers for good performance and discipline them for poor performance, thereby clarifying rules and expectations. Both transformational and transactional leadership styles have been shown to lead to improved EHS performance as measured by leading indicators (e.g., higher participation in training programs, more positive perceptions of organizational safety climate, see Kath et al., 2010b; Parker et al., 2001) and lagging metrics (e.g. incident rate, see O'Dea & Flin, 2003; Krause et al., 2010; Ruppel & Harrington, 2000). Several researchers have argued that management that exudes a non-punitive, supportive, and coaching leadership style is a better way to maintain open communication with workers and improve safety outcomes (Cigularov et al., 2008; Fleming, 2001; Parker et al., 2001). However, there is also

evidence that a purely disciplinary approach to leading workplace safety efforts (i.e., more indicative of a transactional leadership style) can be detrimental to building a strong safety culture through discouraging voluntary reporting of injuries, incidents, and near misses (Cigularov et al., 2008). Depending on the level of management, particularly at the middle management level, a combination of transactional and transformational leadership may prove to be most effective in encouraging safe behaviors (Flin & Yule, 2004).

Passive leadership is known to have a significant negative impact on the EHS performance of an organization when compared to the positive effects of transactional and transformational leadership styles (Lekka, 2012). Kelloway et al. (2006) found that managers who ignore workers' safety concerns or do not outline specific safety goals and expectations have a deleterious effect on EHS outcomes that go beyond the mere absence of positive leadership. Rather than having a null effect, passive leadership actually diminishes workers' levels of safety consciousness and perceptions of safety climate and, furthermore, indirectly increases safety-related incidents and injuries.

ACCOUNTABILITY

Ask any safety-minded CEO and he or she is likely to say that when it comes to ultimate accountability for workplace safety, "the buck stops with me." It appears that in the world of EHS, leadership and accountability are inseparable. Management demonstrates leadership "by providing the resources, motivation, priorities, and accountability for making sure that the safety of all workers is taken into account" (Roughton & Mercurio, 2002:103). Ultimate accountability means that if an incident occurs, it is because the CEO and other senior executives did not adequately provide resources for a safe workplace, or did not properly motivate people to participate in safety.

Accountability goes beyond responsibility. Roughton and Mercurio (2002) define responsibility in EHS as knowing the difference between "correct" and "incorrect" practices and being an initiator or activator regarding EHS programs. Accountability, on the other hand, is being legally bound to policies and being subject to consequences based on performance. Accountability in EHS leadership is taking on the task of fixing liabilities by establishing performance measurement and evaluation and finding solutions.

COMPETENCE

In addition to accountability, leaders must also be perceived as competent. First, they should have a basic technical understanding of EHS practices in general, if not for a specific position or job task, and how such practices interact with other aspects of business operations. EHS knowledge along with honesty and open concern for workers' wellbeing is seen by workers as a direct antecedent to placing trust in a leader (Conchie et al., 2011). Second, managers and top-level executives should possess personal, charismatic leadership skills that can motivate and persuade others in the organization to practice safe behaviors. Specialized EHS knowledge and general leadership skills usually acquired through training and experience contribute to the feeling of confidence workers have toward their leaders.

World-class organizations do not leave it to chance that those they hire or promote to supervisors will already have the necessary skills to be effective EHS leaders. Safety-specific leadership training, which is focused on imparting technical EHS knowledge and promoting safe behaviors, is correlated with higher leader safety attitudes, self-efficacy, and intentions to promote safety (Mullen & Kelloway, 2009). Overall, safety-specific leadership tends to have more positive effects on safety attitudes and worker perceptions of safety climate than general leadership training (Mullen & Kelloway, 2009).

Even though safety-specific leadership training has a direct positive effect on EHS outcomes, the indirect yet significant effects of general leadership development training cannot be ignored. In addition to supervisors' safety attitudes, Fleming (2001) found that safety behaviors are also primarily influenced by supervisors' relationships with workers. Those organizations that develop leadership qualities in their managers actually see improved perceptions of leadership from subordinates (Kelloway & Barling, 2010), which can engender more organizational commitment in workers (Parker et al., 2001) and improve safety behaviors. We can conclude that leadership training, both general and safety-specific, have a combined positive effect on promoting safe practices in the workplace.

WORKER PARTICIPATION

In the field of occupational safety and health, several factors have become commonly accepted as key elements of leadership. For Dunlap (2011), leadership starts with worker involvement. When workers know they have control over their work environment (e.g., through hazard identification and determining solutions), they are more likely to engage in and even lead EHS improvement initiatives.

Several studies have defined more clearly the participation dimension of worker safety performance (Clarke & Ward, 2006; Neal et al., 2000). Whereas worker *compliance* implies mere adherence to EHS procedures and performing work in a safe manner, *participation* implies a greater voluntary element and may include helping others, showing initiative, observing the behaviors of coworkers, keeping management apprised of safety concerns, and putting extra effort into improving workplace safety (Neal et al., 2000). This qualitatively different type of engagement is described by Mearns and Reader (2008) as *safety citizenship behavior* (SCB). SCB can be seen as reflective of shared leadership, or this interactive process by which workers influence and lead one another toward organizational goals, regardless of their formal position in the organizational hierarchy (Pearce & Conger, 2003; Lovelace et al., 2007).

Related to SCB is the concept of upward safety communication, which is described as the safety concerns expressed by workers to their supervisors or managers (Michael et al., 2006; Kath et al., 2010a). In an organization with ample upward safety communication, workers feel free to raise concerns in pre-task planning and address potential hazards with their supervisors. Another common example of upward safety communication is workers' ability to stop work when unsafe conditions are observed. Those organizations with a good error management climate have workers who communicate errors to supervisors and mutually find ways to learn from safety critical events (Cigularov et al., 2008). This combination of upward safety communication and quality error management is likely to raise the level of trust among workers toward their executives and managers, strengthen organizational safety climate, and eventually lead to improved safety outcomes.

Many researchers have looked at the context in which upward safety communications take place. Kath et al. (2010a) found that workers are more empowered to communicate when they know that EHS is management's primary concern. While management's EHS attitudes are important, so is the general dyadic relationship between managers

and workers often referred to as leader-member exchange, or LMX (Michael et al., 2006). When the quality of leader-member relationships is high, so is the number of safety conversations that take place between managers and workers (Kath et al., 2010a). LMX has been found to be a better predictor of safety incidents than using upward safety communication alone, and those workers with better relationships with their supervisors are less likely to be injured or experience a near miss (Michael et al., 2006). Additionally, when workers know that supervisors truly care about their safety, they are not only less likely to under-report, they also experience far fewer risk-taking behaviors, incidents, and injuries (Probst & Estrada, 2010; Lu & Yang, 2010; Luria, 2010; Ruppel & Harrington, 2000; Watson et al., 2005). To put it simply, it is the quality of the relationship with a leader that garners trust and encourages upward safety communication (Luria, 2010). Fostering the incidence of LMX, SCB, and upward safety communication is a concrete way to involve workers in safety initiatives.

