Motivational Safety System

One organization's experience moving toward world-class performance

By Michael Weibert and Catherine Plunkett

SH&E PROFESSIONALS ARE CHARGED with protecting coworkers as well as an employer's property and products. This requires creation of a positive safety environment and a workplace culture that focuses on a target of zero incidents. To aim for such a target, SH&E professionals must lead by example and through management encouragement.

However, the most successful safety system is not one dominated by SH&E professionals. Long-term safety system success comes instead through employees who are motivated and encouraged to buy into the system for their own safety and health and that of their coworkers. Motivation produces far-reaching results by having each person—not just the SH&E professional—take responsibility for safety.

At Marshall Space Flight Center (MSFC), the Target Zero Motivational Safety System helps all involved understand the value of safety and provides real-world options to allow them to assume personal responsibility for their safety and that of others. The system was designed by the Jacobs Sverdrup (JS) MSFC Group; it is based on the personal experiences of the company's safety and quality manager and safety and mission assurance team lead, who were further challenged by the parent corporation's zero incident safety goals and philosophy.

A prime contractor to NASA's MSFC in Huntsville, AL, the JS MSFC Group includes five teammate companies: Allied Aerospace, ERC Inc., Morgan Research Corp.,

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Qualis Corp. and Raytheon ITSS. Work performed by this group covers engineering design, analysis, fabrication, science, machining, business services and technical services. Employees support customer activities in more than 20 buildings on the MSFC campus, including machine shops and science laboratories.

In 2000, the organization's safety program was operating at the "OK" level. Thanks in part to NASA's emphasis on safety, the group decided to restructure its safety commitment by developing the Target Zero Motivational Safety System. Transitioning from a safety-dominated/controlled safety program to a system with strong employee ownership/motivation/buy-in required a daily commitment to implement the nine core elements of the system:

1) management leadership and involvement;
2) teamwork;
3) safety leadership and professional development;
4) positive recognition and praise;
5) ownership and commitment;
6) education and administration;
7) effective communication;
8) creative motivation and sharing the bottom line;
9) focus on improvement.

These core elements continue to provide the structure that drives the system toward world-class status.

Since implementing the system in January 2001, the group has objective evidence that the program produces results. As of Aug. 31, 2005, the 450-person workforce had recorded more than 3.6 million work-hours without a lost-time incident and more than 1.9 million hours without an OSHA recordable incident. Other program milestones and rewards are highlighted in the sidebar on pp. 38-39.

These results show that commitment to safety at the highest level of long-range planning activities can be achieved through a prioritization of efforts. Responsibility for safety starts with top management and flows down through the management team to employees. In this case, the safety and quality manager reports directly to the group's general manager; the

position is equal to all other managers rather than a support function within another department. In addition, safety is one of three key criteria (along with contract management and cost) in NASA's evaluation of contractors' annual performance.

Fundamental to the system is a commitment from management to create a climate that communicates, expects and rewards safe behavior among employees. Each manager is responsible for safety within his/her organization and employees are ultimately responsible for safe work habits on a daily basis, both on and off the job. The following discussion highlights this system's nine core elements and principles. These elements can be applied by any SH&E professional in any field to create and sustain a motivational system that begins with management and encourages employee buy-in and safety ownership at all levels.

Core Element 1: Management Leadership & Involvement

Managers must display their commitment to safety on a daily basis. Positive leadership of this nature shapes and influences a safety culture. Management actions create a climate that communicates, expects and rewards safe behavior among employees. An effective leader demonstrates support, incorporates new safety ideas and promotes excellence in employees' safe performance.

Methods such as the "five to one rule" motivate leaders to interact in a consistent, positive manner with all employees in order to increase safety system success. Using this method, a leader strives to identify five positive safety accomplishments per each safety concern identified during routine safety visits with employees. Overall, this results in a positive exchange rather than a punitive one and it allows the leader to share constructive criticism with employees. In this environment of open communication, employees, managers and customers can initiate an exchange of safety information and increase safety knowledge.

