

# How to Make Safety a Part of Your Corporate Culture

by John Redmon  
Operations Manager and Executive Vice President  
CB&I

It should be no surprise that safety is consistently listed as one of the top priorities of the corporate strategies of energy companies. Safety has been and remains an industry-wide concern, and whether you are an owner, an operator or a contractor, it affects everyone.

To fully understand the importance of safety, one needs to look no further than those project sites at which an exemplary safety record has been achieved. When the probability of an incident occurring at the project site is greatly reduced, the potential for multi-employer citations, legal liability and negative publicity is likewise decreased. In addition, contractors with an exceptional safety record reduce the owner's labor and expense of supervising and auditing the health, safety and environmental (HSE) practices of that contractor. Contractors, in turn, are recognized for exercising corporate social responsibility, which has a positive effect on both their profits and employees.

In spite of the benefits derived from having an exceptional HSE program, industry statistics show it is challenging for contractors to maintain an injury- and accident-free worksite. According to the U.S. Department of Labor's Bureau of Labor Statistics (BLS), which measures the safety performances of contractors, the industry rate for recordable injuries (all recognized or diagnosed work-related illnesses and injuries that require medical treatment beyond first aid) was 3.2 per 100 full-time (FT) workers in 2005. While this rate has been reduced by nearly half in 10 years – the incident rate in 1995 was 6 per 100 FT workers – there is still plenty of room for improvement.

The same can be said for more serious accidents. The industry rate for lost workday cases in 2005 was 3.6 per 100 FT workers. When this figure is combined with the industry rate for recordable injuries, we see that 6.8 out of every 100 people in the worldwide construction industry had an injury serious enough to require medical attention in 2005. While many contractors may attribute these incidents to human error rather than flaws in their safety programs, it does not change the fact that these accidents can lead to losses in productivity, efficiency and



competitiveness as well as higher medical and insurance costs, litigation and even serious injury or death.

The question should not be who is to blame but rather how to avoid incidents on the job site altogether. In fact, any company that claims to make safety a high priority should set its target incident rate at zero. While the idea of achieving an injury-free workplace may seem like an insurmountable task, one of the primary components for reaching this goal is for companies to provide employees with extensive training on how to perform their jobs safely and properly.

But will training alone ensure zero incidents?

Many companies already claim they provide safety training for their employees and even that does not guarantee an incident will not happen – which is true. The only way companies can achieve a zero-incident target is by changing work practices and integrating the expectation of having an accident-free workplace into the company's culture. To do this, a company's HSE training program must focus on behavior-based safety and the causes of incidents rather than on the failures that have already taken place. Only then will an injury-free workplace be an attainable goal.

## Behavior-based Safety

Currently, the majority of contractors analyze safety performance by looking at past injury data and incident rates. While it seems reasonable to assume that looking at past injury data will best ensure that future infractions are avoided, this is often not the case.

To build an exceptional HSE program, a contractor must look not only at past failures, but also at the leading indicators for incidents and injuries. In other words, the focus must be placed on eliminating those hazards and at-risk activities that cause incidents. The fundamental principle of behavior-based safety is to reduce and eliminate these hazards. By doing so, contractors become proactive rather than reactive, and incidents are reduced and eventually eliminated.

As an example, if a job site supervisor notices a group of employees working at an elevated height without the use of safety harnesses (which are required for fall protection since falls can lead to the most serious accidents), the supervisor can take several courses of action:

- Course one (poor): The most careless choice would be to do nothing and wait until one of the employees has a serious accident, then correct safety procedures to prevent future accidents. (By then, of course, it is too late for the employee who has had the accident.)
- Course two (better): Reprimand the workers performing the at-risk activity and have them put on the full-body harness before continuing work.

Obviously, the second course of action is more responsible, but does it eliminate the at-risk activity? What if one of the workers does not wear the harness correctly and an incident occurs anyway? An even better solution would be:

- Course three (best): The supervisor sees the safety infraction, corrects the behavior and then speaks with the site superintendent to recommend that all employees be retrained on fall protection, as well as how to wear and use the safety harnesses correctly.

With the third course of action, the supervisor is getting somewhere. By addressing the leading indicators and correcting the at-risk activity before the accident or injuries even occur, the supervisor is practicing behavior-based safety. Now we must ask ourselves whether this training will eliminate the hazard and if further action is needed. We will return to this example later.