Practical suggestions for getting workers more actively engaged in EHS may be obtained from several sources, including the Voluntary Protection Program of the U. S. Occupational Safety & Health Administration (OSHA VPP), the American National Standards Institute's Z10 standard (ANSI Z10), UK's Occupational Health and Safety Advisory Services and its 18001 specification (BS OHSAS 18001), and other voluntary guidelines for occupational safety & health management systems. Worksites that use OSHA's VPP guidance do so in an attempt to create safety and health systems that go beyond compliance. This can include worker participation in hazard assessment, inspections, EHS training, and evaluation of the EHS management system. ANSI's Z10 Guide defines worker engagement as having opportunities to provide upward feedback, being kept informed, feeling appreciated, and having a strong sense of management commitment. OHSAS 18001 refers to the need for organizations to ensure worker participation in specific areas of the management system, including hazard identification, risk assessments, and incident identification. It also has a focus on the role of contractors in reviewing organizational decisions that directly affect their safety and health.

SAFETY CLIMATE AND SAFETY CULTURE

Developing a strong safety culture refers to the process of embedding EHS within organizational core values and impressing upon all workers that EHS excellence is essential to business success. Leadership

undoubtedly plays a major role in this process. Dunlap (2011) has identified some of the functional elements of what it takes to establish a strong safety culture. First of all, there needs to be a shared understanding of how safety culture is defined and what specific steps will be taken to build and sustain it. Second, there should be no doubt that excellence in EHS is a corporate value, rather than a priority, and under no circumstances takes a back seat to production. Third, management's actions and words need to go hand in hand to demonstrate that EHS is not just another work-related activity. Finally, worker safety perceptions toward safety climate, management commitment, manager participation, communication, and safety support activities, can be used as a leading metric to gauge organizational safety culture.

It is important to note that there has been much debate in the occupational safety field regarding the difference between *safety climate* and *safety culture*, and if indeed there is a difference. Several researchers describe safety climate as a snapshot of workforce perceptions of safety or the shared perceptions of managers and workers regarding the organization's safety policies and practices (Kath et. al., 2010b; Mearns & Flin 1999; Yule & Flin 2007). Safety climate, like a weather forecast, can change from day to day with shifts in conditions. Such changes, as reflected in worker perceptions and attitudes, are easier to measure than safety culture, which refers more to entrenched assumptions or tacit beliefs about safety that may not be directly observable (Moran & Volkwein, 1992). Roughton and Mercurio (2002) sum up safety culture as "the way it is around here," or the unwritten rules of an organization (29).

Maintaining a strong safety climate and safety culture is impossible without effective leadership and supervisor involvement. Zohar and Luria (2003) found that as the number of positive interactions supervisors had with workers increased, so did worker engagement in safety behavior and the organization's overall safety climate score. Managers and supervisors who regularly check-in with subordinates reinforce the idea that the organization's emphasis on EHS is not a fleeting commitment. This managerial involvement triggers "the mental attitude of the employee, [which] is the ultimate key to avoiding accidents" (Roughton & Mercurio, 2002:14). Because messages of safety culture are filtered through supervisors to workers, if supervisor involvement with workers is not high (i.e., poor leader-member exchange relations), then the managers' commitment and the greater message of the safety culture may not trickle down to the worker level, no matter how strong the safety culture is (Yule & Flin, 2007). Effective leadership must therefore be present at all levels of an organization to maintain strong safety culture and climate.

OBJECTIVES

This report was developed and based on research conducted by the Campbell Institute. Researchers at the Institute sought to develop an understanding of what EHS leadership means to world-class organizations and take an in-depth review of industry best practices with respect to EHS leadership development. It is our hope that the report will confirm the importance of effective leadership in improving EHS performance. Other organizations on the journey to EHS excellence may use this information to develop or tailor new or existing initiatives by emphasizing the need for EHS leadership that executives, managers, supervisors, and frontline workers provide. Another long-term objective of this research is to lay the foundation for more in-depth studies in the future.

METHODS

In its previous research, the Campbell Institute found five principal attributes among world-class EHS organization, the first being superb leadership on the part of executives and other managers to create a corporate culture in which dedication to workplace safety, worker health, and environmental sustainability is considered of equal importance to and inseparable from business performance. To better understand the various facets of EHS leadership – how it's grown and demonstrated – the Institute conducted qualitative interviews with nine of its Charter Members and Campbell Award winners. Even without their previous affiliations with the Campbell Institute, these companies are recognized leaders of safety and sustainability in their respective industry sectors. It is for this reason that these organizations were specifically chosen for this study.

The interview guide, comprised of a series of open-ended questions, was developed by Campbell Institute staff in collaboration with its Research & Knowledge Sub-committee. Based on a review of the current literature on leadership, the interview guide was then pilot-tested by the Sub-committee and other experts in the field of occupational safety and health. Campbell Institute researchers conducted the interviews in person or via phone during April and May of 2013. The scope and objectives of the study were explained at the beginning of the interviews. Participants gave verbal consent to take part in the study and for the interviews to be audio recorded. The recordings, approximately one hour in length, were transcribed and analyzed to identify common themes and elements relating to leadership. Because of this study's small sample size, generalizing the results to all companies, even those of comparable size, is difficult, yet we believe that the findings offer insight

into how corporate leaders in EHS have achieved and continued to maintain their success in EHS practices.

The study participants included nine Campbell Institute Charter Members, four of which are also Campbell Award winners:

- › DM Petroleum Operations Company (2006 winner)
- › Gulf Petrochemical Industries Company (2008 winner)
- › Schneider Electric North America (2009 winner)
- › The Dow Chemical Company (2010 winner)

The other Charter Members interviewed included:

- › Cummins, Inc.
- › Exxon Mobil Corporation
- › PotashCorp
- › United States Steel Corporation
- › Whirlpool Corporation

For more information on the study participants, please see the Appendix.

INTERVIEW QUESTIONS

LEADERSHIP STYLE

- What qualities or skills of your CEO make him an effective leader in EHS?
- How does your CEO visibly demonstrate his commitment to EHS within the company?
- How does your CEO set a positive example in regards to EHS?

ACCOUNTABILITY

- What is the highest level of leadership held accountable for EHS at your company?
- What kinds of EHS metrics are built into your leaders' performance reviews (e.g., leading vs. lagging)?
- What methods of communication does leadership employ for making safe work practices visible to all employees throughout your organization (e.g., publications, technology, etc.)?
- What lengths has management taken to become accessible to employees in regards to safety issues and concerns?

