MANAGEMENT PRACTICE SPECIALTY NEWSLETTER

The Compass

AMERICAN SOCIETY OF SAFETY ENGINEERS www.asse.org

Safety at Dow Chemical: An Interview with Don Jones

Editor's Note: *In this interview, Don Jones explains how SH&E practices are maintained among the employees and units at Dow Chemical Co.'s Louisiana Operations facility, which consistently achieves one of the lowest injury rates in the U.S.*

Provide an overview of Dow Chemical Co.'s Louisiana Operations facility and the products it manufactures.

The Louisiana Operations facility occupies approximately 1,500 acres of land (which Dow owns), produces its own electricity and employs more than 3,000 Dow and contract employees.

Its 20+ production units produce raw materials such as brine, liquid petroleum, water and oxygen, which are used to manufacture bulk chemicals, including ethylene, ethylene glycol, glycol ethers, polyethylene and propylene glycol. End-use materials, including propane, cellulose fillers, adhesives and chlorine, are also produced here.

What are your duties as a regulatory expertise leader for the company's Global Environmental Health and Safety Regulatory Affairs Center?

I am responsible for the procedures section of the Operating Discipline Management Standard (ODMS). I keep this section current and accurate, provide interpretations and lead management system reviews. In this position, I also help to develop comments on proposed OSHA regulations, and I work to implement the final regulations.

I also work as a mentor with Dow sites that want to achieve Voluntary Protection Program (VPP) status. In this role, I:

- visit the sites to speak with employees and management;
- conduct a pre-assessment to determine where sites stand in relation to the VPP criteria;
- help sites complete the VPP application;
- provide advice and guidance while OSHA is at the site;
- assist with VPP recertification.

I also work as a special government employee of OSHA to help the agency with VPP onsite evaluations.

More than 3,000 employees work at Louisiana Operations, a facility with 20+ production units. How are SH&E practices maintained daily among all employees and units?

We must maintain SH&E practices among employees and units because of our strong management commitment. The management here sets clear expectations, promotes accountability and encourages employee involvement. We could not maintain such a high level of safety each day without our management's leadership and our employees' participation.

Since 1988, Louisiana Operations has reduced air emissions by 70 percent and it has increased production by 18 percent. How did the facility accomplish this?

Don Jones, P.E., CSP, *is a regulatory expertise leader for Dow Chemical Co.'s Global Environmental Health and Safety Regulatory Affairs Center. He has more than 30 years' experience in the petrochemical industry and in personal and process safety.*

In 1996, Dow Chemical Co. announced a series of SH&E goals to be reached by 2005. One of these goals was to enhance resource productivity in order to minimize Dow's impact on the environ-

continued on page 3

This Issue

Executive Leadership

E.L. "Brownie" Petersen

Greetings to all of you from my home in small town middle America. The main street in my recently adopted whistle-stop, one-horse, out-of-the-way community is less than 200 yards long and lined with century old Box Elder trees. The street leading into town used to be a major highway, but has subsequently, when the freeway bulldozed its way through the county, become a dead-end street that leads to the turn of the century marble block court house in the city square, meanders around the monument respecting those hero's who fought and in some cases died in the War to End all Wars, then heads back out of town, down that two-lane highway that was built by the wives and widows of those who fought in that war.

Why would I make reference to a small Rocky Mountain city of less than 300 citizens that's only claim to fame is a metal arch that welcomes visitors of the "prohibition era" to the world's finest game and bird refuge? Simple! Our one-horse town with its ever-famous dead-end street is soon going to become part of the squall of the housing boom that is creeping across America. One of our local peach tree farmers has sold his 900 acres for a new "whiz-bang" housing development complete with fast food, gas and service locations.

As a young man enjoying growing up in this "Mayberry RFD" clone of a city there were 37 communities that meandered along State Highway 89 from Ogden on the North to Provo some eighty miles to the South. Today, the farms, lakes, rivers and open high mountain desert planes of the Wasatch Front have become one large mismanaged megalopolis.

As a young man, the drive from my hometown to Provo to the South was just over two hours on a mostly two-lane highway. Through the 1970s and 1980s, the trip was cut to nearer 45 minutes on a nice four- to six-lane freeway. Today the drive, even in my old fishing truck with the big block "high speed" engine, takes just over two hours on what is now a congested six-lane super highway.

So you ask, what does all of this have to do with me? Better still, what does it have to do with the Management Practice Specialty? Kind of you to ask. In preparing for this newsletter, I asked several key SH&E professionals to provide viewpoints on the subject of executive management leadership. As you read this issue of *The Compass,* the Management Practice Specialty will have provided three teleconferences. As a management team, we will have met twice with the other practice specialty administrators and will be well on the way to striving to complete a year that statically exceeds our last three or four recordbreaking years.

Key to this success is the expectation of management. In reflecting on the subject of what is expected of management, six qualities have emerged from a recent survey that permitted me to pulse many members that I have spoken with over the past six years. As somewhat of a "swan song," I would like to share these with you some of the ideas that were given to me as a key on how to manage:

Murder-the-messenger management style was first on the list of those that I spoke with. We have all experienced leaders who blame "all" for the errors of one, belittle and harass the team, show partiality and pit employees against each other. My favorite is the lack of respect of seasoned employees that most often expresses itself as micromanagement. Can it be far from the truth that there is a good reason for bad attitudes? The art of leadership is in motivating. Does it need to be said that the motivation should be positive in nature to be successful?

A self-effacing leadership style is few and far between. In my longsuffering career I have only experienced a few of these insightful leaders. Too many in a position of leadership perceive themselves as being above the rules, self-centered or unwilling to celebrate the achievements of their staff.

Noblesse or honorable leaders are honest almost to a fault. It is honorable not to oversell what you can do, be frank and keep numbers accurate. Someone who would manipulate their golf score, the size of that big fish that got away, cheat on their time card, withhold information (important or informational) or inaccurately report it,

continued on page 7

2004-2006 Management Practice Specialty Officers

Administrator
E.L. "Brownie" Petersen
435.863.4670
brownie.petersen@atk.com

Assistant Administrator
Paul Riley
801.768.0232
priley@wallwalker.com

Newsletter Editor
Lori Carpenter, CSP
570.963.5377
lmcarpenter@bemis.com

Awards & Honors Chair
Christopher M. Gates, ARM
cgates@hr.sbcounty.gov

Conferences & Seminars Chair
Laura Hartwell
laura.hartwell@atk.com

Membership Development Chair
David Crowley
d_crowley@hphood.com

Nominating Chair
David A. Bentley
dave.bentley@upm-kymmene.com

Website Development
Bruce Jacobs
bruce.s.jacobs@shell.com

Staff Liaison
Rennie Heath
847.768.3436
rheath@asse.org

Newsletter Production
Susan Carlson
ASSE headquarters staff
scarlson@asse.org

The Compass *newsletter is a publication of the American Society of Safety Engineers (ASSE) Management Practice Specialty, 1800 E. Oakton St., Des Plaines, IL 60018, and is distributed free of charge to members of the Management Practice Specialty. The opinions expressed in articles herein are those of the author(s) and are not necessarily those of ASSE. Technical accuracy is the responsibility of the author(s). Please send address changes to the address above; fax to (847) 768-3434; or e-mail to customer service@asse.org.*

Safety at Dow Chemical

continued from page 1

ment and to prevent pollution. Dow developed a strategic plan based on these goals. Thanks to this focused strategic planning, Dow has improved facility performance over the last 10 years. Reduced air emissions and increased production at the Louisiana Operations facility are results of Dow's commitment to reaching its goals.

Louisiana Operations' injury rate for employees and contractors is 0.48—one of the lowest in the country. How does the facility consistently achieve these low rates?

We have an effective SH&E management system in place that addresses all phases of our SH&E program. We continually work to improve our SH&E management system, which results in fewer injuries and subsequent lower rates.

Louisiana Operations has received the OSHA VPP Star Award and several other national awards. How did Louisiana Operations qualify for these honors?

Louisiana Operations submitted an application to OSHA to become a VPP site. OSHA visited the site and evaluated it based on VPP requirements. The agency identified deficiencies, and once Dow Chemical Co. corrected them, OSHA awarded the site VPP status. Louisiana Operations has also been honored by the National Petroleum Refiners Assn. and the National Safety Council.

How are SH&E employees trained at Louisiana Operations? Which training methods have been found to be most effective (hands-on, instructor-led, online, etc.)?

We have training in place for every role on site. We offer classroom training in which employees may take written or verbal exams, or they may be asked to demonstrate specific tasks. Our online training program, Learn at Dow Now, has been most successful, but we find that a combination of classroom training and online self-study works best for employees.

Dow Chemical's Hispanic Latin Network (HLN) sponsors free Spanish classes for employees in Louisiana, Michigan and New Jersey. How have these classes improved employee relations and performance specifically at Louisiana Operations?

This initiative shows that Dow Chemical Co. truly cares about its employees. These classes have helped to improve communication among employees, which in turn improves performance. Our employees appreciate this opportunity for development.

The Louisiana Operations facility spans approximately 1,500 acres near the Mississippi River. How does the facility make sure that its operation and production processes are environmentally sound?

Our environmental, health and safety management system establishes criteria that our production processes must meet. Each plant at the facility works hard to implement and to improve the system, which results in improved performance and environmental protection.

In 1996, Dow announced a series of goals to improve SH&E performance as part of its "Vision of Zero" concept. Describe this concept and how SH&E performance has improved over the past 10 years.

Some companies believe that it is impossible to achieve zero incidents, injuries, illnesses, accidents and environmental impact. However, Dow Chemical Co. believes that all are preventable. Dow has made significant progress toward the "Vision of Zero" concept these past 10 years, and the reduction of Louisiana Operations' injury rate from 2.0+ to 0.48 is proof of that.

You are a special government employee of OSHA. How does your experience in this position help you to ensure that Louisiana Operations complies with state and federal OSHA regulations?

As a special government employee, I have the opportunity to participate in OSHA audits. These audits allow me to see what SH&E methods other facilities are using, and I can then learn how to incorporate these methods at our facility. This position also gives me a better understanding of how OSHA views regulations.

You have held leadership positions with ASSE and with other safety and health organizations at local, regional and national levels. Do you feel that your experience in these positions have helped you as a regulatory expertise leader at Dow? In what ways?

Yes, my involvement in ASSE and similar organizations has definitely helped me in my current position. This involvement provided many opportunities to learn about leadership, and I have met several people with whom I continue to network. Professional organizations such as these always offer information, training and expertise that you can use in your career.

What recommendations can you make to companies that wish to improve their own SH&E programs?

Companies that wish to improve their own SH&E programs must make sure that they have a good environmental, health and safety management system in place. This system should be measured against the criteria of existing systems that have been proven effective. Once this system is implemented, companies can begin to close any gaps and make improvements to their own SH&E program. ■

Don Jones is a special government employee of OSHA and he also mentors sites that wish to participate in OSHA's Voluntary Protection Programs (VPP). He has held leadership positions with ASSE and with other safety and health organizations at local, regional and national levels. Awards and honors include:

•ASSE Greater Baton Rouge Chapter's Outstanding Safety Achievement Award (1996).

•OSHA VPP National Award for Safety and Health Outreach (1997).

•ASSE Greater Baton Rouge Chapter Safety Professional of the Year (2000).

•Greater Baton Rouge Safety Council Safety and Health Innovator Award (2000).

•ASSE Greater Baton Rouge Chapter's Langlois-Weigand Award (2001).

•ASSE Region IV Safety Professional of the Year (2001).

•ASSE Edgar Monsanto Queeny Safety Professional of the Year (2001).

•ASSE Management Practice Specialty Safety Professional of the Year Award (2002).

•OSHA Region VI Special Government Employee of the Year (2005).

Jones will serve as ASSE President in 2006-07. He has a B.S. in Civil Engineering from Louisiana State University and an M.B.A. from Texas A&M University.

Making a Business Case for Ergonomics

By Don Bloswick, Ph.D., P.E., CPE

In the following discussion, I propose to make a business case for ergonomics. Before I returned to graduate school, I was a practicing engineer for 10 years, six of those years as a plant engineer. One thing that came to mind as I gathered my thoughts for this article and reflected on some experiences is that when I was a plant engineer I was required by upper management to justify equipment purchases with a two- to three-year payback period. If I could not show that a project would pay for itself in two or three years, it would not be funded.

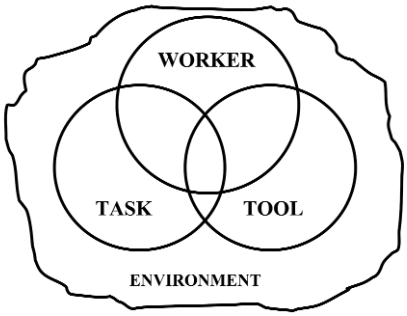
Since then, I have been involved in perhaps hundreds of projects related to the purchase of tools, equipment and processes to reduce musculoskeletal hazards. While justifying these purchases is still generally more difficult than in my days as a plant engineer, where reduced production cost or increased production were relatively easy to calculate, it is becoming easier (and more important) to illustrate the benefit of and justify the purchase of ergonomic tools, equipment, processes and training intended to reduce musculoskeletal hazards.

To facilitate and organize the remainder of this discussion, I propose that the work system can be represented by the interaction between the worker, tool and task within the workplace environment.