At MSFC, examples of management leadership include a half-day safety culture training seminar as part of new-employee orientation. In addition, each employee's safety performance is evaluated as part of his/her annual employment review, which motivates employees to infuse safety into daily work routines. Managers demonstrate their support by opening each meeting with a Safety Moment; sharing lessons learned from within the organization and other operating centers; openly assessing each individual's work area for safety concerns; formally driving corrective actions for safety issues; and rewarding safe behavior.

Core Element 2: Teamwork

Management's motivation should encourage creation of an employee safety committee with equal representation from all teammate companies or employee divisions. This committee is then tasked with establishing ideas to encourage open, interactive communication in every aspect of the safety system. Promoting teamwork helps develop positive working relationships and ensures strong personal buy-in. As individuals feel valuable to the team, a sense of ownership and conformity to shared safety goals becomes a part of the team's values. The safety committee feels empowered to effect positive change by developing new safety projects that encourage employee participation and affect the safety maturity of the entire company.

Within this group, the safety committee created a monthly Safety Star program through which employees nominate peers for safe actions observed on the job. Winners are recognized during the general manager's management staff meeting; receive a company padfolio and gift certificate; are recognized in the monthly employee newsletter; and have their photos posted on the company's intranet awards page.

The employee safety committee also initiated a Teaming for Safety Challenge in which all employees participated in workgroup teams to answer monthly safety questions and initiate safety visits, earning points to participate in a final Safety Challenge gathering of the entire company. All 27 teams on the contract participated and were rewarded with a luncheon. A Health Challenge also created a friendly competition between teams to earn the monthly Heart Award, presented to the workgroup whose members participated in health education programs and individual exercise. A monthly Popeye Award was also given for the most improved exercise score over the previous month.

Core Element 3: Safety Leadership & Professional Development

Management recognizes and mentors SH&E leaders at all levels to promote leadership growth by creating a climate of empowerment to change personal safety attitudes. In turn, this drives consistent safety behavior as an organizational norm. Credible safety leadership that promotes respect and mutual trust is crucial.

Safety cannot be administrated effectively throughout the group from a single box on an organizational chart. Instead, an effective system ensures equal employee/management involvement in the safety process and encourages buy-in at all levels. This creates a progression from the dependent phase, where safety is driven by an SH&E professional, to the independent phase, where individuals take responsibility for their own safety.

If applied correctly, the system can then progress to the interdependent or team process phase, where employees, managers and SH&E professionals take equal responsibility for the team's overall safety. Continued focus on the core elements ultimately leads to world-class safety status. An SH&E professional under this system will be a professional whose actions and words reflect the core values that guide an effective safety system.

Examples of developing safety leaders can be found in the employee safety committee's challenge

Abstract: *Jacobs Sverdrup Marshall Space Flight Center Group developed and implemented a motivational safety system that encompasses nine core elements. The program has resulted in 3.6 million workhours since January 2001 without a lost-time incident. This article explores the core elements of the program and discusses how their implementation not only has created good safety metrics, but also has created a culture that promotes a positive personal attitude toward safety at all times.*

Resources

- *The Participation Factor—How to Increase Involvement in Occupational Safety* by E. Scott Geller
- *Building a Better Safety and Health Committee* by John P. Spath
- *Coaching and Mentoring Skills* by Andrew J. DuBrin
- *Developing an Effective Safety Culture: A Leadership Approach* by James Roughton and James Mercurio
- *How Smart Managers Create World-Class Safety, Health and Environmental Programs* by Charlotte A. Garner
- *Managing for World Class Safety* by J.M. Stewart
- *Safety Management: A Human Approach* by Dan Petersen

initiatives. In the Teaming for Safety Challenge and the Health Challenge, employees volunteered to serve as workgroup team captains. These captains shared presentations and materials across workgroups in order to help educate the entire workforce on key topics. In some cases, being a team captain has elevated an individual within his/her workgroup, as s/he is now recognized for leadership skills not otherwise identified. Individuals have also volunteered to serve on the NASA customer safety committee and several employees have been selected as building managers. In addition, each month, a JS MSFC Group manager delivers the NASA safety topic presentation as part of the customer safety committee meeting requirements.