WORKER EMPOWERMENT

- Do you think your company employees see meaningful opportunities to be personally engaged in promoting safety in the workplace?
- Is employee input included in the process of developing or revising EHS policies and practices?
- Are there rewards or incentive programs that are designed to recognize frontline employees for their contribution to EHS?

EHS AND ITS ROLE IN BUSINESS DECISIONS

- Does the C-suite get involved in the development of your company's EHS policy?
- To what extent do you think EHS considerations inform business decisions within your company?
- What role does EHS play in business decisions (e.g., mergers and acquisitions)?
- Please describe how the organization approaches relationships between the workforce and management, including contractors.

LEADERSHIP TRAINING

- Is leadership throughout your organization required to take EHS training?
- What kind of EHS training is a requirement for leadership throughout the levels of your organization?
- What other kinds of training are available to leadership within your organization?

SAFETY CLIMATE AND CULTURE

- How does leadership inspire, build, and continue to uphold an EHS culture, nurturing positive behaviors and practices?
- Please explain how the management style contributes to the EHS culture at your organization.
- How does your organization assess and measure EHS culture?

EHS LEADERSHIP STYLE

When asked what effective leadership in EHS meant, all companies' responses centered around three themes: inspiration, business practices, and knowledge. Regarding inspiration, these companies believe that EHS leadership begins with the CEO and managers leading by example in their commitment to workplace safety. It is through words and actions that senior leaders motivate their workers to stay safe on and off the job, often by making the EHS message personal through stories of family ties and close relationships. These actions invoke the transformational leadership style where managers lead by example and seek to motivate their workers from within. Effective EHS leaders also know how to create an environment in which it is comfortable to ask questions about and express concern for EHS matters. In addition to this emotional and cultural commitment to safety, good EHS leadership also emphasizes that EHS is essential to good business. As DM noted in its Campbell Award application, "Top business performance is due to (not in spite of) focus on the worker, the public, and the environment." True EHS leadership is built upon the belief that workplace safety affects a company's bottom line through worker perceptions and morale. Finally, companies cited the need for senior leadership to stay informed of the latest news and research in EHS practices by making best use of resources both inside and outside the organization. This combination of technical knowledge and excellent communication skills was cited numerous times throughout the interviews as being the trademark of an exemplary EHS leader.

MANAGEMENT COMMITMENT

It is no surprise that all these companies' CEOs are viewed as EHS leaders within their organizations, yet this demonstration of commitment to EHS comes through different means. CEOs at GPIC and DM regularly address the entire company through speeches or videos that prominently feature the topic of safety and health in addition to overall organization performance. Many CEOs have ties to the community outside their companies and may headline conferences on best practices in workplace safety (such as Whirlpool's Jeff Fetting) while also donating time and money to community causes to improve health and sustainability (such as Schneider Electric's Chris Curtis' work with the American Heart Association.) Some CEOs serve on national committees to emphasize worker safety across the country (such as GPIC's Abdulrahman Jawahery who represents the industrial sector in Bahrain's National Assembly and seeks to establish in Bahrain

an organization similar to OSHA in the U. S.) Not only are CEOs perceived as EHS leaders in their companies, but they perceive themselves this way, with the knowledge that a culture of safety stems from the top of the organization. Many conduct site visits personally to view operations and speak individually with workers, what PotashCorp calls "management by walking around." Often leaders will take criticism for unpopular EHS policies, such as CEO Tom Linebarger when Cummins decided to prohibit the use of cell phones while driving. Despite dissent, Mr. Linebarger maintained his commitment to the policy, saying that while inconvenient, it "was just the right thing to do."

The senior leaders of our interviewed companies claim ultimate responsibility for any incident that may occur in their organizations and demand immediate notice of any major incident, day or night. Leaders at DM stay visible and accessible during and after crises and put together a list of lessons learned after each incident to distribute to workers. This personal commitment to EHS is best summarized by the CEOs practicing what they preach to their workers and by recognizing this demonstration of commitment as a good business practice. As Rex Tillerson of ExxonMobil has been known to say, "If you get safety right, the rest follows."

COMMUNICATION

In companies with such exemplary safety and sustainability records, the message and culture of safety has been effectively communicated and disseminated throughout the organization. This communication of EHS comes through many different channels, however. Many companies distribute EHS messages regularly via videos or letters from the CEO, such as the messages Chris Curtis of Schneider Electric sends out to workers before company holidays. Schneider Electric has also provided its workers and customers with a free DVD entitled "It's a Matter of Your Safety" (over 10,000 DVDs have been distributed to date). Dow's CEO Andrew Liveris begins each broadcast of the Dow Global News with an update on EHS performance and even maintains a blog called "Access Andrew" to address business and EHS concerns of workers. Other companies make EHS values clearly visible in worker handbooks and bulletin board announcements at every site. U. S. Steel's Safety Values Document, which emphasizes "Safety First" and the belief that all incidents can be prevented, is prominently displayed throughout the entire organization including lunch rooms, conference rooms, billboards, gate entrances, shop floors, and offices and is routinely referenced by all workers



within the organization. Cummins' intranet contains information on best EHS practices currently in use throughout the organization, allowing anyone within Cummins to access knowledge on how to make their sites safer. Monthly corporate newsletters containing EHS messages are standard at most of the companies interviewed. PotashCorp even sends out a daily email company-wide detailing any recordable injuries in the past 24 hours and providing the incident rate as of that day. Additionally, this email contains a list of EHS milestones for specific PotashCorp sites and provides detailed charts and statistics to track progress from previous months and years. This email delivers not only pertinent and timely information on safety, but also serves to encourage workers in maintaining safe practices.

Some organizations have entire days or a week set aside to communicate the EHS message to workers and their families. GPIC holds an annual EHS week with activities for workers and their children to promote knowledge of safe practices. Recently, GPIC workers and their families participated in a clean-up of a Bahrain beach to emphasize environmental responsibility.

ACCOUNTABILITY

Many of our interviewees agreed that effective EHS leadership is a major consideration for promotions and performance evaluations, such as at GPIC and DM, which factor worker regard for safety and safe behaviors into performance reviews. An implication that can be drawn is that making EHS a component of evaluations and/or succession plans is a way of keeping managers (and anyone who aspires to be a manager) accountable for safety.