This representation (Figure 1), probably similar to others you have seen, is not meant to be definitive or exclusive. Rather, it is presented to serve as reference for my collection of thoughts. The concept of the task, tool and worker is self-explanatory. I propose that the environment is composed of the "3 Ps": physical, policy and perceptual. The physical environment may be thought of as the physical structure and climate. The policy environment is the management and operational structure governing the interaction between the worker and the workplace. The perceptual environment is the mental framework the worker uses to explain, understand and accept his/her place, fit, responsibility or importance ("ownership") within the organization.

In general, ergonomists deal with tasks and tools, using principles and analytical methods. One fundamental belief that

Figure 1
Work System



ergonomists hold (myself included) is that the consideration of ergonomic principles will have a direct, positive effect on the worker. While I will present evidence that this is the case, I also hope to illustrate that the consideration of ergonomic principles has a positive effect on the task (increased production, improved quality), on the policy environment (improved management acceptance of "ergonomics costs") and on the perceptual environment (improved worker satisfaction through ownership of his/ her workspace).

Based on my experience, I propose that the job of the SH&E professional is to:

1) Prevent the problem.
2) Identify the problem.
3) Evaluate the problem.
4) Develop the solution(s).
5) Justify the solution(s).
6) Implement the solution(s).
7) Evaluate the result.
8) Record and disseminate the results.

Most of us, by training and experience, have become skilled at items 2, 3, 4 and 6, and are reasonably effective at item 1. We also have become quite expert at the "technical" aspects of items 5 and 7, and can illustrate how the consideration of ergonomic principles in equipment and process design will improve the ergonomic indicators generated by analysis tools—such as reduction in the low-back compressive force, shoulder moment, NIOSH Lifting Index, Strain Index or Rodger's Analysis score.

Where we need to improve, however, is providing economic justification for recommendations (item 5), economic evaluation of results (item 7) and "closing the loop" by systematically recording and disseminating the economic (and technical) results (item 8). Unfortunately, the very areas where we need to improve (economic justification, economic evaluation, and recording/disseminating the economic results) are those critical in the justification for continued (and increased) use of ergonomic principles in workplace design.

This is not meant to suggest that the job is hopeless. More and more information is available that documents the economic payback for ergonomic design or intervention (or "the business case for ergonomics"). As noted, ergonomists often present results in terms of improvements in ergonomic indicators from analysis tools. While these indicators are legitimate measures of improvement, they are hard to "take to the bank." The remainder of this article focuses on measures closely associated with dollars. In addition, it deals primarily with the dollars associated with direct or visible costs rather than indirect or hidden costs.

I propose that the business case for ergonomics can best be presented by discussing the effect of ergonomics on the worker, task and environment.

The Worker

The economic impact of ergonomics related to the worker can be illustrated through a reduction in injury/illness rates and, more importantly, through a reduction of the costs associated with these rates. A few representative cases help illustrate this point.

Sikorsky Inc., a helicopter manufacturer, noted a 25-percent drop in OSHA recordable incidents and a 75-percent drop in lost workday incident and severity rates after the implementation of ergonomics training, work teams and engineering controls (Thayler). After the implementation of workstation improvements such as the installation of powered lift devices, worker training and job enlargement, AT&T Global Information Systems had no lostdays due to injury in years three and four, down from 298 lost workdays prior to implementation of the program (American Psychological Assn.).

Fieldcrest-Cannon, a textile manufacturer, reduced work-related musculoskeletal disorders (MSDs) from 121 to 21 in

three years after installing lift assist devices and a new, worker-designed, improved bagging system [ErgoWeb(b)]. Woodpro Cabinetry, a furniture manufacturer, experienced a 40-percent drop in workers' compensation costs after the implementation of ergonomic changes including the installation of conveyors to reduce manual lifting, angled tables to reduce bending, and the implementation of a job rotation program [ErgoWeb(b)].

In the California facilities of Sun Microsystems, the average cost of MSD claims dropped from $12,000 in 1992 to $2,500 in 2002 after the purchase of ergonomic chairs and equipment, worker training and workstation assessments [OSHA(f)]. Springs Window Fashions reduced MSD compensable claims from 45 in 1999 to zero in 2002 through the redesign of workstations in two different work areas [OSHA(e)].

Gold Kist Inc, a poultry processing facility, reduced its MSD claim rate by 80 percent between 1990 and 2001. In the year prior to the program, the company had eight MSD-related workers' compensation claims with 345 lost workdays [OSHA(c)].

A major insurance company in the U.S. implemented an ergonomics program including extensive worksite evaluations. In the three years after the initiation of the program, the company's MSD-related workers' compensation claims were 6, 4 and 1, respectively, including 104, 91 and 89 lost workdays [OSHA(a)].

While this is not a comprehensive list, I hope it illustrates how MSD injuries/illnesses and their associated costs can be reduced through a consideration of ergonomic principles in the workplace.

Before continuing, let's consider some instances relating to the cost-benefit of ergonomics in which I have been personally involved. Through the UAW-Ford-Visteon Partnership, a comprehensive program of ergonomic intervention and training was implemented throughout the company. This program was (and is) based on union involvement and worker involvement.

In two major operations areas, the MSD lost-time injury rate and the MSD severity rate, both good measures of cost, dropped by more than 70 percent between 2000 and 2002. In some situations, however, there actually may be an increase in reported musculoskeletal cases during the first year or so after the implementation of a comprehensive ergonomics program because of increased worker involvement and awareness.

I worked with one manufacturing plant of approximately 1,100 employees, 700 involved in direct labor, in which there had been 10 upper-extremity musculoskeletal disorder (UEMSD) cases costing approximately $100,000 in the year before implementation of an ergonomics program.

In the year after the program and an aggressive medical management process were implemented, the number of cases increased to 45, but the cost of these injuries dropped to approximately $40,000. This reduction in cost continued the following year.

In another facility with approximately 4,500 employees, the implementation of an overall ergonomics program was a primary factor in the reduction of lost workdays associated with UEMSDs from 613 to 149 to 50 over a three-year period. The actual incidence rate of UEMSDs, however, remained relatively constant. (As noted, lost workdays are a good indicator of cost.)

I propose that an increase in the rate of reported MSDs is not necessarily the sign of an ineffective ergonomics program. If there is a corresponding reduction in lost workdays and medical costs, an increase in incidence rate may reflect an environment where workers are encouraged to report minor disorders early, when they can be corrected with minor worksite modifications before they become serious and require expensive medical intervention.

The Task

The economic impact of ergonomics related to the task can be evaluated through increased productivity and/or increased quality. While an ergonomics intervention effort at Ethicon, a Johnson and Johnson company, had inconclusive results from an ergonomic standpoint, productivity was increased by more than 10 percent (Longmate and Hayes).

At Red Wing Shoes, implementation of an ergonomics program that included training, conditioning, stretching, adjustable chairs, equipment modification and the hiring of an ergonomist, reduced workers' compensation costs from $4.4 million to about $1.3 million in five years and also reduced manufacturing time [Gauf(b)].

At General Seating, ergonomics training, job rotation, and task and workstation redesign reduced lost workdays by 70 percent and also increased worker productivity [Gauf(a)].

In one poultry processing facility, the substitution of an ergonomically designed pistol-grip deboning knife for a traditional straight knife resulted in workers' compensation savings of approximately $100,000 per year, and also allowed an increase in line speeds of two to six percent. Profits were increased even more due to more efficient deboning (Hendrick).

In two hospital laundry facilities in Canada, installation of assist equipment, efforts to affect worker attitudes (training, positive feedback) and job rotation had a payback time of approximately one year when increased productivity was considered (Village). The purchase of battery-operated hand tools in an electric power utility company was justified based on a one-year payback considering only the cost of replacement workers and retraining due to MSD injuries (Seeley and Marklin).

These increases in productivity are not limited to the plant floor. Schneider cites several cases where productivity of office workers improved from four to 15 percent when ergonomic principles were applied to the office workplace. One study by the U.S. Internal Revenue Service found an eight-percent increase in data entry rates after the implementation of ergonomic seating (IRS). In a study of data entry staff at a Singapore Airline terminal before and after ergonomic changes (document holders, footrests, lighting, increased rest pauses), output (keystrokes/hour) increased by 25 percent (Donkin).

Examples of increased production resulting from ergonomic improvements are not limited to industrialized countries. In East Java Indonesia, the implementation of ergonomic principles in the loading/unloading of sugar cane in cane processing factories resulted in fewer clinical visits and increased productivity (Manuaba). It is also interesting to note that in Pakistan, an ergonomically designed loom resulted in "major health improvements for adult carpet weavers" [ErgoWeb(a)]. The publication also noted that that these looms may reduce child labor, assumedly because the modified task allows adults, not just children, to do the work.

Improved quality is also an indicator of economic viability. In one study, the installation of ergonomic furniture result-

continued on page 6

Making a Business Case for Ergonomics

continued from page 5

ed in a decrease in documentation preparation error rates from 25 percent to 11 percent (Schneider). In the previously noted study at a Singapore Airline terminal, the error rate decreased from 1.5 percent to 0.1 percent, in addition to the noted increase in keystrokes/hour.

In one of the few controlled studies into the effect of improper workplace design on product quality, one of my students and I performed a controlled lab experiment in which subjects performed an assembly operation with set MSD risk factors (Wick and Bloswick). The product output quality was determined by the correct tightness and alignment of the assembled item. We found that variability MSD risk factors explained 90 percent of the tendency to tighten attachments below the required torque. It is worthwhile to note that Ford Motor Co. considers a decrease in product quality at a workstation as a possible indicator of the need for an ergonomic review.

The Environment

I noted that the environment is composed of physical, policy and perceptual components. Consideration of ergonomics in product and process design will obviously have an impact on the physical environment. In addition, I proposed that ergonomics affects the perceptual environment, which I defined earlier as the worker's perception of his/her fit, responsibility or feeling of importance ("ownership") within the organization.

Subjective measures of this perception would have to be based on psychological or psychosocial tests of the worker. In my opinion, objective markers of how a worker population feels about responsibility, importance or ownership are rates of absenteeism and worker turnover.

Schneider reports that after a group of 123 office workers were provided with ergonomic office furniture, overall absenteeism fell from four percent to less than one percent. He also reports that in a study by the Norwegian State Institute, after improvements to workstation layout and seating, turnover was reduced from 40 percent to five percent per year and 40 percent of employees on disability leave returned to work.

The U.S. Dept. of Labor reported that after installation of ceiling lifts and sit-to-stand lifts, the resignation of nursing aids dropped from an average of 23 per year to approximately three per year. (The resignation rates were not reported.) [OSHA(b)].

I am convinced that ergonomics programs cannot be successful without worker participation. A continuing benefit of increased worker ownership is their participation in the ergonomics process, which will generally lead to an increase in the quantity and quality of worker input in the ergonomic design/change process. An even more important result of ownership is increased worker involvement in the implementation of the ergonomic design/change process, without which the improvement process has little chance of success.

International Truck and Engine Corp. experienced a decrease in its MSD injury rate and also reported that "the culture and attitudes of a veteran workforce have been transformed because they have been allowed to participate in decisions that impact their jobs. (Prior to this project, the workers were reluctant to get involved because of the union-management relationship)" [OSHA(d)].

In my experience, the policy component of the environment, as defined by management's understanding and support of the ergonomics effort, inevitably moves in a positive direction when injury/illness rates and costs, productivity and quality, and worker perception and satisfaction are positively affected.

It has been argued that strong unions hinder the ergonomic design/change process. This has not been my experience. The existence of a strong union, the main purpose of which is the improvement in the life of the worker, can be a key to success. However, it requires management to involve the union in a meaningful way. One example with which I am familiar is the UAW-Ford Ergonomics Process. This process involves the UAW union at every level. At the plant level, actual ergonomic analyses and abatement recommendations are often performed by skilled union members, sometimes with the assistance of a salaried plant ergonomist. Union cooperation is facilitated by a policy, in some UAW-Ford plants, that personnel reductions resulting from ergonomic changes should be dealt with through normal retirements and attrition.

Looking to the Future

One major area for future work is continued research to enhance the understanding of the causes of musculoskeletal disorders. Improved models of how exposure (magnitude and duration of risk factors) relates to (or perhaps actually causes) musculoskeletal disorders will allow a better focus on high-priority areas. In turn, this will allow us to abate the most critical hazards and document the positive results.

Another area of interest is the development of systems to facilitate the sharing of effective interventions within large companies and between collaborating companies. Hopefully, this is only the beginning. Perhaps some day we will we able to sit down at the computer, enter a few keywords, and easily search through relevant cases and examples in the quest to optimize the worker, task, tool and environment system. ■

References

American Psychological Assn. "Ergonomics: The Science For Better Living and Working." Retrieved Oct. 7, 2005, from http://www.apa.org/ppo/issues/sergofact.html.

Donkin, R. "An Argument for Ergonomic Workstations: Increased Productivity." *The RSI Network.* April 1994: 17. Retrieved Oct. 7, 2005, from http://www.ctdrn.org/rsinet/archive/rsinet17-apr94.html#AN%20ARGUMENT%20FOR%20ERGONOMIC%20WORKSTATIONS.

ErgoWeb(a). "ErgoSolutions: Ergonomic Loom to Help Child Labor." Sept. 28, 2005. Retrieved Oct. 7, 2005, from http://ergoweb.com/news/detail.cfm?id=1199.

ErgoWeb(b). "More Ergonomics Success Stories." July 26, 2002. Retrieved Oct. 7, 2005, from http://www.ergoweb.com/news/detail.cfm?id=567.