Core Element 4: Positive Recognition & Praise

Recognition and praise help to form a safety culture in which good safety behavior, attitudes and performance are rewarded. Generating positive feelings about safety will increase the general comfort level among workers. Recognition for a job well done is always appreciated, but the emphasis must be on genuine appreciation. Heartfelt thanks from a coworker or supervisor can be both motivating and rewarding. Frequent visits to the work area by the president, general manager or other senior manager to recognize employees' safety efforts are inexpensive endeavors with inspiring rewards.

It is important that these efforts do not simply become "employee of the month, photo on a bulletin board" campaigns. Efforts must remain fresh and authentic. Like a counterbalance, rewarding individuals and groups as a positive consequence of their successful safety performance will reduce or eliminate negative, punitive actions. Simply stated, it is better to visit employees and thank them for doing a good job of being safe than it is to fill out accident reports and manage workers' compensation issues. In reality, a happy, appreciated, productive workforce is conducive to a healthy profit margin.

An example of positive recognition at MSFC is the Safety Dollar program. In this program, managers receive five gold Sacagawea dollar coins each month from the safety and quality manager to present spontaneously to anyone they observe performing a safety effort above and beyond normal efforts. Recipients can be employees, other managers or even NASA customers, and positive efforts can be as simple as an individual wiping up spilled coffee in a hallway. Instant recognition for being unconditionally safe brings immediate reward and reinforces the need to be conscious of safety at all times. This program motivates everyone—from top management down—to think safety first in even the smallest of activities.

Core Element 5: Ownership & Commitment

Employees who take ownership (personal pride) in all aspects of the safety system develop individual initiatives to demonstrate their commitment, which leads to development of team initiatives and ownership of their group's safety system and performance (team pride). A dominant SH&E professional cannot attempt to be the safety blanket for the entire team. Therefore, traditional safety control must be replaced by employee ownership, motivation and buy-in. In a healthy safety system, the SH&E professional is consultant, teacher and coach, motivating and promoting management and employee ownership of the safety system in a team-oriented manner. The practitioner serves as a technical advisor to management staff, not as an enforcement authority (Figure 1).

At MSFC, employees are responsible for their own safety and that of their peers. Motivating individuals to think safety at all times creates a culture in which each person feels empowered to protect others. Consider the following example. Four employees were waiting at a coffee kiosk when they saw the vendor spill steamed milk on her arm and leg. Two of them insisted that she seek immediate medical attention and personally drove her to the on-site medical clinic. Since that meant leaving the kiosk unattended, the other two employees agreed to contact the vendor's employer and stay at the kiosk until the unit could be properly shut down.

Core Element 6: Education & Administration

Most accidents are preventable. By identifying key tools and techniques (e.g., understanding the effects of injuries; observing and recognizing unsafe conditions and at-risk acts; knowing, understanding and developing corrective action steps; encouraging and promoting positive safety attitudes and behaviors), SH&E professionals can take proactive steps to reduce loss. They can promote safety knowledge and competence through interactive training methods, and they can encourage the use of safety tools that enable the workforce to think ahead and look for what can happen, understand the effects of accidents, and know how to minimize or prevent occurrence.

Teaching motivational safety techniques enables each person to proactively participate in the safety system and incident reduction process. Through this process, each worker becomes a safety partner, taking responsibility for his/her personal safety and looking out for the safety of others. Communication, coordination and cooperation are essential to the implementation of safety and training tools. System elements must be organized and administered in a professional manner with timely feedback provided. By following the general "keep it simple" rule, management will not overwhelm the first-line supervisor

while making sure that value-added tools are promoted.

In this case, safety training includes a situational awareness program that presents a safety issue and invites employees to share examples of what they would do in a given situation. In formulating their answers, employees draw from personal safety knowledge, safety culture training provided at orientation and through monthly safety meetings, and their awareness of customer safety reporting procedures.

The Teaming for Safety Challenge was a prime example of situational awareness. Teams were given a hypothetical safety question and asked to formulate a response. The winning response was then shared with all employees through the employee newsletter; this helped to educate others by using peer examples. In this manner, the safety and quality manager created a framework wherein employees were responsible for seeking and communicating safety scenarios instead of relying on the SH&E professional for the answer.