Behavior-based safety does several things. In addition to identifying at-risk behaviors, it also involves everyone in the safety process. All employees contribute to the safety and health of their coworkers, and HSE processes are looked at systematically, which allows management

and supervisors to make the right decisions regarding their HSE programs. In short, behavior-based safety establishes connections between activities and the potential for future injuries and, in doing so, enables contractors to change their safety culture.

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Here are some other facts regarding behavior-based safety:

- The process has been implemented in all areas and work environments with immense success.
- Behavior-based safety is not rigid. The process is easily adaptable and should be modified as required for current job conditions.
- The process is designed to incorporate, enhance and improve the existing HSE programs, policies and procedures already in place, not replace them.
- There are initial costs and time spent on the process. However, if the process is functioning properly, ultimately it will save time and money by making the job more efficient in all areas.
- The process is very basic and simple to understand.

The challenge of behavior-based safety, however, is getting all employees involved and making safe behavior a part of the entire company's corporate culture. How is this accomplished? One of the best ways to describe the process is to explain one already in operation.

## Total Involvement of Employees (TIE™)

Several years ago, CB&I's HSE managers determined that if the company was to achieve its goal of zero injuries, it would have to adopt a behavior-based safety process. The managers devised a program called Total Involvement of Employees (TIE), which focuses on involving employees in as many areas of the safety process as possible. This includes HSE meetings, safety observations, analyzing the observation data, providing feedback and recognizing fellow employees for safe behaviors.

One of the key components of the TIE process involves employees observing fellow employees and providing them with feedback as they perform an at-risk activity. These observations are then recorded and analyzed – typically by a site committee composed of crew members

– and from there, improvement plans are developed and implemented.

The first step of the TIE process is to develop a checklist. It is important to note that this checklist will change from job to job since the site committee will determine which activities need to be observed. While certain activities might need to be observed at every job, even these could eventually be replaced if an established "percent safe" goal (the percentage of safe activities or actions observed as opposed to at-risk activities) is met for them over a predetermined time period. To decide which activities to observe, the committee will take into account such elements as past accident/incident reports, personal experience, past observations and job safety analyses.

Once the at-risk activities are identified, clear definitions with examples are established for each activity. Without this, it would be left up to the opinion of the observer and the data would not be accurate or consistent, benefiting no one. The defined activities are then put into an observation sheet that employees will use when observing fellow employees. If an at-risk activity is observed, an employee records it on his or her observation sheet.



Along with observation, the employee should then give feedback to the coworker being observed. Feedback is very important because the employee may not know he or she is at risk. This feedback should be friendly, positive and respectful and by no means critical or confrontational. This will serve as training and coaching for the employee and will provide data on why the at-risk activity was carried out in the first place. The interaction stage is also when many improvement areas will be discovered.

For this observation process to work, it is imperative that no names are involved. This is because the focus of the TIE process should be on the behavior observed and not the individual. Keeping the process nameless will help companies achieve their goals of having better communication, good employee morale and, of course, an injury-free work environment.

It is also important that a goal be set for the number of observations each employee performs. The number depends on several factors, including crew size and number of hours worked. At least two observations per day are recommended. The important thing to remember is the more accurate data the committee has, the easier it will be to identify problem areas.

Likewise, the more data the committee analyzes, the easier it will be for members to solve problems. Once the committee receives employees' observation sheets, there are several things it should look for and analyze, including:

- Number of employees trained in the process (typically starts with 10 percent of the crew)
- Number of observations per day and week
- Percent safe by category and behavior
- Total percent safe

The data analysis will help the committee identify problem areas, which will be indicated by a significant drop in percent safe. If a particular area has a low percent safe for several weeks, it is then necessary to go back and look at the comments on why the at-risk behavior was performed. If there are common comments on the observation sheets, the committee must develop a plan to address the problem.

Once that plan is implemented, an evaluation must be conducted to determine if the plan was successful. How? Simply by continuing to perform observations and track and chart the results. If the plan was not successful in achieving the desired goal, the committee will continue the cycle and develop another plan and so forth.