Gauf, M.(a). "Problem-Solving by Committee at General Seating." In *Ergonomics That Work: Case Studies of Companies Cutting Costs Through Ergonomics.* Haverford, PA: CTD News, 1995. 79-83.

Gauf, M.(b). "Red Wing Shoes' Early Warning System." In *Ergonomics That Work: Case Studies of Companies Cutting Costs Through Ergonomics.* Haverford, PA: CTD News, 1995. 79-83.

Hendrick, H.W. "Determining the Cost-Benefits of Ergonomics Projects and Factors That Lead to Their Success." *Applied Ergonomics.* 34(2003): 419-427.

Internal Revenue Service. "How

Ergonomic Seating Works to Increase Productivity." Retrieved Oct. 7, 2005, from www.ergogenesis.com/literature/IRS_Study.pdf.

Longmate, A.R. and T.J. Hayes. "Making a Difference at Johnson & Johnson: Some Ergonomic Intervention Case Studies." *Industrial Management.* 32(1990): 27-30.

Manuaba, A. "Ergonomics Productivity Enhancement at Government-Owned Sugar Cane Factories in East Java, Indonesia." *Journal of Human Ergology.* 24(1995): 115-118.

OSHA(a). "Blue Cross Blue Shield Rhode Island (B)." Retrieved October 7, 2005, from http://www.osha.gov/dcsp/alliances/abbott/blue_cross.html.

OSHA(b). "Countryside Care Nursing Home (A)." Retrieved Oct. 7, 2005, from http://www.osha.gov/dcsp/alliances/abbott/nursing_homes.html.

OSHA(c). "Gold Kist Inc." In Success with Ergonomics. Retrieved Oct. 7, 2005, from http://www.osha.gov/SLTC/ergonomics/goldkist.html.

OSHA(d). "International Truck and Engine Corporation," In Success with Ergonomics. Retrieved Oct. 7, 2005, from http://www.osha.gov/SLTC/ergonomics/navistar.html.

OSHA(e). "Spring Window Fashions." In Success with Ergonomics. Retrieved Oct. 7, 2005, from http://www.osha.gov/SLTC/ergonomics/spring_window4.html.

OSHA(f). "Sun Microsystems Inc." In Success with Ergonomics. Retrieved Oct. 7, 2005, from http://www.osha.gov/SLTC/ergonomics/sun.html.

Schneider, M.F. "Ergonomics and Economics." *Office Ergonomics.* May/June 1985. Retrieved Oct. 7, 2005, from http://www.combo.com/ergo/ergoecon.htm.

Seeley, P.A. and R.W. Marklin. "Business Case for Implementing Two Ergonomic Interventions at an Electric Power Utility." *Applied Ergonmics.* 34(2003): 429-439.

Thaler, J. "The Sikorsky Success Story." *Workplace Ergonomics.* March/April 1996: 22-25.

Village, J. "Cost-Benefit Analysis of an Ergnomic Intervention in Two Hospital Laundries vs. a Countrol Laundry." 2003. Retrieved Oct. 7, 2005, from http://www.cher.ubc.ca/publications/publicationlist.asp.

Wick, H.S. and D.S. Bloswick. "Use of Ergonomics as a Quality Improvement Tool in a Manual Assembly Task." *International Journal of Occupational Safety and Ergonomics.* 4(1998): 19-42.

Don Bloswick, Ph.D., P.E., CPE, is a professor and director of graduate studies, Dept. of Mechanical Engineering and director, ergonomics and safety, Rocky Mountain Center for Occupational and Environmental Health, University of Utah, Salt Lake City. He can be reached at (801) 581-4163; bloswick@eng.utah.edu.

Management Practice Specialty Officers Elected by Acclamation

The Nominating Committee of the Management Practice Specialty nominated D. Paul Riley, CSP, as Administrator and Christopher M. Gates, ARM, as Assistant Administrator.

As required by the Society Operations Guide, the Nominating Committee's decision was submitted to, and approved by, the current Management Practice Specialty Administrator and Assistant Administrator, and the Society Nominating and Elections Committee.

No other Management Practice Specialty member submitted a written petition for nomination by Feb. 15, 2006, therefore, the slate stands as submitted.

In accordance with Society Operations Guide 11.2, since the nominees were unopposed, Paul Riley and Chris Gates are hereby declared elected by acclamation. Join us in congratulating these new officers of the Management Practice Specialty.

Executive Leadership

continued from page 2

or take credit for something that they did not do is far from honorable.

Always give credit where credit is due is one of the noblest traits of good leadership. Employees are appreciative when their contributions are properly acknowledged. It is a fact that this one simple characteristic of leaders contributes to motivation of employees. And, motivated employees work more earnestly when their activities are appreciated. Several of those with whom I spoke mentioned that they enjoy working for a boss that is not threatened when employees are recognized.

Good leaders listen respectfully. Employees are often listed in company mission/vision statements as the company's most valuable resource. When they are simply directed/managed with no feedback they become nothing more than numbers on the corporate profit sheet. Leaders need to listen to what employees have to say, consider new and/or all sides of an issue, and take time to honor the value of the knowledge, training and experience of each employee.

And, although last on this list, just as important as each item referenced above is employee consideration. This is sometimes referred to as respect for others or more simply letting employees do the jobs that they were hired to do. Employees want support when they are right—but, not blind support. My survey reinforced to me that employees want acknowledgement of personal issues which need attention especially family situations. They appreciate leaders who take the time to explain things and do not play favorites.

I mentioned earlier that this is the last article that I will write as your Administrator. It is time for me to pass the baton to the highly qualified team of successors these responsibilities that have been a key part of my activities for these past six or so years. It is with a great deal of respect that I thank the mentors who prepared me for what has been among the most meaningful experiences of my career. I will miss the truculent relationships with those whom I have interfaced with as I turn my interests to other ASSE activities. And, who knows, there might even be a smidgen more time for me to take that old hot rod pickup and a few dry flies out to a few unvisited high mountain streams to titillate a few trout.

Developing an Energized Electrical Work Program

By Todd M. Ravazza

Although National Fire Protection Association's (NFPA) 70E consensus standard has been published since 1979, an early 2004 update has many safety and risk professionals grappling with the impacts of creating a well-designed and integrated safe energized electrical work (EEW) program for their operations. The 100-page standard provides guidance on important topics such as technical/procedural issues, PPE and safe distances from panels or other electrical hardware. The standard is designed to help ensure the safety of the personnel performing live electrical work and other personnel around these exposures, as well as hazards that exist to property.

Major hazards of arc flash incidents can range from severe injuries or even death or minor injuries to exposed personnel. An arc flash is known to the layperson as an electrical explosion. It generates temperatures hotter than the surface of the sun—hot enough for plasma to exist from the heating of atmospheric gases present. And the risk does not stop there. Total power failure to portions of or an entire building may occur depending on system design; power surges hindering or destroying sensitive electronic equipment; other electrically related systems; hardware; and post-incident fires.

I was recently tasked with developing an EEW program to protect company and contractor personnel and property. Federal OSHA regulations cover topics within NFPA 70E; however, the 70E standard is much more comprehensive. As a consensus standard that is not incorporated by reference into federal OSHA regulations, employers may tend to not comply given the costs associated with development of an EEW program. However, OSHA's General Duty Clause has been cited in EEW incidents. This is cause for awareness of both the type of exposures your employees may have and that you may need to develop such a program.

Applicable OSHA Standards

As noted, several federal OSHA standards apply for general industry; these are found in 29 CFR 1910, Subpart S, Electrical. These regulations place requirements on facility electrical components and work, not including construction and power generation (if exclusively controlled by a utility), mining and ship workers. In fact, 1910.305, Wiring Methods, Components, and Equipment for General Use, was the seventh-most-cited regulation by OSHA in 2004 (it ranked sixth in 2003).

As a general safety practitioner, my lack of expertise in this area was a challenge. How do I start? Where do I begin? Each of us has expertise in different areas, and few of us can be experts in every area of safety and risk management. Let's consider one plan of attack.

Assess Compliance Needs

Do you have employees or contractors who perform energized electrical work such as metering, measuring and testing? If so, you may want to consider the next items.

Much like a control of hazardous energy (lockout/tagout or LOTO) program, two levels of personnel are exposed to these hazards: authorized (or qualified) and affected (unqualified) employees. Authorized personnel are employees who the employer authorizes to perform such tasks based on education, experience and training. Affected personnel are those who are affected by such tasks and must be aware of and obey safe distance barriers (stanchions, barricades, etc.) and instructions regarding specific tasks conducted by authorized personnel.

Determine Hazards

This involves calculating maximum available short circuit current at various locations throughout the system and evaluating the capacity of power switching devices available to interrupt available fault current. Examine the quality of protection provided by these devices as well.

Now we enter an area of expertise that I am unable to perform internally, so I used a contract vendor to conduct the studies and create updated single-line diagrams. For the purpose of these facility studies, it was recommended that our single-line diagrams only include useful information about the study as they can become voluminous quickly.

Determine protective device settings that selectively isolate faults in a manner consistent with both system design and applicable codes and standards. The goal is to find the optimum balance between achieving protection and selective fault isolation. The next step is to identify arc flash incident energy levels and PPE requirements. Arc flash PPE is based on the potential energy present if an arc flash were to occur; the potential energy should be identified via the arc flash study. This potential energy is labeled as "hazard risk category" (HRC) and is measured in units of calories per square centimeter (cal/cm^2); PPE is rated in flash-resistant (FR) classes from 0 to 4 (see sidebar above).

Labeling of switch boards, panel boards, other circuitry, motor control centers and meter socket enclosures is an important item to complete and maintain. Labels typically have the following information: verbiage that an arc flash hazard exists; flash hazard boundary; potential energy incident level (in cal/cm^2); category of PPE required (HRC); nominal voltage; limited, restricted and prohibited and

continued on page 14

Arc Flash PPE Potential Energy

HRC 0 (=1.2 cal/cm^2). Untreated cotton, long-sleeve shirt and pants; hardhat with a polycarbonate face shield; safety glasses (or goggles); electrical gloves (rated for the voltage worked with); and rubber-soled work boots.

HRC 1 (=4 cal/cm^2) = FR shirt and arc-rated (AR) faceshield.

HRC 2 (=8 cal/cm^2) = Untreated cotton t-shirt, FR shirt and pants (or coverall), and AR faceshield.

HRC 3 (=25 cal/cm^2) = Untreated cotton t-shirt plus FR shirt, coverall and hood.

HRC 4 (=40 cal/cm^2) = Untreated cotton t-shirt plus FR shirt and flash suit.

NOTE: Class 1 though 4 PPE requires all Class 0 equipment except those replaced with specific items for a higher level of protection.

The Importance of Supervisors' Involvement

By Michael D. Topf, MA

When it comes to SH&E excellence, are you ensuring that supervisors are directly involved and are leading "all levels of employees" according to what is wanted and needed?

I'd be willing to bet that if you ask your supervisors, especially with all the organizational changes common throughout companies today, whether s/he has enough to do, the answer would be an unequivocal "yes." But if their to-do list does not include "SH&E leader," your supervisors are not doing an adequate or complete job. Not for you, your employees, your community or your company's bottom line.

An organization's supervisors play an essential role in an organizations' productivity effectiveness continuum—and it should include the continual improvement of the SH&E culture and its integration into everyone's daily work activities, regardless of the department, job or areas of responsibility. Given their critical proximity to the various levels of management above them in the organizational ladder, and the workers they supervise, supervisors play an essential role in carrying out the SH&E mandates set for the company and ensure that they show up in the attitudes and behaviors of the entire workforce. Like the conductor of an orchestra, supervisors set the tone for SH&E performance and must ensure that their actions will immeasurably influence your company's outcomes.

Everyone Is Responsible for Safety

It has become conventional wisdom that everyone up and down the line must be included and involved in a company's SH&E initiatives. Yet, it is also true that the attitudes and actions of supervisory personnel can make or break any SH&E improvement process. Certainly, some aspects of your process can and must proceed independent of this person. But the question SH&E professionals and key site leadership must ask themselves is how deep and far-reaching can an SH&E initiative be—and the resulting changes and improvements sustained—without the active involvement of site supervision, whether in a site facility or in field operations.

Several years ago, my firm worked to bring SH&E improvement to a division of a utility in a major U.S. city. Our chief ally and supporter was the division's general manager. She played an active role throughout the process—from assessment through training. Her enthusiasm and commitment served to bind together the various factions within the facility and caused everyone to believe that their safety and health truly mattered.

Midway through the 18-month process a significant setback occurred. It wasn't a budget cut or an announcement of a wall-to-wall OSHA inspection, but the effects were equally dramatic. The general manager who had been our primary link with the division and its people was promoted to a higher corporate position.

Her replacement had not been part of the process, and we immediately set out to bring him up to speed, explaining the process and the expectations. But we found ourselves significantly stalled. Before long it became clear that the new GM had his own agenda for the divisions' priorities and for SH&E. Not surprisingly, the attention of his most direct reports—those on whom we had relied for vital resources, insights and support—began to wane as they loyally followed their boss in new directions.

We were concerned that the success of our process and the impact on employees would dissipate and result in incidents and injuries. What we discovered through feedback from the safety director and committee about improvements, however, was that safe attitudes and behaviors continued to be instilled and carried out as people did their jobs. This achievement was due in a large part to the fact that supervision had bought in to the vision for SH&E excellence that we developed with their involvement and the direct involvement of their managers.