Figure 1
Motivational Safety Process

ommendations by describing personal action is far more effective than having the SH&E professional select a topic from a standard list of issues.
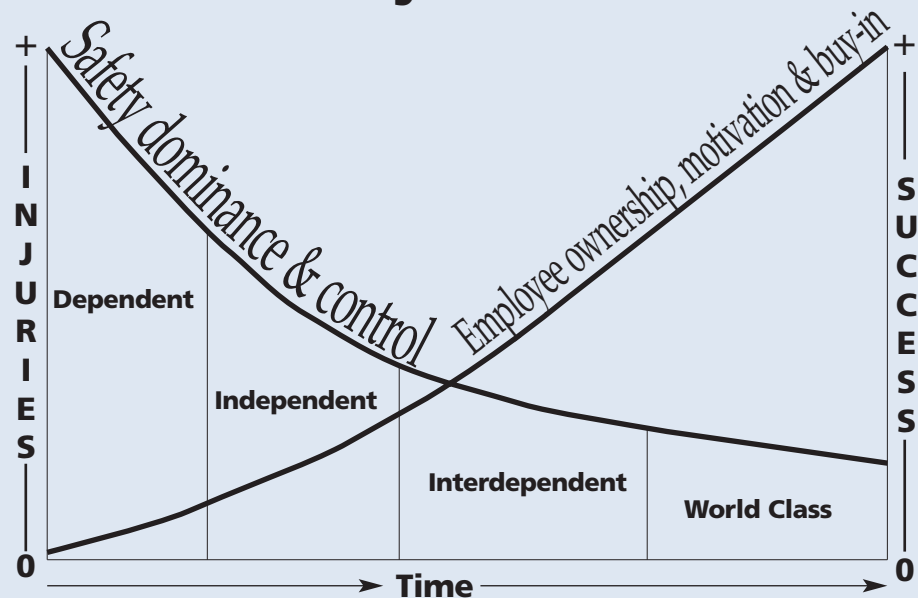
Core Element 7:
Effective Communication

Communication is critical for a successful safety system. Whether discussing an incident, or sharing lessons learned or success stories, all involved must hear the same message. This requires that safety be "part of the job," not some passing initiative or program which fades over time.

Communication must be timely in order to be effective. First, the SH&E professional needs to clearly explain the safety system's intent and primary challenge. Second, s/he needs to provide each employee with general or specific step-by-step guidance about how they can support this big picture. Third, appreciation for past efforts should always be communicated and confidence displayed in the employees' continued support. To effectively communicate, SH&E professionals must rely more on their people skills and less on technical jargon and codes. Humanizing or personalizing safety communications encourages individuals to think safety on their own.

The intent of a motivational safety system is to instill in each person the need to act responsibly and to consider safety as an element of every action. For example, safety communications are personalized when managers ask individual employees to present the Safety Moment, a required element at the start of any meeting. Often, the employees recall a safety incident from home, describing an activity that many others have experienced. Sharing safety rec-

Core Element 8: Creative Motivation
& Sharing the Bottom Line

Setting goals, conducting friendly safety competitions in a healthy environment, striving to improve on past performance and doing "the best" is admirable, but instilling the motivational safety system concept is the key to enabling the workforce to develop a "can do" safety attitude at work and at home. This attitude only occurs when employees are excited and motivated to be safe. While safety metrics are important, it is the program and how it is implemented each day by each person that counts. Motivating all employees to engage in an effective safety culture will produce recognition and good metrics, but most importantly, it will prevent injuries. The timeliness and creativity of effective safety incentive systems can promote excitement, initiate a competitive challenge and create the momentum needed to sustain a safety system.

This motivational safety system extends beyond traditional strategies that often rely on using a checklist to identify work hazards and assess worker behavior. Such an approach is dominated by the SH&E professional mandating employee involvement for data collection purposes. Safety lists also imply the need to adhere to a rigid system that is punitive rather than motivational.

In addition, the system is structured to help employees to take ownership of the safety program; clearly recognize why safety is important at all times; and understand the true value of working safely.