The mix of key indicators in EHS performance evaluation varies from company to company, and world-class organizations are keen to recognize that basing compensation solely on lagging indicators is not the pathway to EHS excellence. It is evident regarding the issue of EHS and performance evaluation that world-class organizations have been incorporating more leading metrics into their overall assessments, a trend that will continue and no doubt be emulated by up-and-coming organizations. U. S. Steel currently uses a 60/40 split in lagging and leading indicators, yet this ratio was 80/20 only six or seven years ago. U.S. Steel supervisors are now required to engage their workgroups in safety conversations, an action that currently accounts for about 14% of their leading metric-based performance. The company is working to incrementally include even more leading indicators in future assessments. The main leading indicators at Dow are medical first aid cases, precautionary medical visits, and near misses, which are used to predict where more

serious injuries are likely to occur. GPIC tracks six leading indicators including behavior-based safety programs, observations, safety meetings, suggestions from workers, health indicators, and sustainability projects. As an incentive to promote the use of leading indicators, workers can award points to other workers for safe behavior, such as reading GPIC's "Safety Matters" newsletter or reporting a potentially hazardous situation. These points can be accumulated and exchanged for prizes at the end of each year, reflecting a transactional leadership style. If the aforementioned metrics from U. S. Steel, Dow, and GPIC were graphically displayed together based on their proximity to the occurrence of injuries, crashes, or other adverse events, the resulting plot would illustrate a range of opportunities where one could intervene to avoid a disastrous outcome.

Throughout our interviews, we found that the use of lagging and leading indicators highly depend on a person's position within the organization. Because lagging indicators are more readily measured, they are typically used in everyone's performance review from executives to frontline workers, yet are more heavily weighted for executives, managers, and other supervisors. In other words, their reviews and compensation are based on the recordable incident rates of their teams, sites, or organizations as a whole, which speaks to the ultimate accountability those at the top have for everyone else. Frontline workers on site operations levels are evaluated on a mix of leading and lagging indicators, yet more emphasis is placed on leading indicators: completing EHS training, attending safety workshops, reporting near misses, correcting behavior, conducting hazard assessments, etc. PotashCorp refers to leading and lagging indicators as "input targets" and "output targets" in its EHS manual. Because input targets are used to drive behavior, PotashCorp sees them as a better evaluation for individuals or facilities. And because outcome targets help "demonstrate commitment," they are best used to evaluate those at higher levels of the organization.

The principal reason for this emphasis on leading indicators, as expressed by several of our interviewees, is to not suppress the reporting of injuries and incidents by workers. ExxonMobil has implemented a new way of tracking and displaying incident rates – the sign at the front of its business headquarters in Irving, Texas, announces the number of cumulative safe days at work in a given year, as opposed to the number of days since the last incident. This way of displaying information keeps everyone apprised of what has occurred at their site, yet also doesn't discourage workers from making reports.

From this small analysis, we can conclude that having EHS performance built into executive and worker

WHIRLPOOL

"[Commitment] means managing safety just like cost, quality, production, and other metrics. Safety and EHS have a seat at the table just like those other parameters."

reviews, reflective of transactional leadership, is an essential component of keeping companies safe as well as successful. Rigorous evaluation of EHS behavior reinforces the idea that safety and sustainable practices are central to a company's culture and mission and that leaders are ultimately accountable for an organization's EHS record.

WORKER EMPOWERMENT AND PARTICIPATION

All companies mentioned the importance of maintaining an open line of communication among all workers, to have workers comfortable not only with bringing concerns to managers, but also with intervening when they see unsafe behavior. Cummins, Schneider Electric, and GPIC have formal suggestions systems through which workers can provide their opinions and feedback on EHS policies. GPIC's program awards workers for making suggestions that are successfully implemented and Schneider Electric guarantees that all workers' suggestions will be addressed within 24 hours. Other companies like DM, Dow, and PotashCorp regularly conduct worker perception surveys to gauge how effectively the company's EHS message is conveyed. DM's Employee Satisfaction Survey consistently shows that workers have a positive perception of DM's EHS message and feel that the company highly values worker safety and health. PotashCorp's cultural survey, conducted every two years, demonstrates continued improvement in workers' willingness to approach others on EHS issues.

All our interviewees stated that they encourage leader-member exchanges (LMX) and upward safety communication. PotashCorp in particular sees upward safety communication as a means of both worker empowerment and involvement in EHS practices. PotashCorp has campaigned hard to encourage all workers to take on an informal, if not formal, leadership role in EHS and intervene regardless of another person's position in the organization. This effort to deemphasize the hierarchical structure of the organization (reminiscent of "shared leadership") when it comes to EHS is part of ExxonMobil's strategy to improve EHS performance. The more people are open and honest about EHS concerns and violations, regardless of rank, the better EHS outcomes will be.

Many organizations find ways for workers to be involved in the development of EHS policy. DM's participation in OSHA's Voluntary Protection Program (VPP) and behavioral processes are employee-owned with assistance from EHS professionals. At ExxonMobil, workers can get engaged in EHS leadership by suggesting or writing new procedures and conducting behavioral-based

safety (BBS) operations, among numerous other ways. Cummins' "Find It, Fix It" program is designed to get workers in the engine business unit involved in developing and adhering to EHS policy. GPIC's Corporate Governance Model involves not only stakeholders, but also workers in decision-making processes regarding safety and health.

Some organizations have truly unique ways of involving workers in managing EHS practices. Dow's "Waste Reduction Always Pays" (WRAP) award honors individuals and teams who find innovative ways to reduce waste at Dow facilities. At Schneider Electric, workers can get involved in the filming of safety videos, usually shot on company sites using the workers as actors. Three to four videos are produced each year and cover various topics such as fatigue, rushing, and ergonomics.

Whirlpool may have stated it best by defining worker empowerment as "bringing workers to an awareness that their own knowledge, expertise, and attitudes can create a safe and healthy workplace." In other words, worker empowerment is essential if Whirlpool, or any other company, is to achieve its EHS mission. Whether it is through policy development, hazard identification, near-miss reporting, or coworker intervention, safety citizenship behavior (SCB) is a necessary component in world-class companies.

EHS AND ITS ROLE IN BUSINESS DECISIONS

In making major business decisions, giving EHS the same amount of attention as profitability communicates to those in the organization that EHS is more than just a passing consideration – it is a core cultural value. When managers make business decisions to protect worker health and safety above all else, they are once again demonstrating their accountability to their workers.

While the C-suites of these companies ultimately hold themselves responsible for the implementation of and compliance with EHS policies, the development of those policies appears mainly driven by the organizations' EHS managers and EHS teams at various company sites. This gives the impression that the best EHS policies are not those that are simply handed down from the corporate offices, but those that are generated from the middle of the organization with input from site-level operations, such as at Schneider Electric where the EHS managers primarily act as a technical resource, not an enforcer of EHS policy. U. S. Steel offers an example that is very similar to the other companies interviewed. Sub-teams at the site level typically generate EHS procedures and submit them to its Safety Review Board. After passing this Board's review process, new procedures are then submitted

CUMMINS

"As a leader, it's up to you to make sure that the EHS climate and culture are right to set an example to inspire others."