We also worked with them to develop the kind of safety attitudes that supported a belief in the importance and benefit of safety to everyone. We provided leadership, communication and coaching/counseling skills to ensure that SH&E excellence was integrated into what they and the people they were responsible for did each day. They saw that performing a job safely does not take more time—and even if it did, it was worth it. They interacted with and managed their crews to ensure that people took the time needed to do their jobs safely.

A surprising outcome was that due to their insistence on the importance of and compliance with SH&E requirements, along with their expression that this drive for compliance came from their concern for people's welfare, people believed they did matter and the quality of their work actually improved along with safety. The return on investment was as good or better than it could have been with the original GM leading the way.

More Than a Figurehead

Whether the process selected is behavioral, traditional or employee-led, take steps to ensure the intimate involvement of supervisory staff.

As an SH&E professional you must educate supervisory staff about how their attitudes and behaviors can help influence the process. Explain that just as s/he would not hesitate to take a leadership position in an essential production, human resources or quality initiative, s/he needs to demonstrate unconditional support for SH&E.

What does active involvement look like? It takes many forms and can include everything from "talking SH&E" at the beginning of a new-hire orientation to taking 10 to 15 minutes as a first item to be discussed at a morning production/assignment meeting; intervening immediately in a constructive way when an unsafe act or behavior is observed to demonstrating concern for the safety of each employee; managing laterally if conflicting directives can send the message that other priorities are more important than people's safety; participating in accident investigations; conducting behavioral observations and discussing SH&E concerns; or attending safety training sessions and/or committee meetings.

It also means managing "up" to corporate personnel who may not share this focus or inadvertently send conflicting SH&E messages. It may also involve their

continued on page 14

Executive Safety Leadership

By Robert Pater

Most SH&E professionals believe that active support from their company's executive leadership is critical for achieving a strong safety culture and safety program performance. Yet, many professionals are also frustrated in their efforts to activate their executives toward a higher level of safety leadership.

From my experience, the positive news is that it is possible to more successfully reach the executives in your organization, raise executive awareness of the value of safety's broader organizational role, support safety efforts and influence senior managers to become more successful safety leaders.

I've had the opportunity to work with and present to executives in one-on-one consultations and at numerous conferences in a wide range of companies in several countries (although most of my experience is in the private sector with larger companies). Clearly, there are always exceptions to any "rule." But the principles discussed here have proven effective with numerous executives.

What Executives Say about Safety

In the last decade, I've seen an executive alchemical shift from perceiving safety as a time or resource-waster to be delegated out—something the company was forced to implement—into a critical resource for organizational performance improvement. For that perspective, following are some comments I've heard senior executives—mostly CEOs, presidents and vice presidents—make about the importance of safety.

•"To achieve operational excellence, we need to have SHE excellence and everyone has to be involved."

•"Customers aren't willing to pay for a company's SH&E mistakes—they'll go elsewhere."

•"SH&E should be the first subject of every operational review."

•"We want to run our company independently—accidents and environmental incidents get government regulators involved and they'll tell us how to run our business."

•"The first thing we look for in a potential acquisition is SH&E record; this indicates how well a company is managed."

•"In plants where leaders make a real commitment to safety, employees make extraordinary breakthroughs."

•"Any manager who can't manage SH&E just can't manage."

•"I don't treat safety as a separate entity; to me, it's part of all work we do."

•"You'll see safety deteriorate long before other operations do. On the other side, if you can improve safety, you can realize significant improvements in operations."

•"Safety doesn't improve unless people are focused. At the end of the day, safety is about what people do this minute, hour and day on this particular task. If for five minutes I believe I don't have to focus on what I'm doing, I am set up to have an accident."

•"We would rather see workers' comp claims than off-work medical claims."

•"Ninety percent of things to improve safety are positive. To get another one percent improvement now is about us, our people and our culture."

Many executives are under significant pressure to keep their companies competitive and profitable by cutting costs. In publicly traded companies, there is often great pressure to show continuously rising quarter-to-quarter improvements, all the while with an aging and thinned-down workforce (many of whom are working much harder than they were decades earlier). This can lead to a "make-it-so" approach, often borne out of a combination of management desperation and of not understanding safety change dynamics. Have you heard executives say things like, "I don't want to see any more injuries?" Not conducive to the near-hit and catch-it-early reporting valued by many SH&E professionals.

On top of this, many executives are uncomfortable with safety. I've seen top managers who were confident and smooth presenters—until it came time to talk about safety. Many then stiffly reverted to either an empty "you can do it" talk or a dry discussion of incidence rates, neither the best thing to focus on with line staff.

Someone said that it is critical to communicate about workers' personal safety, not about their safety record. Statistical discussions about safety are most appropriate for managers and SH&E professionals, not line staff. I've frequently heard workers say, "If our injury rate goes down, will you pay me more?" Much better to focus on the personal benefits safety brings.

Regarding influencing executives, Dee Hock, CEO Emeritus of VISA International, wrote that strong leaders should spend 40 percent of their time on managing themselves and 30 percent of their time on managing up.

Becoming more influential with senior managers can not only heighten safety exposure in a company, it may also have positive effects on your own credibility and career. Safety is a nexus point, the one aspect of organizational life everyone agrees—at least verbally—is important. Focusing on boosting safety also helps encourage employee receptivity to change, helps attract and retain desired workers, affects smoother flow of operations, boosts involvement, heightens trust (at a time where this is highly needed) and can give the company a market edge in other ways as well.

At a seminar for senior executives of a Fortune 500 manufacturing company, an operational vice president asked, "We need some do's and don'ts for leading safety." So I provided 10 do's and don'ts for senior managers to more effectively lead safety. In a similar vein, following are several suggested do's and don'ts for SH&E professionals to help senior managers more actively and effectively lead safety within their company.

Seven Key Safety Person Do's

1) Know when to be invisible. Lao Tsu wrote, "The worst leader, the people fear and hate. The next best leader, the people love and respect. The best leader, when the job is done, the people will say, 'We did this ourselves.'"

Focus on giving credit to executives and thanking them for the support they provided that resulted in any safety gains. This could include providing funds for

interventions, allowing release of workers for safety training, being willing to have pilot approaches tried in select areas. By thanking and crediting executives—sincerely—you help foster identification with safety successes and lead the way to buy-in for future endeavors.

Also, know when to bring someone else in to work with executives. This can be another person in your company, a fellow professional or an outsider. Sometimes, you gain credibility by having another voice of reason support your points. Be sure to screen in advance whoever you bring in to represent you.

2) Develop a strategic recognition system. In addition to thanking executives, develop a system for recognizing the positive impacts brought to safety by middle managers, supervisors, bargaining unit leadership, other departments and line staff.

Know the key issues and values of senior executives, both personally and organizationally. For example, some managers take pride in their company being recognized as a "best employer." Others think of themselves as leaders in their field. Some want to know they are outpacing their competitors. Show how safety leadership can further the most cherished objectives of top managers.

3) Systematically chart and publicize successes. This does not mean blowing your own horn or causing shoulder damage from patting yourself on the back. In fact, my experience with executives is that calm confidence results in more credence than brash talk.

Provide coming attractions of new interventions. Refer to past processes you've instituted that have resulted in different levels of success. Show tie-ins between past safety efforts and current states. Go beyond statistical results to focus on improvements in morale, reports of personal use of methods, improvements in communications, changes in actions, etc. Be sure to highlight system consistency and trends of continued progress.

4) Nurture (at least one) executive relationship. Make sure to foster a positive relationship with a leader as high up in the organization as possible. This person can help promote your efforts and requests to the senior command, while you can offer vital but confidential feedback from line staff that can make the difference in how the executive's decisions will be accepted and carried out. Many senior managers are disconnected from what's really going on in the company, know it and will relish "vital intelligence" (remember, you will serve as their feedback mechanism, not as a spy).

Motivational psychologist Frederick Herzberg wrote that many executives suffer from "productivity burnout." That is, they spend so much time in meetings, planning, focusing ahead and outward that they are often disconnected from their company and employees.

Help reconnect them. Offer to alert your "bonds" if one of their proposed actions might unintentionally backfire. Bring them early employee overall reactions. Ask their help in influencing their peers indirectly toward safety leadership.

It might be a good idea to develop two such relationships among "noncompeting" executives. One never knows when a manager might leave the company.

5) Develop a detection and report system. Safety implementations typically generate at least some mixed messages. Ferret these out. Don't avoid them or wait for veiled or angry reports to come to you.

Invite resisters and others—which should include several in the management ranks—to seek out and report any mixed messages in the safety realm. Be sure you receive these reports with a positive demeanor (no matter the tone in which they may be delivered) and report back to people as to what actions were taken.

Whether you invite mixed-message sightings or not, people will notice these. You don't really lose anything by soliciting reports, as long as you preface your request with a statement that you will do what you can, but don't have the power to change everything. Also be sure to get back to people in a timely manner. Done well, this process can serve as a vehicle for boosting involvement in safety, help turn around resisters and generate higher-quality information from the point of view of those you are trying to influence.

By soliciting managers' concerns in advance (at an appropriate time), you can redirect weakness into strength. This can also provide positive public relations for safety and your efforts. Preface all requests for information with a statement to this effect, "We value being as consistently effective as possible. I welcome your help in letting us know about any inconsistencies you see or find regarding safety. We'll do whatever's feasible to reduce blockages to high-level safe performance."

If you listen carefully, you will also get a bead on specific executives' motivations, objections and concerns about safety. This information can help in later persuasion efforts.

6) Be action-oriented and foster "doable" interventions. Avoid unrealistic interventions that might request executives or anyone else to "drop everything for safety."

Steer clear of communications or policies that are likely to backfire, such as telling managers who are rarely separated from their briefcases to "never carry on stairs." Such communications only create conflict or further mixed messages—and might lead to your being seen as a safety "geek," out of touch with organizational realities.

Think "execution." Be sure to set clear, realistic timetables for actions and communicate expectations of levels of returns from interventions you set in motion.

Change with change. Don't stick unyieldingly to preset plans. Will Rogers said, "Planning gets you into things. Hard work gets you out of them." Watch how external and internal forces affect your interventions and plans. Think regular observation, recalibrating and readjusting, rather than waiting for the bad news that a pet project has failed.

7) Make it easy for executives to lead. Provide them with knowledgeable exposure to safety plans and interventions as compactly as possible.

Invite select top managers to sponsor each intervention. Solicit their help in setting leading indicators for measurement and quality control.

Offer to ghostwrite executive interviews, monthly safety letters, safety talks, presentations, script introductions, etc. If persuasive writing is not a strong skill, recruit someone else to handle this. In the meantime, continue to develop your writing abilities (critical for influential e-mails, reports and other communications).

Encourage executives to send safety recognition or thank you notes home to workers and their families. Offer to arrange for any needed logistics.

Keep senior managers in the loop. Provide them with coming attractions of new interventions. Be sure to make these

continued on page 12

Executive Safety Leadership

continued from page 11

brief and exciting, replete with visuals and demonstrations.

You might create a one-page (or shorter) set of action keys from which they can select. For example, for our strain/sprain, slip/trip/fall, hand injury interventions, we first focus on creating executive enthusiasm. Then, invite them to take action, such as providing input in selecting the best peer instructor-catalysts; considering becoming a leadership sponsor or supporting whoever else is the leadership sponsor; setting high expectations with chosen peer instructor-catalysts and meeting with them briefly prior to their initial training; dropping in for a few minutes during the initial training; participating in planning for the process rollout to all workers; debriefing newly-trained peer instructor-catalysts soon after initial training week; supporting and encouraging others to support releasing peer instructor-catalysts and workers for training; coaching and reinforcement follow-up; and more.

If many executives are more seriously aboard the safety train, why do SH&E professionals still have some difficulty getting their attention, and securing requested support and resources?

Clearly some obstacles exist, such as disconnects between executive safety philosophy and actual practice. To effectively persuade executives, it is important to understand what, for them, might get in the way of their actively embracing safety. In my experience, these include:

•Concerns about cost-effectiveness. "Sure safety's important, but is there a real return on the resources you're requesting? Yes, I've heard all the statistics on payback, but these are general or from other companies. How do we know we'll also realize these returns?"

•Suspicion. "I think carpal tunnel syndrome is a contagious disease. And I seriously wonder about these back injuries and falls as well."

•Motivation issue. "Maybe they just need to be held more accountable for not getting hurt?"

•Can of worms. "If we bring this up, it will just open the gates."

•Previously expended resources. "We've already spent money on equipment and back belts. Is this just another example of throwing good money after bad?"

•Not thinking cumulatively. "We put in a back injury prevention program last month and still had several reports this month."

•High expectations (without providing adequate support). "I expect you to cut injuries by 50 percent in the next year; by the way, because of these being tight times, we're cutting your staff and budget by 40 percent."

•Unrealistic perceptions based on hot trends. "I've read about this new incentive program that says it will reduce all injuries. That's what we need to focus on."

•Instant/short-term results. "I expect we will achieve significant reductions in injury costs within six months."

While there is not enough room in this article to address all these issues, it is important to not exacerbate these. Bear in mind the following list of don'ts.

Key Safety Person Don'ts

1) Don't position safety only as avoidance. Steer clear of others only associating safety with negatives (getting blamed, embarrassed, etc). Focus instead on positive outcomes and actions to be taken, rather than just those to be avoided.