When employees take responsibility for their own actions, they are empowered to take action to correct unsafe situations.

For example, consider the employee who smelled gas in a school being used for an after-hours meeting. At first, he assumed that someone else had already reported the concern and did not want to impose since he had no responsibility for the building. But he quickly decided it would not matter whether more than one person reported the problem.

As it turned out, the fire department had ignored the school's first call because excess scent had been added to the gas lines earlier, producing several false reports. After the employee's call to 9-1-1, the fire department responded, investigated and found a leak in a cafeteria oven. Had the employee not taken personal responsibility for the concern and acted persistently according to the safety culture expectations he had learned at work, the building and lives could have been lost.

Core Element 9:
Focus on Improvement

The company's core values should guide leadership and maintain focus as the motivational safety system is implemented. By establishing methods through which workers can openly report unsafe acts, the system encourages continuous improvement and empowers employees to view safety as a shared responsibility. By improving processes and making safety a core value, the effectiveness of any safety initiative is broadened.

Such a system turns employees into safety advocates and encourages them to initiate ways to improve daily safety processes. From the top down, safety is demonstrated as a core value across the entire organization.

Conclusion

A motivational safety system that encompasses the nine core elements detailed here can lead to superior safety performance. All employees should play a role in protecting the assets of the company by caring for the well-being of each other and actively advocating safety within the workplace.

Although it is difficult to claim improved safety results in better company performance and profitability, it is imminently clear that these factors can easily coexist with world-class safety performance. A program modeled after the Target Zero Motivational Safety System is the bridge that can make it happen. ∎

Motivational Safety System Milestones

Safety is one of three primary criteria NASA uses to gauge contract performance annually through the issuance of Award Fee scores. In this case, performance metrics and financial data demonstrate that improved safety performance goes hand-in-hand with financial and technical performance. Figure 2 shows growth in the group's award fee scores over the implementation period; during that same time, revenues increased 52 percent and the profit margin increased 130 percent. Figure 3 illustrates the OSHA recordable industry rate versus the group's recordable rate since January 2001.

•**Safety culture training.** Provided to all employees on contract and included in new-employee orientation. Training covers "Target Zero" techniques to motivate positive safety behavior (May 2001).

•**Monthly safety visits and safety meetings.** Initiated process where each manager and first-line technical supervisor conducts monthly safety visits and meetings with employees. Emphasis is on the "five to one rule" with employee appreciation foremost and corrective action as needed to improve safety in the work area (June 2001).

•**Job hazard znalysis (JHA).** Initiated online JHA database to review job hazards with 100 percent of employees annually in order to assess and communicate potential job-related hazards (September 2001).

•**Safety Moment.** Each meeting opens with one person providing a brief story or information on a safety-related topic (October 2001).

•**Safety Dollar program.** Managers show immediate appreciation for an employee's safety performance by presenting the individual a Sacagawea gold dollar coin upon observing a safety act that exceeds normal behavior (November 2001).

•**General manager's "Safety and the Bottom Line."** Presentation to NASA and other top management to encourage promoting safety as a value (January 2002).

•**Safety evaluation report (SER).**
1) First SER (90 percent): Periodic corporate-level assessment that evaluates programmatic elements and the percent of implementation (April 2002).
2) Second SER (102 percent): Top possible score of 100 percent with bonus points awarded. "Employees were only too happy to talk about the benefits of the safety system. Along with an exceptional accident prevention program come exceptional results when audited by your corporate health, safety and environment staff. I applaud your efforts. Keep up the great performance in being one of [our] top safety programs." (August 2004).
3) Third SER (99 percent) (April 2005).

•**Workhours without lost-time incident.**
1) One million workhours without a lost-time incident;

These results show that commitment to safety at the highest level can be achieved through a prioritization of efforts.

received NASA Safety Award (June 2002).

2) Two million workhours without a lost-time incident; received NASA Safety Award (September 2003).

3) Three million workhours without a lost-time incident; received NASA Safety Award (November 2004).