EXXONMOBIL

"[EHS leadership] means taking a manager who's good at being a leader and providing them with the tools, concepts, and the fundamental principles that are important for excellence in EHS performance."

GPIC

"EHS is nothing you can embrace if you don't believe in it. If the genuineness isn't there, it will not happen. [If] the most brilliant CEO of the most efficient company does not genuinely believe in the importance of EHS – and it is the core value of the business – then there is no such thing as EHS leadership."



to the Corporate Safety Steering Team for final approval and implementation. At Cummins, the EHS Council is led by the President of Manufacturing and receives input from manufacturing excellence leaders and safety excellence leaders from every business unit. This council develops EHS policies in collaboration with business units and regional representatives which are then passed on to the corporate level for its input and approval.

Speaking about all our interviewees in general, while the CEO and others in the C-suite may not have been directly involved in developing EHS policies and procedures, they nevertheless see their roles as owning all corporate objectives and key performance indicators. To sum, excellent leadership in EHS policy development means facilitating idea generation at the operations level with guidance from EHS managers and then throwing full executive support behind these policies once approved.

Good leadership in EHS policy development also means having a long-term vision of where an organization should be in terms of EHS in the future. While emphasizing the importance of a balanced approach to tracking EHS performance at the corporate level, PotashCorp's five-year plan has the broad goal of being the safest resource company in the world as measured by injury rate. At Dow, executives unveiled a ten-year plan in 1995 with goals to have a 90% reduction in injuries and spills by 2005. Many people at Dow did not think it was possible to achieve such reductions, but because Dow's leaders challenged the company and its workforce, it was able to unlock innovation. Due to Dow's great success in its first ten-year plan, it had the confidence to launch another set of goals for 2015. Effective leaders thus possess the vision and ambition to set lofty goals, and in so doing motivate their workforces to commit to behavioral changes and have confidence in the process.

EHS leadership also entails realizing that different sites may require specific EHS standards while at the same time recognizing the need for company-wide standards. PotashCorp is currently developing a list of Tier 1 standards to be implemented across the organization (as opposed to Tier 2 and Tier 3 standards which are nutrient- and site-specific, respectively). This list of 20-30 key Tier 1 standards will be used across PotashCorp and be seen as the core EHS elements that every site is expected to have.

Each of these companies' staunch commitments to EHS policies has undeniably meant that issues of environment, health, and safety have factored into major business decisions. Several companies have decided to close facilities or opted not to pursue projects because of safety or environmental concerns. For instance, ExxonMobil decided not to pursue a promising new oil source in the Gulf of Mexico due

to safety concerns and Dow has closed some facilities because of changing environmental concerns near its sites. When it comes to good business, Dow mentioned, "EHS has the trump card."

Other companies invested in new technology to reduce their impact on the environment or to improve worker safety. GPIC, for instance, invested nearly \$65 million in a Carbon Dioxide Recovery Unit to reduce its carbon footprint. Schneider Electric modified a conveyor belt system in a Lincoln, Nebraska plant and installed it overhead to avoid having workers step over it. Both of these projects did not have any foreseeable financial incentive, yet GPIC and Schneider Electric felt that they gained immeasurable benefit in worker morale, increased productivity, and reputation as a good corporate citizen. Schneider Electric does not have to justify a monetary return on investment for its EHS projects; the mere fact that such projects will prevent injuries is the only justification it requires.

Most companies stated that EHS also takes center stage in mergers and acquisitions, as well as in potential relationships with subcontractors. DM ranks all proposed projects with safety and environmental concerns topping the list. All subcontractors are thoroughly vetted for their EHS performance records and if a subcontractor does not meet DM's standards, it is barred from bidding on any future DM contracts. Dow carefully selects suppliers, manufacturers, and distributors based upon their EHS performances and has decided not to pursue business relationships or purchases of companies when due diligence assessments revealed poor EHS practices. The title of Dow's Campbell Award application was "The Inseparability of Safety and Business Success," and it is clear that this phrase holds true not only for Dow, but all of Campbell's award winners and Charter Members.

LEADERSHIP TRAINING

Leadership training, whether it is general management development or safety-specific technical training, is essential to giving managers the competence for leading others to safe behaviors. While some companies may be fortuitous enough to hire natural EHS leaders, most organizations have a process in place to grow EHS leaders from within. All nine of our interviewed companies provide extensive training in safe practices and/or leadership for workers and supervisors, although this training may differ in extent (the number of topics covered), length, frequency, and who is required to take the training. It appears that all organizations, even the largest ones, require their workers to pass a basic EHS training course. Depending on job function, some workers will have to complete additional training modules. All companies have implemented online training courses

U.S. STEEL

"We have made a very conscious effort not to look at the economic side of safety. We just don't see the value in doing that. We really look at this more from a human perspective versus the investment we make in safety or the return we're getting back for the business."

(most appropriate for office workers) but find that hands-on and/or classroom training is most effective for those workers in operations. Workers in sales and marketing at Schneider Electric, for example, are required to take 2-3 hours of online safety and environmental training while workers in operations and services are required to take 12 hours of hands-on training per year. All supervisors and managers are required to understand Schneider Electric's sixteen directives for safety outlined in its safety and occupational health handbook. Additionally, Schneider Electric offers an off-the-job safety program and encourages its EHS managers to attend the National Safety Council's annual Congress and Expo.

At GPIC, all workers go through basic EHS training that includes environmental awareness, health awareness, and housekeeping. New workers are usually hired directly from college and spend their first five days in EHS training and then receive additional training for their specific job descriptions. GPIC workers essentially receive years of on-the-job training, including EHS training. Superintendents must undergo more extensive training and become certified in the standards provided by the Institute of Occupational Health and Safety Professionals in the United Kingdom. To encourage its workers to maintain their knowledge of health and safety, GPIC has set up an eLearning Center for workers to partake in Continuous Personal Development training courses.

Several of these companies required their managers, supervisors, and executives to take courses or participate in workshops on leadership and communication. Seeing as so many companies cited the conveyance of safety's importance as a key attribute of an effective EHS leader, it follows that these organizations would train their leaders to polish their communication styles and "soft skills." Cummins has a 10-hour leadership training course for all supervisors and plant managers called "Live It, Lead It." U. S. Steel currently requires all new managers to attend one to two weeks of safety training prior to even stepping foot into the operations. In addition to this orientation, managers within the company are expected to attend ongoing mentoring as well as technical and leadership workshops throughout their careers to build their EHS skills and capabilities. DM implemented a professional development and management training program using the Project Management Institute's framework, and is implementing a new EHS leadership training program called "Beyond Zero." DM also sends their executives to leadership training offered by the Center for Creative Leadership. Both ExxonMobil and PotashCorp are developing leadership training for managers to help them convey the value of safety, challenge workers to make bigger commitments to EHS, and to talk about EHS in terms of personal responsibility instead of mere numbers and rates.