Enlist positive motivation whenever possible. To prepare these, ask yourself what will executives get from actively supporting safety beyond less injuries or lowered costs? These might include: greater credibility, higher morale and dedication, peace of mind (knowing you've done what you can to prevent injuries, lawsuits, public relations fiascos, etc), recognition as strongly community minded and more. All "benefits" should be customized to specific executives' warm spots.

Don't do anything—and suggest this to executives as well—that encourages hiding accidents, hazards, near-hits (such as the statement I heard from a transportation company's vice president that "all accidents are stupid").

Don't only track trailing indicators. Help executives develop and monitor road signs that point toward the performance improvements they most prize.

2) Don't make everything a Waterloo, a we-better-do-this-or-someone-will-die decision. Contrarily, don't convey lack of urgency about everything.

3) Don't get defensive, make excuses, or have a "can't do" attitude. I have seen some professionals who appear cynical and defeated in advance. "I've tried everything possible and nothing works." Others are angry—they've given their all and people still resist.

Remind yourself there are many approaches you haven't yet tried, that timing and receptivity can always change (they might consider now what they weren't interested in before), that you might arrange for someone other than yourself to spearhead the change.

If you should regularly think about being defeated in advance, you might consider taking a sabbatical, getting away from that position or talking with someone who can offer a different perspective. Otherwise your attitude may diminish executives' and others' perceptions of you as a leader.

Few things turn off executives like others' being defensive or making excuses. Ideally, preparation, early monitoring and adjusting will greatly reduce the need for getting called on the carpet. And if you have a strong relationship with at least one senior manager, you will be forewarned, forearmed and supported should something negative occur.

Should you see another professional, in safety or elsewhere, who appears to be slipping down the slope of self-defeat, consider intervening by offering supportive, honest feedback. Again, easy to say and extremely helpful, yet it may be uncomfortable to do.

4) Don't expect executives to think and talk like you. Arguably, many SH&E professionals tend to be more risk-aware and risk-averse than the general population.

But the opposite might be said of many executives. Effective persuasion is founded on reaching people from their perspective, rather than expecting them to immediately embrace yours.

To start, listen to the words repeatedly used by those executives you wish to influence. Read what they read. Scope out what is in their office—golf club? picture of them in a sports car? Use this information to make effective metaphors in your persuasion process. This is much the same way sales staff of an international organization that provides services to major oil companies are trained to read and employ information gleaned from the office decor of target executive clients.

Don't get too attached or overzealous about safety. Many executives likely see this as part of their overall picture of organizational performance, not as the

main show. Reduce "safety talk" to executives. Unless you are dealing with engineering-oriented executives, opt away from too-technical discussions. Instead, reflect on and refer to their organizational and leadership themes and objectives in lieu of discussion of lost-time injury/illness rates and other safety jargon.

5) Don't continue to bring up the same old things. Most executives have already heard the standard reasons they should support safety (e.g., avoid injuries, costs). It is easy to ignore or disregard what you think you already know. Consider different and new approaches to get managers' attention.

Don't let yourself be seen as too wedded to the past—whether it is in your communications, attitude or interventions. Continue to try new approaches and processes. Make sure you do something unique in each safety briefing you make to executives.

Certainly, avoid being seen as a safety curmudgeon. Read the crest of changes in your company and industry and stay ahead of the wave.

6) Don't fail to employ leverage. Rather than trying to be the lone ranger for safety, find others you can bring in to present safety to executives. I've seen significant results in many levels of safety performance from instituting a system of workers becoming activated as safety catalysts for change. These catalysts have often done exceptional jobs of reaching senior management (who often had not expected sophisticated communications and presentations from hourly workers).

Think mission first. Don't let yourself become too attached to a set way of doing things or of expecting to be "the one" who turns around executives.

7) Don't fail to fully prepare to communicate with executives. I have heard SH&E professionals question the efficacy of spending numerous hours to prepare for a 10-minute executive briefing. But it is not just 10 minutes. A short presentation to senior managers is a highly leveraged event. In that 10 minutes, it is possible to simultaneously reach many leaders who, in turn, can affect the actions of a large number of people companywide, over a significant time period.

One of the best ways to communicate with executives is through making powerful presentations and briefings. You can use your presentations to create a sense of value and urgency for safety improvements. Be sure to continue to work on improving your skills in this area. Following are some proven keys for presenting to executives.

Executive Presentation Keys

•Show respect for their time. If you are given 10 minutes, make sure you can end within that time period. Of course, it is a good sign if they ask further questions or ask you continue. Be prepared for that eventuality—over-prepare for the time slot, anticipating requests for more information.

•Communicate as a leader, not as a technician. Employ leadership talk, not safety jargon.

•Let executives know that your purpose is to support their leadership efforts.

•Initially provide them with a big picture view with few details.

•Reconnect them with line employees. You can serve a vital role by helping them better understand what line staff are thinking (always maintaining confidentiality) so they can be more effective as leaders.

•Provide a balanced view. Don't come across one-sided, which only invites executive wariness. Always offer potential downsides of any proposed intervention. Of course, from your perspective, you might comment that the benefits to a proposed intervention seem to significantly outweigh the costs.

•Acknowledge that they will make final choices. Remember that many executives are used to taking control and usually do not want to be told what to do. Consider offering two alternative actions—either of which would be acceptable to you—and invite them to direct the route to take.

•Invite their input and support, making it easy for them to do so with as little time commitment on their part as possible (see "Key Safety Person Do's" number 7).

•Request their support at the right time. I suggest waiting until you can see a reasonable amount of nonverbal receptivity before asking for their go-ahead. Even so, consider phrasing this in a way where you acknowledge that they have choices ("Should you see value in this intervention, there are some actions you can take that would require minimal time and could result in a major impact," etc.).

•Remember to enlist the four steps in a successful persuasion process.

1) Get their attention. This can be done in many ways—citing a recent issue in the news, what competitors are doing, a window of significant opportunity, etc.

2) Elicit their interest. Offer benefits to them as both leaders and for the organization.

3) Build their trust by fully preparing, showing your commitment to support their leadership, providing straight talk, giving them choices and respecting their time.

4) Invite their commitment, the small actions they can take that can make a real difference. Carefully and respectfully remind them of their critical role as models, trendsetters and leaders.

These strategies and methods are only the tip of the iceberg. Many other actions can be taken to activate stronger executive safety leadership. Much of this is as much art as science—reading others, timing, developing contact and more.

Be sure to customize anything that might be of interest in this article to your company's unique concerns and culture. Significant results in performance and culture are generated when executives demonstrate sincere and strong safety leadership. By honing our abilities to persuade senior managers, we can greatly boost our mission and company safety effectiveness. ■

Robert Pater is managing director of Strategic Safety Associates, author of a book on leadership, founder of the MoveSMART® injury-prevention system and a frequent presenter at ASSE conferences. He currently writes a monthly column, "The Safety Catalyst," for Occupational Hazards.

Supervisors' Involvement

continued from page 9

being coached to become aware of their reactive style to incidents and to replace it with constructive, ongoing concern for each employee.

Some Strategies

Success in building supervisor involvement and ownership in safety has much to do with how supervisors are interacted with and enrolled in a vision of SH&E excellence, and in the value of integrating SH&E on a daily and moment-to-moment basis. Consider these steps:

•Make sure supervisors are part of any SH&E initiative, whether implemented by internal or external SH&E consultants, and make sure to seek their opinions and buy-in.

•Define clearly for supervisors their roles and responsibilities for SH&E. Set clear objectives and determine accountabilities for daily activities. Follow-up with them, assess how they are carrying out their activities and coach them where their performance is lacking. Have supervisors tell you how they will ensure these activities will be carried out each day. Discuss the kinds of attitudes, language and behaviors that will have the most positive impact.

•Make sure supervisors have a complete understanding of the SH&E process so that they can speak about it in depth. Present hard data about the anticipated impact of the process—both in human and business terms. Rather than discuss incidence rates, talk first about the impact of incidents to the human being and related suffering, then discuss the cost to the company in time, money, replacement costs, etc., when people are injured.

•Train supervisors to be internal sales people so they can "sell" the importance of safety to every level of employee. This will also help them advocate for the allocation of resources to correct unsafe/hazardous conditions and to provide proper safeguards and adequate training. They need to support the message up and down the line that unsafe attitudes and behaviors must change and that personal responsibility for SH&E improvements includes everyone, that it is not an effort or responsibility of one group of people alone.

•Provide supervisors with direct feedback (both postive and negative) about the impact of their involvement. Supervisors also need communication and effective speaking and listening skills to ensure that other employees are comfortable communicating directly with them about safety concerns.

•Let supervisors know that SH&E commitments and responsibilities are an integral part of the productivity process and that they must manage and support these commitments in an impeccable manner.

Expand Their Abilities & Commitments

Most supervisors have many talents and a keen ability to carry out mandates related to the objectives and strategies needed to ensure the achievement of the intended results of the company. Like the performers I saw on the old Ed Sullivan show, they are experts in the art of keeping multiple plates spinning in the air.

But the fact remains that their active and sincere participation as front-line advocates for SH&E excellence is essential to prevent incidents of all types. They must understand and be empowered through proper training and support, how to balance these responsibilities along with the myriad of other priorities related to production, quality, cost and customer service.

They must also understand and again be empowered and supported that in a moment of choice, between having a job done safely that will ensure people's health and well-being and that of the environment, do they choose on the side of SH&E or do they take a chance or allow a shortcut or someone to bypass a procedure to achieve the production/service result?

That decision, and the actions that follow, will do a great deal to communicate the genuine commitment to the SH&E-first message to your key constituent groups—from managers and line employees, unions, customers, supply chain partners, and local and global citizens, and whether our actions are consistent with our words. ■

Michael D. Topf, M.A., is president of the TOPF Organization, King of Prussia, PA. He can be reached at (888) 417-2367; www.topfinitiatives.com.

Developing an EEW Program

continued from page 8

approach distances; and location or name of panel, gear or equipment.

At this point, you need to develop safe practices for authorized personnel. As with any specific program, several levels of policies and procedures can apply to your operation. Following are some common examples as related to EEW.

The first and possibly most important determination is to assess whether the task can be performed in a de-energized mode. Using what many operations already have in place, an LOTO program should be the preferred method when possible. If LOTO procedures are properly performed, this eliminates many, if not all, of the hazards associated with EEW.

Set and follow safe boundary distances. This is done through energy incident level calculations. For those with internal resources and expertise, several free software programs are available to assist with this. Typically, three boundaries need to be set for both authorized and affected personnel: "limited approach" for protected authorized personnel; "restricted approach" for authorized personnel not protected to the required restricted approach distance; and "restricted approach" for affected personnel.

PPE Selection, Use & Care

Based on the survey and calculated potential energy incident levels, selecting the appropriate type and level of PPE is the next step. Some types of equipment, gloves, for example, may have limited life spans; other items, such as static dissipative mats, have testing requirements. It is important to train all authorized personnel in proper care and use of required PPE.

Safe switching procedures, removing, replacing, testing and metering components when energized are all areas of training along with general awareness-level training on the associated hazards specific to your environment.

An article in a future issue will address implementing the program, and procedures and training for both affected and authorized personnel. ■

Todd M. Ravazza is the San Francisco Chronicle's *production department safety manager and company environmental programs manager. He has been in the safety field for 13 years and is chair of the Manufacturing Branch of ASSE's Management Practice Specialty.*

Address the System—Or Is It the Culture?

By Joel N. Tietjens, CSP, CSHM

It is interesting to watch organizations today and see how they deal with SH&E issues that plague them. Many wring their hands and wipe the sweat from their brows, fretting about what else can be done to improve their performance. They address attitude and especially behavior of the workforce. They create incentive programs to hopefully modify attitude and behavior. They produce a policy and many procedures to guide the workforce. Let's change the attitude and behavior and let's produce more procedures for those on the shopfloor and that will solve our dilemma. But has it or will it?

The System

I'm a systems person. Not in the sense of this gear goes this way and that gear goes that way, but in how the overall process or system is developed to get the product or service out the door—from concept to manufacturing to finished product or service to end user. When I look at the system in place, I wonder who developed it and why it was developed the way it was. We all know that the system is designed perfectly to produce what it is producing. The system was designed with inputs, processes and outputs. What goes into the system, the processes used and the outputs? We want a system in place that will produce a product or service to make the most money for the organization. As long as we live in a capitalistic society, this will always be the case. But can the system designed perfectly to produce what it is producing be flawed from a standpoint of producing SH&E issues? I submit that yes, it can.

What created the system in which we function? The management team in place produced the system. If that system is producing a fine product or providing a fine service with few SH&E issues, then management looks good. But if that system is producing products/services with SH&E issues, I will look at the management team for the answer. I will question why the system is set up the way it is. Did the management team set the system up to fail from a SH&E standpoint? No. The team members simply may not know any better.

I have made that statement in many presentations to management teams and it certainly has not been well-received. But say it I must because it is the truth. Rarely do I find that the management team simply does not concern itself with SH&E issues. But to what degree does the team concern itself? Again, the system is designed perfectly to produce what it is producing. Fail to do that, and there will be questions from on high to answer.

Culture

So what really drives the management team to possibly not emphasize SH&E issues? Culture. Culture drives the system in which we function. A simple definition of culture is "the totality of socially transmitted behavior patterns, arts, beliefs, institutions, and other products of human work and thought characteristics of a community or population."

