

## **Implementing a Behavioral Safety Process on Construction Projects**

**Richard S. Baldwin, M.S., CSP  
Corporate Safety Director  
BE&K Construction Company  
Birmingham, Alabama**

### **Introduction**

*Whenever you are to do a thing, though it can never be known but to yourself, ask yourself how you would act were the entire world looking at you, and act accordingly.*

*--Thomas Jefferson*

The purpose of this paper is to help safety professionals, owners and construction company supervisors attain zero injuries on construction projects by providing a guideline for implementation of a behavioral safety process. The author's experiences overseeing project safety as Corporate Safety Director in a large industrial construction company are the basis of the information herein, in addition to the information sources in the bibliography.

Numerous studies have shown that 85 – 95% of all occupational injuries are caused by unsafe worker behavior; therefore it is critical that managers understand the importance of implementing a behavioral safety process on construction projects after other safety elements are established and OSHA requirements are fulfilled.

Behavioral safety is not just an observation system. There are many preliminary activities that must take place before construction workers will participate in such a system. Management must first demonstrate to workers that their welfare is paramount and that everything is being done to make their workplace safe.

Since the early 1990's, many large industrial firms have established a behavioral safety process that included a behavioral observation system. In the late 1990's, behavioral safety became a more widespread element of industrial safety processes, but rarely has it been attempted by construction companies, especially with the implementation of a behavioral observation system.

Not even in the latest Construction Industry Institute (CII) study to identify the nine industry best practices was behavioral safety identified as key to safety performance in construction. However, although behavioral safety was not specifically named, those best practices that contribute directly to behavioral modification are highlighted in bold type.

1. Demonstrated management commitment
2. Staffing for safety
3. Planning: pre-project and pre-task
4. Safety education: orientation and specialized training
- 5. Worker involvement**
- 6. Evaluation and recognition/reward**
7. Subcontract management
8. Accident/incident investigations
9. Drug and alcohol testing

## **First, the Basics**

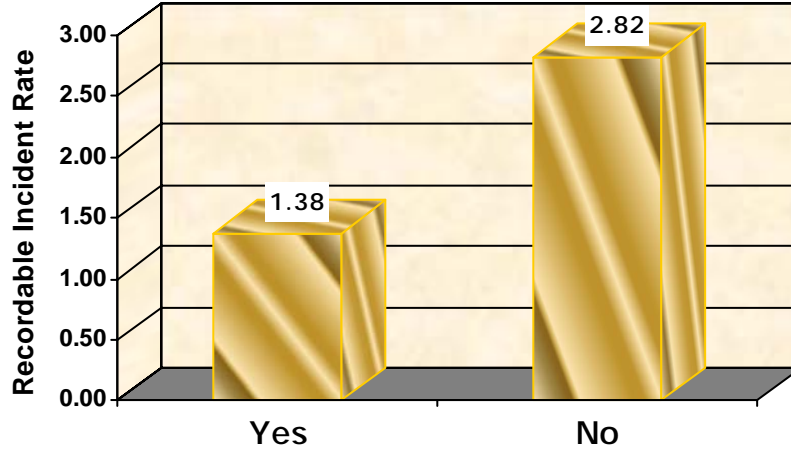
In “The Psychology of Safety” a book written by Dr. Scott Geller in 1996, he defined Behavioral Safety as a continuous process where target behaviors are defined, observed and when needed, intervention is undertaken and subsequently tested. But on construction projects, behavioral safety takes on other, more basic meanings. For instance, before any manager implements Geller’s version of a behavioral safety process, the quality of work life on the project must be assured and leadership training for each supervisor must be completed and supervisors who do not have leadership skills must be demoted or given additional training.

Dr. Geller advises that before a behavioral safety process is attempted that all other safety elements be completely functional. It must also be recognized that behavioral safety is just one element of a safety process. In construction, that includes basic OSHA compliance, competent person designations, personal protective equipment, fall protection, assured grounding, excavation safety, toolbox meetings and many other required and optional elements that contribute to the CII basic elements listed above. Further, it is important to remember the hierarchy of controls with substitution and engineering being the most important, even in construction.

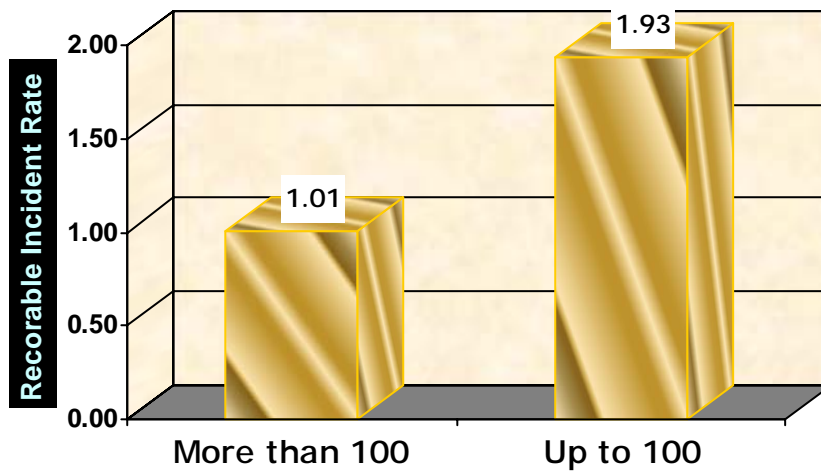
It is also essential to understand that making safety observations with subsequent recording and trending of the data is the key feature of most behavioral safety systems but there are many other aspects of the project that bear on the attitudes of workers. Those attitudes can be critical to the workers’ behavior. While supervisors and managers cannot control worker attitudes, they can have a profound effect by “Actively Caring” for each employee and providing the quality of work life that indicates that supervisors and management value their effort.