MAINTAINING A STRONG EHS CULTURE THROUGH STRONG LEADERSHIP

An organization's safety culture refers to the collective beliefs and assumptions that a workforce has about the organization's commitment to worker safety. As stated earlier, a safety culture is the unspoken ways in which manager and workers understand "the way things are around here" when it comes to EHS. To effectively make EHS an integral part of an organization's culture, several of our interviewees explicitly stated that safety is a value, *not* a priority. Whereas priorities change from day to day or year to year, a value is something that remains constant. Our interviewees demonstrated that their EHS values are firmly embedded in their organizational culture.

An example of embedding the EHS message into an organization's culture comes from ExxonMobil's Operations Integrity Management System (OIMS), which provides the framework to manage safety, health, and environmental risks. OIMS guides the activities of all ExxonMobil workers and contractors and translates the company's vision of EHS into actionable items. This management system is a focal point for operational performance and EHS practices, permanently linking the two and keeping EHS a cornerstone of the company's culture.

To encourage a culture in which EHS is emphasized, many companies hold special events to celebrate milestones and promote safe behaviors (a transactional leadership strategy), encouraging the participation of all in the organization. Cummins' "April Safety Month" has turned into a competition among workers to identify risks in the workplace. Cummins also started its own internal "Ergo Cup" competition to collect nominations for best practices in ergonomics from their locations all over the world. Schneider Electric creates volunteer projects for its workers on Earth Day and uses May (National Electrical Safety Month) and June (National Safety Month) to reach out to workers and communities to raise awareness of electrical safety and protect their homes. Many companies hold special events to celebrate exceptional achievements in EHS performance.

All our interviewees had EHS represented somewhere in their mission statements or core values.

- 】 DM's very first core value, Mission Readiness, specifies that operations be both safe and environmentally responsible.
- 】 Dow's strategic theme is "Setting the Standard for Sustainability," which means that protecting human health and the environment is Dow's foundation. Its "Vision of Zero" means having zero accidents, zero injuries, and zero excuses.

CUMMINS

"We really need leaders to understand what their role is in the safety process. With our training, we take them through the transformation process to get them to understand why their role is critical. We really focus on the leader and what that means."

SCHNEIDER ELECTRIC

"At the end of the day, the message is 'We care about you.' It's not about the money. It's the messaging; it's the actions. It's what you see day in and day out that truly matters to develop that culture."

- › Since 2001, ExxonMobil's primary objective has been "Nobody Gets Hurt."
- › While not trademarked, U. S. Steel believes it was the first company to use the motto, "Safety First" in 1912.
- › Safety is one of Whirlpool's four primary pillars along with quality, cost, and deliverability.

CONCLUSIONS

This report reveals several important aspects of what leadership and leadership development entail for organizations that are truly world-class when it comes to EHS performance. Our research found a good deal of resemblance among Campbell Award winners and Campbell Institute Charter Members in the way they philosophically view the role of leadership in EHS. These organizations are all in agreement that effective leadership is what drives successful performance in every single aspect of business operations, but especially in EHS. It is obvious that the emphasis on leadership in the area of occupational safety, health, and environment stems from the shared realization that allocating resources, developing policies, revising procedures, implementing performance standards, etc. are integral components of EHS management. However, they are only a starting point on the road to excellence. Management commitment, managers' competence, worker empowerment, voluntary participation, internal motivation, trust and respect, open communication, and strong safety culture are some of the quintessential traits that individuals and organizations need to have in order to make the transition from being good to great.

LEADERSHIP STYLE

It is clear that both transactional and transformational leadership styles have recognized benefits. Organizations whose managers employ purely a transactional leadership model likely have solid EHS records and are successful in gaining compliance from workers in terms of EHS procedures and goals. Those managers that apply both transactional and transformational leadership models are not only able to help their workers meet predetermined EHS performance goals, but can inspire them to engage in safety citizenship behaviors thus setting a great example for others to follow. This addition of a transformational leadership style is what sets industry leaders apart from the pack and identifies them as "world class." It's not surprising that in our research with nine Campbell Award-winners and Campbell Charter Members, we found numerous illustrations of how a combination of transactional

and transformational leadership styles brings about remarkable achievements.

ACCOUNTABILITY

The study offers a number of interesting observations concerning the contribution that personal qualities – accountability, trust, credibility, self-efficacy, and competence – have in building strong working relationships between leaders and followers. To demonstrate accountability, effective leaders regularly relay messages of safety to workers and fellow executives through various channels. Additionally, building EHS into executive performance reviews reinforces the idea that safety and sustainable practices are central to company values and that leaders are ultimately accountable for an organization's safety record.

This study demonstrated another important principle, which is world-class organizations use lagging and leading indicators to evaluate its overall performance and the performance of its EHS leaders. In this area, two trends appear to be dominant. First, performance measurement in EHS demands a balanced approach whereby both leading and lagging metrics are applied to arrive at a comprehensive view of what organizations are doing right and what they are doing wrong. Second, individuals near the top of the corporate ladder (i.e., senior directors or higher) are typically judged by how well the organization, or its units, does on lagging metrics such as injury rates or costs, whereas leading indicators get relatively more attention in performance evaluation of managers and frontline supervisors. This topic warrants further research and is an issue the Campbell Institute hopes to address in the near future.

WORKER EMPOWERMENT

Our findings support other research reports (Fleming, 2001; Huang et al., 2004; Probst & Estrada, 2010; Roughton & Mercurio, 2002) suggesting that one of the most effective tactics to obtain buy-in and participation from all in the organization is to share leadership roles among workers and managers when it comes to EHS policy development and implementation. That is, the more EHS policies are developed with input from lower tiers of the organization, the better those policies will be accepted. Our findings lend support to the notion that positive leader-member exchanges are crucial in building a strong safety climate through improved upward communication, increased safety citizenship behavior, and more positive perceptions toward EHS among workers. To encourage worker participation in safety, they need to have not

only the opportunity to participate (e.g., through safety committees), but also the belief that their opinion is valued and that they will not be reprimanded for speaking out. In other words, worker empowerment in combination with strong leadership paves the way to excellence in EHS.

EHS AND BUSINESS DECISIONS

The research revealed that part of having a strong safety culture is incorporating EHS into all major business decisions, such as product development, mergers, acquisitions, and subcontractor relations. Keeping a “seat at the table” for EHS is a proactive approach to maintaining an excellent safety record and communicates to all in the organization that safety is a core organizational value.

In his presentation to the Campbell Institute’s 2012 Executive Forum, Frank Sherman, President of AkzoNobel, stated that safety is in itself a leading indicator of other business aspects. If a company has a great EHS record, that tends to be correlated with high worker morale, elevated customer satisfaction, and increased efficiency and product output. That is to say, rather than seeing EHS as its own contained mix of lagging and leading indicators, it’s prudent and broadminded to approach EHS as a leading indicator of business performance. As many of our interviewees would state, strong safety, health, and environmental management performance just makes good business sense.