An organization is a community or population that has beliefs, patterns and products of human work. Is SH&E a cultural issue? Is it believed that the product or service can be accomplished without any or few performance errors (losses)? The management team must believe that these three items can be achieved and demand that the system incorporate the necessary elements, not only to produce the product or service, but also to do so in the most efficient manner possible to greatly minimize losses or performance errors. Beliefs and values will predict a culture. Does the management team believe this is possible —not only top management, but also the line management team and employees?

Value

If beliefs and values predict a culture, then is SH&E a value? Again, a simple definition for value is "to regard highly; esteem; worth in usefulness to the processor." If one places a value on something, s/he will keep it and protect it. Often, we place value on material items, but the type of value meant here is that of personal safety and health, our employee's safety and health, our organization's safety and health, our family's safety and health. Is SH&E a value to the management team and the members of the organization? It stems from the values the management team holds and that trickle down to shopfloor. What management wants, management gets. Albert Einstein said, "Try not to become a man of success, but a man of value."

Attitude & Behavior

This leads to the subjects of attitude and behavior. Does attitude affect safety in the workplace? Of course. But what created the attitude? I believe culture creates attitude. Attitude is simply a state of mind or feeling with regard to some matter.

Could "some matter" mean SH&E? The state of mind of a group is heavily influenced by the culture. Does behavior affect safety in the workplace? Of course. Behavior is to conduct oneself in a particular manner; to act, function or react in a particular way; exhibit reaction (as to an environment). Could this be the work environment? Behavior is closely related to employees' state of mind or how they feel.

So are attitude and behavior really culturally driven? If that is the case, then attempting to change attitude and behavior without attempting to address the cultural issues which created them is fruitless.

Think about it. Take how one behaves at a symphony or opera performance versus how one behaves at a rock concert. One goes to the symphony or opera with a certain attitude and behaves accordingly due to the culture that surrounds those events. For the symphony, you dress well and use your best manners. But at a rock concert, you will have a different attitude and will behave differently due to the acceptable culture for that event.

Same person, different results. We adjust our attitude and behavior to the environments into which we have been cast. If the work environment and system created supports the bypassing of SH&E procedures to get the job accomplished, one will adjust attitude and behavior to meet the requirements. Remember that what gets measured gets done. Culture has created the system that supports nonadherence to SH&E procedures, all for the sake of getting the product or service out the door. I fully support producing as much product or service as demanded, but at what cost?

Conclusion

Are SH&E professionals part of the man-

continued on page 24

Developing & Managing a Crisis Preparedness Program

By David R. Stolle, CSP

Terrorist events of the recent past have caused us to take a more critical look at internal emergency response procedures and at crisis response and business continuity processes. Each process was individually managed and functioned somewhat independently. It was determined that all of these components should be combined into one crisis preparedness program. A policy was written and issued by the CEO outlining the importance of this program and giving it the necessary support to move it forward.

The program has been tested numerous times in recent years. We have responded to hurricanes in New Orleans, LA, Houston, TX, and Florida, bombings in London, and planning for the avian flu.

Program Components

The crisis preparedness program (CPP) proactively provides a framework for an effective response consisting of four cornerstones of preparedness.

•**Crisis Management.** Represents the policies, organization (people) and process to respond to and manage a crisis situation that threatens people, operating continuity and the image of the company. Crisis management has three priorities:

1) safeguard employees and on-site visitors;

2) minimize impact on operations, facilities and other assets and stakeholders of the company;

3) protect brand image.

•**Emergency Response.** Process necessary for ensuring the safety of people, company assets and physical security. These processes involve standard operating procedures within a facility including:

▪pre-event planning;

▪system inspections, program audits, exercises and training;

▪event response;

▪post-event assessment;

•**Business Continuity Planning.** A process to continue those critical business functions following an interruption; by exercising recovery strategy(s) in order to minimize the impact/exposure to the company.

•**Disaster Recovery.** Plans for recovery of the infrastructure supporting business processes. These plans address recovery/rebuilding of facilities, processing systems, warehousing, communication and technology support.

The crisis management process works closely with the emergency response process; likewise, business continuity planning works directly with disaster recovery. Corporate safety takes a direct roll in the management and direction of the emergency response process and a support roll in the crisis management organization as a content expert.

The crisis management organization consists of two teams, the Crisis Response Team and the Crisis Management Team. The response team is made up of representatives of safety, security, facilities management, human resources, corporate communications, technologies and business continuity (and health services if available). They provide the response to the disaster and make recommendations to the Crisis Management Team. That team is made up of the executive leaders of the business.

Corporate safety personnel cannot forget their role in the business continuity and the disaster recovery processes. We must be diligent in ensuring that life safety is protected as the arduous tasks of analyzing the damage, keeping the business running and the rebuilding process occur.

For assistance in developing a disaster/emergency management and business continuity program, consult the recently revised NFPA 1600 standard. ■

David R. Stolle, CSP, is corporate safety project manager, American Express, Salt Lake City.

Safety 2006 Preview

Safety 2006 is slated to run June 11-14 in Seattle. The program will feature many concurrent sessions devoted to SH&E technical/management-related issues. Program highlights include:

Session 612: NFPA 70-E: Need Help with Your Energized Work Program? (*Paul Riley*).

Session 713: The Business Side of Safety (*Jerry Williams*).

Session 715: Understanding Human Error: Exploring Causes and Strategies for Prevention (*Michael Topf*).

Session 749: Managing Diversity for Safety, Health & Environmental Excellence (*Luis Gonzalez*).

Session 526: Focusing on the Right Issues Reduces the Cost of Risk (*Bill Barbarow and Gail House).*

Session 610: Drawing the Big Picture for Slip, Trip and Fall Prevention (*David Natalizia and Keith Vidal*).

Session 615: From Basketball to Bono: Safety is "Key" at Seattle's Key Arena (*Jyo Singh and Mary Hollins*).

Session 631: Engaging Your CEO in Safety: Lessons Learned from Golf (*Fay Feeney and Teresa Pacelli*).

Other sessions of interest include:

Session 506: The Organization Politics of Safety (*Mark Hansen*).

Session 512: The New ISO Safety & Health Management Standard and Other Safety & Health Management Standards: Are You Ready? (*Gary Lopez*).

Session 604: The Critical Elements for Achieving Organization Safety and Health Performance Excellence (*Sam Gualardo*).

Session 742: Business of Safety: Language, Marketing & Safety (*James A. Boretti*).

Visit www.safety2006.org for complete program information and registration details.

Third-Party Certification of Fall Arrest & Protection Equipment: An Interview with Randall Wingfield

Editor's Note: *The Z359 Accredited Standards Committeee (ASC) is currently revising ANSI Z359.1, Safety Requirements for Personal Fall Arrest Systems. Randall Wingfield, president of Gravitec Systems Inc., is chair of the Z359 ASC on Fall Protection and Related Systems. In this interview, he provides an update on the revision process and explains how the revised Z359.1 standard will positively affect companies.*

The Z359 ASC is currently revising ANSI Z359.1. What is the status of this standard's revision process thus far, and what changes will the revised standard include?

The technical committee has voted on and approved the majority of the standard. We hope that it will go to public ballot in the fall for release in early 2006. The Z359.1 standard originated in 1992. It underwent minor revisions in 1999 and it has remained unchanged since then.

Under the current revision, the standard's purpose has changed. While the existing standard focuses primarily on the design and testing of specific fall equipment items, the revised standard will include this information along with additional specifications for fall protection program development, fall hazard assessment, key person responsibility, training and program maintenance. The standard now also includes information on work-positioning systems and rescue systems, and it features new sections such as a comprehensive guide for the development of a managed fall protection program.

The revised standard is designed to be a "living document" that will change as industry and technology advance. It will offer those interested in fall protection a comprehensive document that will facilitate the generation of a new fall protection program or will augment an existing one.

What are your duties as chair of the Z359 ASC, and what is your role in the preparation and execution of the revised Z359.1 standard?

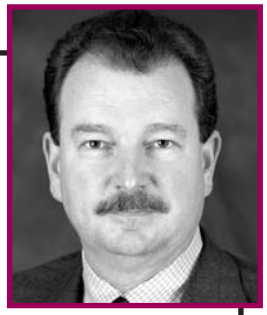
Committee and subcommittee meetings bring together many industry professionals who work on numerous topics in a short period of time. These meetings constitute a considerable expense to its membership in time and travel. Therefore, it is imperative that the chair conduct the meetings in a manner that is consistent and efficient. New issues are raised at each session, and the chair must facilitate the formation of subcommittees and working groups to address each topic. The chair also works closely with the secretary and subcommittee chairs to assist with technical issues, set deadlines, and obtain consensus within the subcommittees and committee.

How is third-party certification of fall arrest and protection equipment performed? Why do you believe third-party certification is of value to safety professionals?

Third-party certification of equipment requires that each item of equipment be tested and sent to an independent, unbiased outside testing organization to determine whether the equipment meets the design and performance requirements given in the standard.

Historically, ANSI has not required third-party testing for items of fall protection equipment. Therefore, manufacturers have performed their own testing and have attested to the equipment's compliance with the standard. Since the testing methods and standards may allow for some interpretation, combined with the variation in testing abilities from one manufacturer to another, the situation has resulted in inconsistencies. The lack of unbiased third-party testing has allowed items to be labeled as meeting the ANSI standard when, in fact, they do not.

Most large equipment manufacturers have conducted third-party certification for years because their product lines are sold in other countries or in specific industries that require it. This creates a market that can be very confusing for consumers because it is difficult to determine which items have been independently tested and which items have not. Third-party testing is beneficial, not only for safety professionals, but for the entire industry, as it standardizes testing and increases equipment quality. If an independent organization has tested equipment according to a set standard, consumer confidence will increase.



Randall Wingfield *is the founder, president and CEO of Gravitec Systems Inc., which has been at the forefront of fall protection technology, engineering, training and consulting for more than 20 years. Gravitec Systems Inc. offers fall protection education and training; engineering systems design; industrial rescue; design and development of courses, training and engineering; and consulting in systems design and equipment purchases. As the company's primary resource for forensic investigation of fall accidents, Wingfield presents expert opinions, depositions and testimony on the causes, mitigation and elimination of jobsite fall hazards and accidents.*

Wingfield has been involved in the continuing development of national and international standards for fall protection equipment and training, and he is the president of the International Society for Fall Protection, president of the International Society of Fall Protection, chair of the ANSI Z359 Committee, past vice chair of the Canadian Standards Association Z259 Committee and a member of ASSE.

You are the President of Gravitec Systems Inc., which provides fall protection and rescue training, engineering and consulting services, and equipment sales. How do you predict the revised Z359.1 standard will impact your company?

Gravitec Systems Inc. as well as other fall protection companies will benefit from a better-educated clientele. This standard provides access to information that was not previously available. The fall protection industry has lacked guidance on the development of a fall protection program, and this standard offers that guidance.

Many organizations have created some type of fall protection program. Unfortunately, it often does not have a coordinated approach. Equipment is purchased without training, policies are written without assessing risk, systems are designed without engineering support, and rescue planning has yet to become an industry standard. This revised standard will offer a road map for organizations to develop their own programs. A more informed consumer base will benefit our company, the industry and workers who are exposed to the risk.

continued on page 20

Security & Management's Bottom Line: An Interview with Felix Nater

Editor's Note: *Security problems and workplace violence not only pose a threat to a company's day-to-day business, they also can be a threat to the bottom line and can affect a firm's return on investment. Felix Nater, president of Nater Associates Ltd., a security consulting practice in Elmont, NY, has more than 30 years' investigative, managerial and security experience as a U.S. postal inspector and postal police officer. In this interview, Nater explains how effective security programs and workplace violence prevention plans can benefit companies' SH&E practices and ultimately their return on investment.*

Provide a brief description of Nater Associates Ltd. and of your responsibilities as president.

Nater Associates Ltd. is a security management consulting practice that specializes in workplace security and workplace violence prevention. Our practice brings a common-sense approach to workplace security at facilities, plants, hospitals, schools and colleges, and to facility, safety and human resources managers and attorneys by incorporating the client into the process.

We conduct threat assessments, security audits and surveys, and we evaluate, implement and provide guidance based on a firm's unique security needs. We also offer third-party internal investigation and litigation support in conjunction with ongoing workplace incidents, serve as an expert witness or outsource security advisor, and lecture and give presentations on security and workplace violence prevention.

You help clients to implement workplace violence prevention plans and general security programs into their businesses. How do you promote the value of return on investment (ROI) to your clients with respect to security?

Clients are encouraged to implement a unique security policy and program that satisfies their particular situation. Merely employing a practical approach reduces costly investment in the aftermath of an incident or in a mandated alteration to the workplace after a lawsuit. Clients who implement some type of security awareness training establish parameters that show they care. Morale then increases, production and efficiency improve, and labor grievances decrease, which all foster a supportive working environment. The public image of a client's business is also enhanced based on the proactive and preventive measures taken to reduce a threat, contain an incident and to respond appropriately.

For more than 30 years, you worked as a U.S. postal inspector and as a postal police officer. How does the investigative, managerial and security experience you gained in those positions help you to develop security solutions for clients? Do you feel your background gives you an advantage when it comes to accommodating clients' specific needs?

My diverse background and assignments have definitely helped me to better understand my clients' needs and unique circumstances. While working as a postal inspector, program manager and postal police officer, my clients and customers, in addition to the postal community, included the entire constituent of the postal service along with the agencies and organizations. I interacted with senior postal officials and local leaders regularly.