•**Safety Star program.** Through this incentive program, a peer nominates an individual or group for outstanding safety performance. The employee safety committee selects the winner, who is recognized during the general manager's staff meeting. As of June 2005, 183 nominations had been received and 33 winners named (January 2003).

•**General manager injury reporting letter.** Letter from general manager to group employees expressing the importance of reporting all safety incidents and reiterating that the system commit-

Figure 2
MSFC Group Award & Performance Fee Scores

ment, not the metrics, is what counts (March 2003).

•**JHA and PPE.** Annual assessment formalized to determine PPE needed by those performing hazardous work (December 2003; December 2004).

•**Teaming for Safety Challenge.** Educational incentive program that challenged employee teams to answer safety questions which enhanced knowledge of the customer's and group's safety system.

Program ran for six months and surpassed expectations due to high level of employee participation and motivational value (January 2004).

•**Recognition and appreciation.** Jacobs Engineering CEO and JS president met with employees in an all-hands meeting to recognize the outstanding efforts of the group (March 2004).

•**Defensive driving training.** National Safety Council's defensive driving training given to all affected employees (July 2004).

•**Jacobs Engineering 2004 ZERO Incident Award.** Corporate recognition award (January 2005).

•**Jacobs Engineering Presidential Health, Safety and Environment Award.** One of three given to operational contracts in the 35,000-employee parent corporation (March 2005).
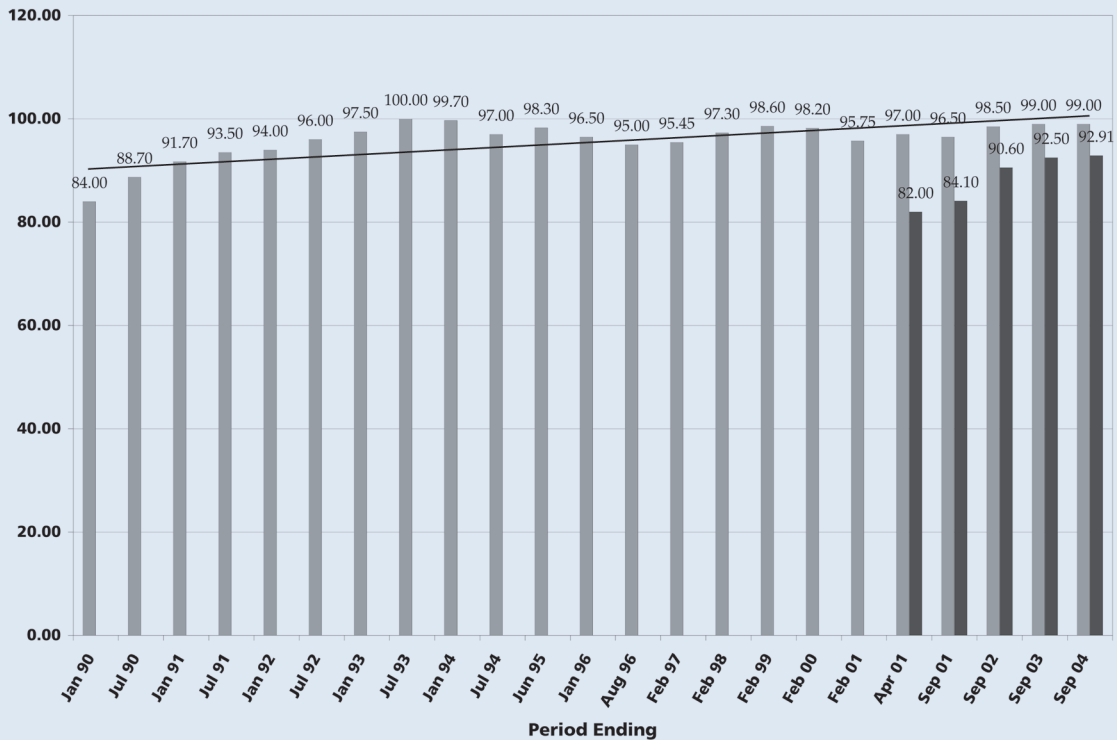
Figure 3
Annual OSHA Recordable Rate per 200,000 Workhours