LEADERSHIP TRAINING

When it comes to communicating safety, this research demonstrates that leadership training is essential. Such training typically focuses on developing the charismatic, persuasive qualities of leaders to effectively communicate the importance and value of EHS policies. Leadership training combined with technical safety training ensures that safety leaders are grown within an organization.

SAFETY CLIMATE AND CULTURE

The main challenge for organizations attempting to adopt some of these industry best practices appears to be in figuring out how to adapt them in a way that best fits their existing organizational culture and traditions. Our findings make clear that an organization needs trained leadership and steering from executive and management teams to convey the safety message and maintain company-wide commitment to safe work practices. It is the leader’s responsibility to ensure that safety remains a value, not a priority, if it is to be firmly embedded within an organization’s culture.

The main implication of this research is that there are multiple and diverse pathways to success in EHS through strong leadership. Organizations that are comparable in terms of their EHS record, values, and culture attain their world-class reputation through various leadership methods, all successful. They all have executive staff that highly value EHS, model safe behavior in their own actions, and foster a company culture in which safety and health are seen as critical to business success. While these organizations share like perceptions of EHS, the ways in which they demonstrate commitment to EHS, communicate the importance of EHS, train workers in safe practices, and measure EHS performance differ in a few aspects. Some companies’ executives convey their commitment through formal presentations while others tend to emphasize community involvement. Some companies have official EHS values printed and displayed throughout the organization, while others rely more on verbal communication. Some companies create leadership development opportunities for managers in formal positions of authority, whereas others stress the importance of personal and professional growth from the moment a person gets hired. Some companies believe that safe behavior ought to be rewarded; others say that safe behavior is the norm.

Even the most profitable organizations sometimes struggle to find the resources necessary to develop and implement changes to their EHS management systems. Providing new wellness programs, reengineering manufacturing processes to reduce waste, or creating new ways to transport people and products safely have significant price tags, yet research suggests that finding the money in the corporate budget to fund such tasks is usually the least difficult step. Most difficult is convincing hundreds or thousands of workers to recognize the benefit of safety and environmental policies and to encourage them to change their behavior. This is where the role of leadership in EHS comes in. As Dan Cockerell, Vice President of Operations for Walt Disney stated in his presentation at the Campbell Institute’s 2012 Executive Forum, there is only so much infrastructure a company can put in place to ensure worker safety. At some point, everyone needs to start owning their safety behaviors and being responsible for themselves. A leader’s role is to be the inspiration and motivation to guide individual behavior.

It is anticipated that the key findings of this research will serve as the building blocks for future research on leadership in EHS. The Campbell Institute provides a unique platform for carrying out this type of inquiry because its focus is not limited to a particular hazard, health outcome, industrial sector, or geographic location as is often the case in academic research. The Institute is built at the intersection of policy, practice, advocacy, and research. Thus, it brings together

unique perspectives and skillsets necessary to advance the field of EHS by identifying, translating, and disseminating data-driven practices to vastly diverse audiences of practitioners across the globe.

APPENDIX - STUDY PARTICIPANTS

 Cummins Inc., a global power leader, is a corporation of complementary business units that design, manufacture, distribute and service engines and related technologies. Cummins takes a broad view of sustainability, beyond just environmental and corporate responsibility. Cummins believes that factors such as good governance and risk management, developing great leadership and skilled workers, and providing a safe work environment are all critical to the company's sustainability and success. For the first time in 2011, Cummins met all of its key safety performance indicators, which were the most rigorous ever set by the company. It saw a 32 percent improvement in its incidence rate compared to 2010 and recorded no major injuries and no dangerous occurrences in December 2011 – a first since 2009.

Cummins has maintained a reputation as a company whose corporate values include health, safety and environment. Actively engaged and personally invested leaders and workers at all levels work together to sustain and continuously improve EHS work methods, behaviors and conditions, beyond the expectations of legal regulations, industry targets and best-in-class indicators for excellence. These defined, scalable and repeatable processes, which others choose to benchmark or emulate, are resulting in measurable improvement to the standard of living for Cummins workers, contractors, stakeholders, families, communities, and environment.

Cummins' Chairman of the Board and Chief Executive Officer Tom Linebarger has been with Cummins since 1998 and has served in several capacities as Executive Vice President and Chief Operating Officer. He has been the Chairman and CEO since December 2011.



DM Petroleum Operations Company (DM) is a privately-held company that holds the management and operating contract for the U. S. Department of Energy's Strategic Petroleum Reserve (SPR). The oil is stored in 62 large underground salt dome caverns at two industrial sites in Louisiana and two in Texas; each site holds 11.2 million barrels of oil. Oil can be moved quickly to designated points within mandated timeframes, such as during an emergency sale of oil during Operation Desert Storm, to offset high heating oil costs in the U. S. Northeast in 1999, and after hurricanes Rita and Katrina in 2005. DM received its initial contract in 1993 and has renewal options through 2013.

According to DM, their Purpose, Vision, Mission, and Core Values are directly aligned with the DOE's Vision, Mission, and Values. DM's mission is to excel at delivering safe, secure, environmentally responsible and cost effective SPR operational readiness.

DM's President Robert E. McGough joined DM Petroleum Operations Company in 1993 as the site manager for SPR'S West Hackberry site and was promoted to the Operations and Maintenance director that same year. He has been the President and Chief Executive Officer since January 2001.



Established in 1897, The Dow Chemical Company (Dow) is a diverse chemical company that provides a broad range of products to customers in 160 countries. Its major focus areas include fresh water, increased food production, renewable energy generation, and pharmaceuticals as well as paints, packaging, and personal care products. Headquartered in Midland, Michigan, Dow employs approximately 52,000 people worldwide and manufactures more than 5,000 products at 214 sites in 37 countries. The company's five business segments include Dow Advanced Materials, Health and Agricultural Sciences, Basic Chemicals, Hydrocarbons and Basic Plastics, and Performance Products and Systems.

Of the four pillars of Dow's corporate strategy, "Setting the Standard of Sustainability" is just as important as achieving financial success or hiring the best people. For everyone at Dow, sustainability means making every decision with the future in mind. It's all about Dow's relationship with the world – helping to create economic prosperity and social value while contributing to the preservation of the planet. Dow's "2015 Sustainability Goals" demonstrate citizenship through stronger, safer communities,

offer solutions that will make a lasting, positive improvement on the world, and reduce their footprint by understanding their impact on global ecosystems and working toward the efficient and effective use of the planet's precious resources.