Over time, clients received the benefit of my vast exposure to all levels of government, corporate America, the criminal justice system, judges, commissioners and local, state and federal officials. My familiarity with the system has afforded me an enviable and untraditional skills set. I led task force operations around the country, headed media relations for the Universal International Union of Postmasters, and negotiated the design and implementation of a language-testing program that saved the postal inspectors thousands of dollars in research and development costs. Therefore, my familiarity with the business community and with the art of negotiation and presentation puts me in a unique position to help clients work through their challenges in all settings.

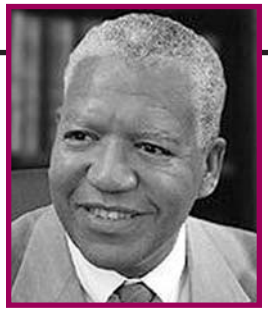
You have extensive experience in workplace violence interdiction. What methods do you use to assess clients' risk of encountering violent incidents or terrorist acts in their workplaces?

As I acquired experience in workplace violence prevention, I developed the strategy and tactics behind my interdiction methodology, which includes leadership principles to encourage greater involvement by all employee groups and leaders. The process aggressively integrates clients' resources in a collaborative environment to identify potential threats and to determine risk abatement measures by marshalling resources.

The process also calls for use of threat assessment measures to evaluate and defuse potential threats, recommend restructure to the workplace, alter working conditions, train employees and leaders, and recommend risk mitigation measures to protect employees from the escalation and spread of threatening behavior.

In incidents involving nonemployees who harassed or assaulted postal employees, we collaborate our law enforcement resources with local police departments, visit with community groups, and give security awareness briefings to teach employees, unions and civilian organizations how to reduce the potential of exposure.

Counter-robbery measures are not designed to catch the perpetrator by placing employees in harm's way. Rather, these measures help to educate employ-



Felix Nater *has more than 30 years' investigative, managerial and security experience as a U.S. postal inspector and postal police officer with eight years devoted to workplace violence interdiction. Nater has spent the last three years growing his security consulting practice, Nater Associates Ltd., of which he is president. Nater's training and experience includes program management at the national and regional levels of the postal service, diversified leadership acquired while serving as a task force leader and program manager, and supervisory and managerial experience gained during assignments in the U.S. Army Reserves as a Command Sergeant Major (now retired). He has held offices and titles within many organizations, including the Association of the U.S. Army and the Hispanic Association of Police Command Officers. Nater is also a member of the International Association of Professional Security Consultants, the Association of Threat Assessment Professionals, the International Association for Healthcare Security and Safety, and the International Facility Management Association.*

ees on the nonthreatening steps they should take to avoid antagonizing a robber and mitigating risk. This methodology calls for detection and apprehension based on counter-robbery measures.

How cam effective security programs and workplace violence prevention plans impact SH&E practices within companies? In what ways do they help to reduce injury and incident rates?

Properly designed, implemented and managed security programs and policies are instruments that are proactive and preventive by design. While their immediate value appears intangible, the value is both measurable and tangible if introduced as part of a security awareness program with supporting programs. If security programs are exercised, management, employees and programs are constantly evaluated against the program's or policy's ability to do what it intended.

Employees who abide within the expected boundaries reduce their chances of adverse risk and diminish the threat of criminal and violent exposure because of their familiarity with the threat and with the contributing behaviors. They are now more familiar with the contributing factors, and they can take proactive measures to avoid incidents, or they can recommend alternatives that would reduce or mitigate the threat. Such awareness reduces injuries and empowers the employee as part of the solution. The workplace becomes a safer environment when employees are pleased instead of confrontational. This leads to fewer days off, reduced injury compensation claims and a decrease in grievances.

You have successfully implemented a "plain talk-solid situational approach concept" to threat management and conflict resolution. Describe this concept and how you apply it to your clients' security programs.

The "plain talk-solid situational approach concept" espouses methodologies based on case studies to teach proper conduct based on examples. The concept takes past incidents, breaks them into discussion points and illustrates by example that the contributing factors were apparent. Recognizing the threat allows the victim to take alternative measures. The plain talk approach uses scenarios to place employees in the victim and perpetrator roles in clear and uncertain terms. This exposure shows them how incidents, when left uncorrected, contribute to a permissive environment. The concept is credible and effective.

You train your clients' leadership teams in threat assessment and risk management procedures so that they can manage their workplaces after you and your company have helped them to develop their security and/or workplace violence prevention plans. How do you train your clients in these procedures and how does this training initiative affect your clients' ROI?

The cost savings associated with understanding and implementing threat measurement procedures in the workplace are key to the delivery of my services. Once a client's leaders see the value of threat assessment, as opposed to making decisions in a vacuum, they can identify the root cause of conditions and of any ensuing problems in a collaborative environment. The ROI is immediate because less time is spent investigating workplace-related incidents, going to the doctor, filing injury compensation forms and monitoring a potentially charged situation. If the leadership is familiar with the threat assessment process, the need for a third-party investigation or assessment is eliminated since the leadership now understands the process and has learned what to do or say. A trained supervisor avoids creating a permissive environment by recognizing contributing factors and by taking appropriate action which can reduce the allegations that contribute to a hostile workplace. The threat assessment team is the client's ROI measurement because it places employees in a collaborative role to eliminate the problem through intervention or prevention while employing organizational assets.

You are a retired Command Sergeant Major of the U.S. Army Reserves, and you are the current chair of the New York City Area Committee for the Employer Support of the Guard and Reserves (ESGR) as well as the current president of the Greater New York Statue of Liberty Chapter of the Association of the U.S. Army. Do you draw on your military experience when creating programs, policies and training for your clients?

The good fortunes of my valuable experiences have allowed me to look at situations as solutions-based and client-centered. Working in a team environment for so long has permitted me to see the big picture and to work toward resolution. In my field, the need to be quick-minded is an analytical requirement.

My involvement in ESGR has allowed me to see a larger corporate picture by considering the unique circumstances and the adverse impact of personnel shortfalls created during military mobilization.

My military training has taught me to lead by example with the team in mind. My subordinates came from diverse environments and educational backgrounds. Understanding the value of policies and programs in those environments validated their effectiveness and verified that the "plain talk-solid situational approach concept" worked based on my own experiences and lessons learned.

In my roles within those organizations, I have learned flexibility, teamwork, analysis, interpretation, decision making, delegation and leadership. All of these skill sets were vital to doing my job and future assignments.

You work with the managers of your clients' human resources, labor relations, safety and security departments during security consultations. How do you ensure effective coordination among all departments in the development of security and/or workplace violence prevention plans?

Since my interdiction methodology calls for collaborative engagement, each department mentioned contributes a part or parts to the overall plan. The validation process requires that they work their part of the plan or policy using a checklist and survey. This approach ensures a successful outcome. By involving the department heads in the process, they own the solution and feel empowered to decide their outcomes based on their specific needs in collaboration with other department leaders.

You believe that security should be a corporate responsibility and not just the business of the security director. How do you help your clients to see this?

I believe that security should be demystified and be a collaborative process and effort. Every leader should own a piece of the security environment relative to his or her work areas. Security should be part of the business matrix, and security directors should structure their contributions based on security needs and business decisions. Security directors alone should not decide on security systems or on measures to procure or employ. Security decisions require input from everyone. If clients do not have a security director, they should hire a security advisor on retainer or consider solutions from other resources. ■

The Council on Practices & Standards: What Is It? What Happens When Its Members Meet?

By Chris Gates, ARM

The Council on Practices and Standards (CoPS) is one of four councils within ASSE. Each council is chaired by a vice president who represents his/her council on ASSE's Board of Directors. The other councils are the Council on Professional Affairs, the Council on Professional Development, and the Council on Member and Region Affairs.

CoPS meets face-to-face three times each business year. One of these meetings is at the Professional Development Conference (PDC); the other two are held in Des Plaines, IL (ASSE headquarters) or at another location where ASSE is holding an event. In between these face-to-face meetings, the vice president holds periodic conference call meetings to ensure that the business of the council is moving forward.

The 13 practice specialties are represented at the CoPS meetings by their administrators or assistant administrators. When neither is available, another advisory committee member may represent the administrator. In addition to practice specialty governance issues, the administrators are members of task forces/committees that relate to the wider CoPS mission.

The minimum practice specialty administration issues relate to the governance of the practice specialties. These issues are summarized in a self-evaluation matrix. The matrix evaluation areas include regular updates of the practice specialty's strategic plan, goals and operating procedures; formation and leadership of the practice specialty advisory committee and its succession planning; publication of the practice specialty newsletter; website maintenance; regular meetings of the practice specialty advisory committee (usually by conference call); membership development efforts; participation in meetings and seminars (this involves providing speakers PDC); and awards and honors.

Currently, the practice specialties are also involved in improving their pages within the CoPS portion of the ASSE website. This involves input from each practice specialty and close coordination with ASSE staff involved in website development. The Management Practice Specialty is working with ASSE staff on its web pages, and we are also supporting web page development by the Hospitality and Manufacturing branches.

Additionally, the practice specialties are involved in the development of white papers on various topics that reach across the spectrum of safety, health and the environment. Three or four practice specialties may work together on several white papers. As these papers are completed, they are published in the pertinent newsletters and placed on the websites.

Some practice specialty members serve on the CoPS Awards & Honors Committee. This committee is chaired by our administrator, Brownie Petersen, and includes our Awards & Honors chair, Chris Gates, and Leif Hanson, a new member of the MPS advisory team. This committee works with the individual practice specialty awards and honors chairs, their administrators and the staff liaison to ensure that the practice specialties have the information they need to submit nominations for the available ASSE, CoPS and practice specialty awards and honors. This committee also screens nominations for ASSE and CoPS awards and honors, and recommends individual nominations to the CoPS vice president and ensures that the staff liaison receives all available nominations within the prescribed time frames.

The standards development secretariats are represented by the Chair of the Standards Development Committee. S/he reports on the standards development process and the status of the current efforts to publicize revised standards, and presents secretariat committee updates. Audioconference calls are one method to allow members to hear technical representatives of the standards development committees discuss the changes in the standards and the impact of those changes when they are applied to working situations. These efforts also provide an opportunity for the standards development community to solicit members for the standards development committees.

During its face-to-face meetings, CoPS also receives reports from the Business of Safety Committee, the Body of Knowledge Committee, and other committees. These are usually informational reports, but these committees also solicit input from CoPS members. ■

Chris Gates, ARM, is Executive Secretary of the Management Practice Specialty. He is the safety specialist with San Bernardino County in California.

Z359.1 Revision Update

continued from page 17

What measures will you take to ensure that state and federal governments recognize the revised Z359.1 standard? Do you anticipate any challenges?

OSHA has participated in the development of Z359.1 since its conception. Governing bodies recognize advancements in the industry, and recognition and acceptance of the standard by federal and state governments will occur over time.

Do you believe that the revised Z359.1 standard should be recognized in other areas?

The Z359.1 standard was not written with a specific industry in mind. We believe that the standard has something to offer every company or organization that encounters fall hazards. Even if the organization's employees are not working at heights everyday, there are elements within this standard that would benefit everyone. For example, the construction industry could use the standard's hazard assessment sections, and the communications industry could benefit from the training sections.

What other projects does the Z359 ASC have in development?

The Z359.1 Committee is proud of the commitment that everyone has given to the revision of this standard during the past four years. Although this standard is quite comprehensive, the committee plans to develop additional information for engineered systems (horizontal lifelines), hardware compatibility, rope access and rescue. These issues are scheduled as future projects for the committee. ■

ANSI/ASSE Z15.1-2006 Motor Vehicle Operations Standard Approved

ANSI/ASSE Z15.1-2006, Safe Practices for Motor Vehicle Operations, has generated extensive interest both within and outside the SH&E profession. The most recent issue of the Transportation Practice Specialty newsletter *Transactions* reported on the status of what was then an unapproved draft standard. Many members of the Management Practice Specialty requested that a similar article be published in *The Compass* as well.

Z15.1 has been one of the most heavily reviewed ANSI standards that ASSE has administered. During public review, approximately 80 pages of public review comments and statements were submitted. This standard will have a significant impact on the SH&E profession in the near and long-term future. It was approved on Feb. 15, 2006, and has an effective date of April 28, 2006.

Z15.1 sets forth practices for the safe operation of motor vehicles owned or operated by organizations, including definitions; management leadership; administration; operational environment; driver considerations; vehicle considerations; and incident reporting and analysis. These practices are designed for use by those responsible for the administration and operation of motor vehicles as a part of organizational operations.

The standard is one of an expected series of safety standards that will address motor vehicle operations. It is expected that these standards will serve as a guide to organizations with vehicle operations. It should be noted that this standard is not intended to serve as a guide to governmental authorities having jurisdiction oversubjects within the scope of the Z15 Accredited Standards Committee (ASC) on Safety Requirements for Motor Vehicle Operations

Now that the standard is approved, many SH&E professionals are eager to see how it will affect transportation safety. Following is an interview with the leadership of the Z15 ASC: Carmen Daecher, chair, and Bill Hinderks, vice chair. They explain the structure and intent of the standard as well as its predicted impact on safety rates, vehicle management and driver hiring and training procedures.

What are your positions within the ANSI Z15 ASC and how have you each contributed to the development of the new Z15.1 standard?

CD: I am the chair of the ANSI Z15 ASC. I was instrumental in forming this committee through ASSE, and I provided the committee with foundation materials to consider in the development of the Z15.1 standard. As chair of all committee meetings, I encourage dialogue among members and lead discussions for consensus.