Let us return to the previous example regarding fall protection to see how this cycle would work. In the example, the supervisor recommended that all employees be retrained on fall protection and how to wear safety

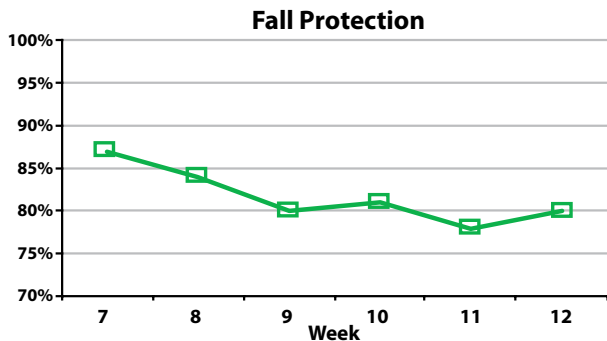


Figure 1: Initial observation data (percent safe)

harnesses correctly. Once this retraining has occurred and employees have resumed their duties, the process would commence. Observations are taken, and the data is then compiled into a percent-safe chart that can be analyzed (Figure 1).

Based on this data, we can see that there is still a problem by the low percent safe in fall protection. To determine the cause, the committee would review the observation cards and the comments. If it sees similar comments (e.g. "employee not tied off during transition – one lanyard"), it will develop a plan to address this problem. In this instance, the course of action would be to recommend double lanyards be added to all safety harnesses.

Once the double lanyards are installed on the harnesses and employees have resumed their duties, the process continues. As before, observations are taken and then put into a percent-safe chart that can once again be analyzed (Figure 2).

Based on the most recent observation data, although there is improvement, there is still a problem by the decreasing percent safe in fall protection over weeks 15 through 18. Upon reviewing the observation cards and the comments, the committee notices another string of common remarks ("employee not tied off where required – no tie-off points available"). Based on this latest development, the committee will develop a new course of action. In this case, it will be to recommend installing anchorage points such as cable, blank nuts, lugs approved for fall protection, independent life lines and retractable devices.

Once the recommendation has been carried out, the TIE process commences again. This is a cycle that continuously seeks improvement, but one that works and can help a company establish safety as a key component of its culture and achieve a goal of having zero incidents.

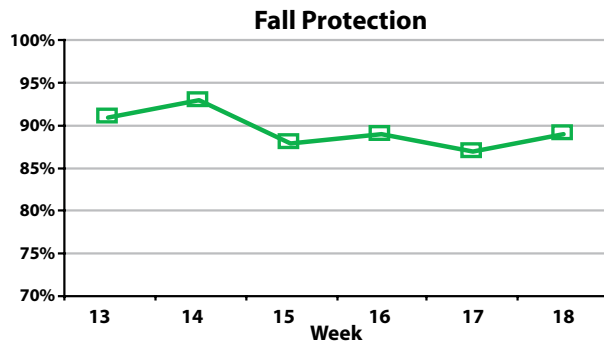


Figure 2: Follow-up observation data (percent safe)

### The Benefits of Behavior-based Safety

Several other HSE programs can be implemented to help support behavior-based safety. These include extensive accident-prevention courses, regular feedback sessions with the crew to resolve problems discovered by the committee, and mobile crane and rigging training.

As previously mentioned, awards and recognition for safe behavior are a vital component to behavior-based safety. CB&I, for instance, has rewards in place that help keep safety a top priority for its crews, such as plaques recognizing safety milestones and safety dinners for the crews. As a result of these efforts, CB&I now has one of the most exemplary HSE records in the industry. This should be an aspiration for all companies that realize the best way to improve their safety record is to reduce the at-risk activities that cause incidents with an ultimate goal of eliminating them.

Implementing a program that involves employees in every aspect of the HSE process will lead to true cultural change. From there, the reduction and elimination of hazards will lead to a reduction in incidents, increased job efficiency, a decrease in medical and insurance costs and, finally, improved competitiveness. HSE should be a core value of every company, because when the health of employees, customers and subcontractors remains protected, everyone wins. ■

**John Redmon has more than 35 years of industry experience, which includes chief operating officer responsibilities for both BE&K and Brown and Root. Mr. Redmon joined CB&I in 2005 as a senior operations manager and led the company's risk management group with responsibility for project controls, procurement, estimating and health, safety and environmental controls. He was named executive vice president of operations in 2006.**