Dow's President, Chairman, and Chief Executive Officer Andrew Liveris joined Dow in 1976 in Australia and has held numerous roles in manufacturing, sales, marketing, and general business management. He was named CEO in November 2004 and was elected as Chairman of the Board as of April 2006.

ExxonMobil ExxonMobil is the world's largest publicly traded international oil and gas company, providing energy that helps underpin growing economies and improve living standards around the world. ExxonMobil's commitment to high ethical standards, legal compliance and integrity is reflected in its safety and environmental practices worldwide. Excellence in safety, security and health in the workplace is a core value – one that shapes decision making at every level. ExxonMobil's Outlook for Energy: A View to 2030 outlines a mission of meeting the rising demand for energy in a safe and environmentally responsible way.

ExxonMobil's Operations Integrity Management System (OIMS) establishes common standards to address safety, health, and environmental risk throughout the organization and tracks progress across business lines, facilities, and projects. With OIMS, ExxonMobil has been able to move closer to its goal of *Nobody Gets Hurt*. The workforce lost-time incident rate has been reduced an average of 4 percent every year since 2002 and by 42 percent from 2011 to 2012. Recently in October 2012, the National Safety Council awarded ExxonMobil the 2013 Green Cross for Safety medal for its demonstrated commitment to safety excellence.

ExxonMobil's Chairman and Chief Executive Officer Rex Tillerson joined the Exxon Company in 1975 as a production engineer and has served as a general manager, production advisor and vice president of Exxon Ventures (CIS) Inc., in which he oversaw Exxon's holdings in Russia and the Caspian Sea. After serving as senior vice president and president of the corporation, he assumed his current position in January 2006.



The Gulf Petrochemical Industries Company (GPIC) is the Arabian Gulf Cooperation Council's first petrochemical industrial organization in Bahrain. Founded in 1979 with production beginning in 1985, the company produces 1,200 tons of ammonia, 1,200 tons of methanol, and 1,700 tons of granulated urea per day from natural gas resources. GPIC's business sectors are the Manufacture of Fertilizer and Nitrogen Compounds and the Manufacture of Basic Chemicals. GPIC consists of three production facilities built on an artificial island that houses all utilities facilities, engineering, maintenance, and administrative buildings. The company has 571 employees and between 200 to 300 contractors during normal operations and as many as 3,300 contractors during turnarounds. By the end of 2012, GPIC recorded an excellent safety record of over 15 million person-hours worked without a lost time accident and in July 2010 GPIC became the first company in the Middle East to be accredited to the Responsible Care RC-14001 management system.

According to GPIC, "Holistic Excellence" is a comprehensive approach that proves EHS is good for business. Under this credo, the success of an industrial enterprise is not only measured in profitability, but by the extent of compliance with the health, safety, and environmental systems and quality standards and the contribution to the community as a whole.

GPIC's President Abdulrahman Jawahery joined the company in 1983 as an engineer and has held positions as an operations manager, project manager, and general manager. He has been President since January 2011 and has been a board member of the National Safety Council since June 2010.



PotashCorp
Helping Nature Provide

PotashCorp is the world's largest fertilizer company by capacity. With operations and business interests in seven countries, PotashCorp is an international enterprise and a key player in meeting the growing challenge of feeding the world. In 2012, PotashCorp's senior leadership team convened its first annual safety summit to develop a five-year plan to become the safest resource company in the world. PotashCorp also continues to participate in the Serious Injury Research Project to study the indicators leading to serious injuries and fatalities, which will help develop strategies for injury and fatality prevention.



By embedding sustainability considerations within strategies and company goals, PotashCorp seeks to enhance efficiency, improve management performance, increase the positive impact of its operations, and provide a safe and healthy work environment. The company strives to impart to employees a strong personal safety ethic rooted in awareness, focused on prevention, and motivated by concern for human life. In addition to supplying quality products and building strong relationships with communities, PotashCorp's key organizational goal is to achieve no harm to people and no damage to the environment.

PotashCorp's President and Chief Executive Officer William Doyle has over 39 years in the fertilizer industry and served on PotashCorp's Board of Directors and as a member of its senior management team. He has been in his current position since July 1999. Schneider Electric is a global specialist in energy management operations in over 100 countries, offering integrated solutions across sectors including: energy and infrastructure, industrial processes, building automation, data centers/networks, and residential applications. Headquartered in Palatine, Illinois, Schneider Electric North American Operation Division (Schneider Electric North America), a division of Schneider Electric, employs 19,000 people in 33 plant and logistic sites and provides service to customers in the U. S. , Canada, and Mexico.

 Environment, health, and safety, along with community, are the company's guiding principles. Their employees are the most important asset and therefore safety and health is a top priority. People utilizing safe practices, being environmentally conscious and being healthy at work, home and at play is at the heart of their safety credo. Schneider Electric North America has experienced a 20 percent decrease in the rate of occupational accidents since January 2010.

Chris Curtis is the President and Chief Operating Officer of Schneider Electric's North American Operation Division. He started his career in sales and has held positions in marketing and as Senior Vice President of Sales and Services. He was appointed to his current position in 2008.



United States Steel Corporation (U. S. Steel) is an integrated steel producer with major production operations in the United States, Canada and Central Europe. U. S. Steel has a long-standing commitment to the safety and health of the men and women who work in its facilities. In addition, U. S. Steel's commitment to sustainability drives its operations to adopt management systems and best practices that foster continuous improvement. From January 2005 to December 2012, U. S. Steel saw a 40 percent improvement in its OSHA recordable incidence rate and a 69 percent improvement in its days away from work incidence rate.

U. S. Steel's "Safety First" mindset has been essential to its success as a company and helps it remain focused on its ultimate goal of zero incidents and injuries across the entire company.

John Surma is U. S. Steel's Chairman and Chief Executive Officer. He previously served as Vice Chairman, Chief Financial Officer, President, and Chief Operating Officer before being elected to his current position in February 2006. Mr. Surma also serves on the board of directors of the World Steel Association and the National Safety Council.



Whirlpool Corporation (Whirlpool) is a leader in the global home appliance industry, with its appliances marketed in nearly every country around the world. The corporation is committed to adopting responsible business activities that are consistent with its reputation for integrity and quality. Whirlpool promotes this goal by making environmental, health and safety considerations a top priority in all of its business planning and decision-making processes. Whirlpool employs its own rigorous standards when it comes to occupational health and safety, beyond the standards set by ISO or OSHA. The corporation's days away from work rate declined by 11 percent between 2007 and 2008, equaling a decrease of over 21 percent in the number of days away since 2004.

Whirlpool's Chairman and Chief Executive Officer Jeff Fettig joined Whirlpool in 1981 as an operations associate and held managerial positions in Sales, Planning, and Product Development before being promoted to Vice President of Marketing. He has been Chairman and CEO since July 2004.

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