BH: I presently serve as vice chair of the Z15.1 standard. I was also chair of the subcommittee that developed Section 4 of the standard, Operational Environment.

Lastly, I served on a four-person editorial committee headed by Stephanie Pratt of National Institute for Occupational Safety and Health (NIOSH). This group merged the various sections of the standard, made grammatical corrections and brought a uniform "look and feel" to the final document. We reviewed nearly 100 pages of public review comments and made appropriate changes, while we referred comments of a substantive nature to the larger group for action.

How is the Z15.1 standard different from its predecessor, National Safety Council's American National Standard Method of Recording and Measuring Motor Vehicle Fleet Accident Experience and Passenger Accident Experience (D15.1-1976)? What new requirements, recommendations or features does it include?

CD: The Z15.1 standard differs from the D15.1 standard in that it provides guidelines for implementing a complete management system for motor vehicle operations. The old standard primarily intended to develop means of measuring accidents and comparing accident rates. The new standard incorporates accident measurement, but it is more robust in providing guidelines for developing and implementing an effective risk management program for motor vehicle operations.

BH: The expired D15.1 standard was narrower in scope and mainly addressed accident recording and analysis. The Z15.1 standard is more comprehensive and provides guidelines designed to help

Carmen Daecher (left) is chair of the Z15 ASC; Bill Hinderks (below) is vice chair.

organizations address a wide range of safety management issues related to motor vehicle operations.

What is the framework of the Z15.1 standard? Does it offer specific guidelines for a safety program?

CD: Z15.1 is developed around a framework of risk elements associated with motor vehicle operations. Basic management structure, driver considerations, vehicle considerations and operational considerations and methods to monitor and measure effectiveness are the foundations of this framework.

BH: People who have been involved in vehicle safety will find much of the content to be familiar. In developing the standard, committee members (82 traffic safety professionals representing a broad cross-section of 35 organizations of all sizes from across the U.S.) introduced material from safety programs used within their organizations as well as ideas derived from state regulations, national safety organizations, traffic safety literature and best practices.

How do you predict the Z15.1 standard will impact commercial and non-commercial vehicles? How is the standard expected to improve injury and accident rates and to reduce property losses?

CD: The Z15.1 standard should not have a substantial impact on commercial vehicle operations. Most of those operations already have structured risk management programs. However, for non-commercial fleets, the standard can have

continued on page 22

Z15.1 Approved

continued from page 21

substantial value. The standard offers guidelines to develop more effective management of motor vehicle operations.

Since motor vehicle accidents are one of the leading causes of occupational injuries and fatalities, a risk management program for motor vehicle operations should positively impact the workplace.

BH: The objective of any standard is to improve performance by "raising the bar," so to speak. For organizations actively engaged in safety management, the Z15.1 standard will be a useful tool to gauge present programs. Where no formalized efforts currently exist, the standard serves as a user-friendly resource that outlines precisely what is needed to develop a program and better manage this significant exposure.

Better management of vehicle operations will lead to improved results. This includes reducing the frequency of collisions, preventing fatalities, injuries, property damage and traffic violations and ultimately lowering costs.

In what ways will the Z15.1 standard help to streamline vehicle management?

CD: I am not sure that the Z15.1 standard will streamline vehicle management, but it should provide a better process for purchasing and maintaining vehicles so as to produce safer operations for vehicle users and their organization.

BH: There will be a more common understanding of what is meant by a driver safety or fleet safety program. This will undoubtedly make things less complicated for, as an example, organizations that require contractors to have a safety program in place. In the past, these organizations would have needed to define what that meant from their point of view. Meanwhile, other organizations might have different program requirements of the same contractor. So potentially, a contractor might need to have as many programs in place as it has customers.

With an effective national consensus standard, everyone reads off the same (or very similar) sheet of music. This makes it easier for the customer to hire safer operators and for the contractor to comply with the customers' requirements.

What criteria does the Z15.1 standard give for measuring vehicle safety performance?

ASSE Schedules Z15 Audioconference Call

To address the Z15.1 standard, ASSE will be holding a technical audioconference call on April 13, 2006, from 11:00 a.m. to 12:30 p.m. CST. Featured speakers will be Carmen Daecher, chair, Z15 ASC, and former administrator of the ASSE Transportation Practice Specialty, and Bill Hinderks, vice chair of the Z15 ASC. George Pearson, Administrator of the Risk Management and Insurance Practice Specialty will serve as a moderator and additional technical source. The presentation will last about 60 minutes, with the remainder of the call dedicated to a question-and-answer session. This program will cost $75 for ASSE members, and is recognized for BCSP CoC credit. The registration fee includes the following:

- copy of the Z15.1 standard;
- a quality presentation;
- a website of technical materials;
- the ability to submit questions via e-mail to the speakers and moderator;
- a CD recording of the call.

To register and for more information, contact ASSE's Customer Service Department at (847) 699-2929.

ASSE serves as secretariat of the Z15 Accredited Standards Committee, which has more than 30 representative organizations from trade associations and employers to government agencies and insurance companies. For more information on the Z15.1 standard, visit www.asse.org/z15.

CD: The Z15.1 standard identifies the root-cause analysis of accidents as a primary basis for measuring effectiveness. In this regard, vehicle safety performance should be considered whenever an accident occurs. If any components or maintenance-specific issues regarding the vehicle contribute to accidents, the organization should identify and address them to prevent future occurrences.

BH: The current trend in safety circles is to evaluate whether an organization is doing the right things. One performance measure would be whether or not the organization adhered to all applicable portions of the standard. There is latitude within the Z15.1 standard to account for differences in organizations and their unique operations and exposures. However, in most cases, they are either properly managing a program element or they are not. This is very objective and it should be relatively easy for management to measure.

The standard provides specific information to help organizations analyze their crash results in order to compare themselves to others within and outside their industry. They will also be able to compare their own results from year to year. While these numbers are trailing indicators of past safety performance, this data will be helpful to safety professionals in promoting and marketing vehicle safety strategies within their organizations or among their members or clients.

How can organizations use the Z15.1 standard to improve driver hiring and training procedures?

CD: The Z15.1 standard specifies guidelines for driver hiring and training. From a hiring point of view, the applicants' driving behaviors should be considered for employment purposes. Review of their motor vehicle record should also be part of the hiring process. Any new employees should be trained to drive defensively upon employment, and to underscore the importance of defensive driving, they should receive regular refresher training. If employees have accidents, receive tickets or behave in some other unacceptable way, remedial training should be provided.

The standard prescribes the use of a hiring procedure and training procedures as part of the total risk management process for safe vehicle operations.

BH: Organizations can compare their hiring and screening practices to those outlined within the standard. This will allow them to identify shortfalls within their process, and it will guide them in implementing enhancements.

How will you ensure that state and federal government agencies recognize the new Z15.1 standard? Do you expect to encounter any difficulties?

CD: I do not have any plans to ensure that state and federal government agencies recognize the new Z15.1 standard. The standard has been built as a guideline for organizations that use motor vehicles as part of their business activities. I am not

Z15.1 is developed around a framework of risk elementsassociated with motor vehicle operations. Basic management structure, driver considerations, vehicle considerations and operational considerations and methods to monitor and measure effectiveness are the foundations of this framework.

interested in the standard becoming a regulatory requirement by any agency. I am more interested in having organizations, including governmental entities, use the standard to improve their motor vehicle operations.

BH: Interest in a motor vehicle safety standard originated with fleet operators. When Carmen served as administrator of ASSE's Transportation Practice Specialty in 2000, members approached him about the need for a standard to assist them in their work. Hence, the original impetus for a vehicle safety standard was the transportation industry itself.

The Z15.1 standard was developed to help organizations improve operations and performance. It has not been the objective of our committee to actively promote the standard to federal or state agencies. With that said, I anticipate there will be interest in the standard among regulators and elected officials.

How do you predict the standard will interact with federal and state regulations?

CD: Currently, OSHA is concerned about motor vehicle accidents in the workplace. The agency has issued guidelines in partnership with the Network of Employers for Traffic Safety for use by all organizations.

I do not believe that OSHA will apply the Z15.1 standard as a regulatory requirement. The agency may consider its use as a guideline for organizations, but it would be difficult to incorporate the standard from an enforcement point of view. Furthermore, OSHA already has guidelines for the use of motor vehicles and other equipment in specific situations such as construction.

The Department of Transportation has regulations in place for commercial operations, and the Z15.1 standard does not offer any additional elements or criteria that are not already embodied in those regulations.

BH: The committee was especially sensitive to this issue. The Z15.1 standard is designed to complement existing regulations. In fact, the standard specifically states, "Organizations shall have a system in place to monitor federal, state and local regulations in order to comply with all regulations and implement any policy/-procedure change in a timely manner." In this respect, the standard may further influence organizations to become compliant with existing regulations.

The Z15.1 standard is the first in a series of planned safety standards for motor vehicle operations. What subjects will the future Z15 standards address?

CD: It is too early to tell what future standards under Z15 will be addressed. At this point, I am anxious to see how the Z15.1 standard will be used by organizations and what issues arise through its use. I expect that feedback from those who apply it will drive the future evolution of the standard.

What is the Z15 Committee's agenda for 2006-07?

CD: ANSI fully approved the Z15.1 standard on Feb. 15, 2006, and it will be published in the spring. I also expect that the committee will meet at some point late in 2006 or possibly early in 2007 to review the dissemination and use of the standard.

BH: It remains the responsibility of the committee members to be leaders in promoting the standard once it is published, to be available to interpret the standard and to always think about opportunities for improvement. ■

Manufacturing: A Snapshot of Our Industry Focus

By David T. Crowley, CSP, CHMM, CET

MANUFACTURING BRANCH

When the Manufacturing Branch was launched, I didn't know whether I should belong or not. After looking into the spread of industry mix within manufacturing, it was fairly easy for me to decide. I work in manufacturing, food processing to be specific. It could be that you work in manufacturing as well. Are you familiar with your sector? Are you plugged into the Manufacturing Branch of ASSE's Management Practice Specialty? Are you hunting for a job in manufacturing? Depending on how you answer any of these questions, you may want to consider joining. Read on and take a look at the definition of manufacturing and how the various types of manufacturing are set up in the world of safety.

First, consider Webster's definition of manufacturing = manufacture: 1) the making of goods, especially by machinery and on a large scale; 2) the making of any product. I actually contacted a colleague who works in what he calls "hard manufacturing," namely, a foundry. His definition of hard manufacturing is "labor-intensive, non-clean room environment, requiring exposures to extreme conditions" (in his case, high heat from the foundry operations).

No matter how you define it, you should be know your industry's niche. One great source on manufacturing is the National Assn. of Manufacturing (www.nam.org). That group provides a breakdown of the manufacturing industry into two categories: durable goods and non-durable goods (see sidebar).

To join the Manufacturing Branch, contact ASSE's Customer Service Dept. at (847) 699-2929; customerservice@asse.org. ■

David T. Crowley, CSP, CHMM, CET, is corporate EHS director for HP Hood LLC in Chelsea, MA. He has 20 years' experience in the SH&E arena. He is a past president of ASSE's Greater Boston Chapter. He can be contacted at dave.crowley@hphood.com.

Manufacturing Industry Categories

DURABLE GOODS
- •Wood Products
- •Non-Metallic Mineral Products
- •Primary Metals
  - •Iron and Steel Mill Products
- •Fabricated Metals
- •Machinery
  - •Farm Machinery
  - •Construction Equipment
  - •Oil, Gas and Mining Machinery
  - •Industrial Machinery
  - •Turbines and Power Equipment
  - •Photographic Equipment
  - •Heating/Cooling Equipment
  - •Metalworking Machinery
  - •Materials Handling Equipment
- •Computers & Electronic Products
- •Semiconductors
- •Electrical Equipment & Appliances
- •Transportation Equipment
- •Aerospace Equipment
- •Cars and Light Trucks
- •Heavy Trucks
- •Furniture

NON-DURABLE GOODS
- •Food Products
- •Beverages and Tobacco Products
- •Textile Materials
- •Textile Products
- •Apparel
- •Paper Products
- •Printing
- •Petroleum and Coal Products
- •Chemicals
- •Pharmaceuticals
- •Plastic and Rubber Products
- •Tires

System or Culture?

continued from page 15

agement team? We should be—we better be. I am not one to suggest it is "us versus them." It should not be that way. We are a part of the management team and should be doing our part to create a system to produce a culture which shows that protecting employee safety and health and protecting the environment is an important value.

Employee attitude and behavior are driven by the culture that is created by the management team. That culture creates the system. We must address the culture that begets the system which begets the attitude that begets the behavior. Recent catastrophes demonstrate that flawed systems were in place. Deaths and injuries occurred. What part of the system broke down to allow these tragic events to take place? Mistakes were made by many.

Some organizations have figured this out. Some haven't. No organization is perfect. Let's quit pointing fingers and fix the system. That requires us to take a long, hard look at the culture which created the system. This can and will be painful for many organizations, but not as painful as a family's loss of a loved one. ■

Joel N. Tietjens, CSP, CSHM, is president of T-Jens & T-Jens Inc., Spring, TX.

American Society of Safety Engineers
Management Practice Specialty
1800 East Oakton Street
Des Plaines, Illinois 60018-2187

PRESORT STD
US POSTAGE
PAID
PERMIT NO. 401
DES PLAINES, IL