## **Why Is Behavior Based Safety Important In Construction?**

Research conducted by The Construction Industry Institute (CII) Zero Accidents Task Force showed the difference between projects that train supervisors in behavioral safety and those that do not and projects that have an observation process and the number of observations that are done on various projects. The research involved over five billion work hours on construction projects.



**Exhibit 1. Do management and supervisory personnel receive behavioral overview training?**



**Exhibit 2. Total number of job observation reports filed on the project.**

Clearly, the OSHA incident rates achieved by projects in the CII research project that implemented a behavioral safety process were lower and this reflects the overall results of managing a comprehensive safety process. Of course, the companies who implemented behavioral safety also had implemented most, if not all of the CII best practices as reflected in the remainder of the study results.

Our company has had similar results as indicated in Exhibits 1 and 2 although only one participated in the CII research. In the 150 million hours of construction work accomplished in the past ten years, projects that conscientiously completed supervisory training in safety leadership, safety coaching and the value of “Actively Caring” were safer, with lower incident rates and

workers' compensation costs, especially after full implementation of an observation process and analysis of the identified trends.

## **The Barriers to Implementing Behavioral Safety in Construction**

While the industries we serve have a stable worker component and years to establish a strong behavioral safety process using all the steps defined by behavioral safety experts such as Kraus and Geller, construction projects usually have a few months or at most a year to make a behavioral safety effort viable and realize a reduction in incidents. All the while, the basic construction safety elements already identified must be established, sometimes in a matter of weeks. This effort requires careful pre-project safety planning, the dedication of resources and an experienced safety staff on the construction site with the complete support of project management.

Not only must the process be fast-tracked on a construction site, but the effort is often interrupted as various crafts depart the site when their work is complete. Additionally, the existing craft shortage and more frequent turnover as craft workers seek higher wages on other projects makes implementation even more tenuous. Finally, the duration of the project may not be conducive to getting a full commitment from the workforce when they know their term on the project will end in just a few months.

Knowing that a project is of relatively short duration, participation in any safety process may be difficult to achieve, especially among workers who have not worked for a construction company with a strong safety culture. And a few workers view the behavioral safety process as a management effort to shift responsibility for safety to the employees and make them accountable rather than management. Management can overcome that perception by offering craft training, a high quality of work life and supervisors who truly care about the workers. And of great importance is management's total support of the safety process and unwavering. By so doing, craft workers will be more likely to pursue work with that company on other projects and this will result in a strong safety culture on a more consistent basis with lower incident rates.

## **Implementing a Behavioral Safety Process**

The saying goes "If it was easy, everyone would be doing it". Therefore few construction companies attempt the behavioral process because of the challenges. There is no such thing as easing into the project. Work begins immediately thus strong initial efforts are required to convince workers that construction supervisors care for their employees. Listed below are a few measures that can be taken to convince newly hired workers that their welfare is paramount:

- Greet new workers with coffee and doughnuts at initial orientation and hire-in.
- Organize an efficient and friendly sign-in process.
- Make sure new workers know that we value their help. The project leadership must address the newly hired workers and impart this message.
- During the project, greet workers every morning at the entrance to the project and once in a while, hand out coffee, juice or pastries.
- Say good night at the gate and thank workers for their help.
- Have periodic lunches for all workers when group safety meetings are conducted.
- Ensure supervisors recognize their workers for strong safety performance.

Those measures are just the beginning. The success in implementing a behavioral safety process also is highly dependent on the ability of foremen to lead their workers and instill a value for safety. Leading by example and caring for each employee's welfare is essential. DuPont has an expression that explains the critical nature of the relationship between workers and their foremen. That expression is "Felt Leadership". In an optimum work setting, hourly craft workers feel the leadership and rely on their foreman to keep them safe. When that is achieved, a behavioral safety process is much easier to implement.

We take our quality of work life for granted in the office settings where most of us work. But on a construction project, there is much that can be done to improve worker attitudes. By taking a few steps that are somewhat unusual for a construction company and project, we know that the common annoyances faced by most construction workers can be nearly eliminated.

While providing a comfortable place for construction workers to eat lunch may seem common, it is not. A sheltered structure out of the wind and rain with vending machines, microwaves and heat and/or air conditioning is just one feature of a construction project that indicates *Actively Caring*<sup>®</sup> and helps improve worker behavior because positive attitudes are more likely. Similarly, a parking lot that is lighted and free of mud, the availability of good tools and equipment, and a clean workplace are all important. But perhaps the most significant step we can take is to train supervisors in safety leadership, safety coaching and taking care of their workers as if they were family. Behaving compassionately to ensure the needs of workers are met, on and, when feasible, off the job, enhances attitudes and behavior.

## **The Behavioral Observation System**

When safety systems are fully implemented and the quality of work life has instilled a spirit of cooperation on the project, the final, and culmination of the behavioral safety process can be initiated. Behavioral safety observation systems all have several things in common:

- Supervisors and the workers are trained in the process.
- Observers are trained in observation methodology and hazard identification.
- A checklist is used to document the observations.
- Employees who are observed are not disciplined for unsafe behaviors unless willful and flagrant such as an intentional lockout violation.
- Observations are made on a specified frequency.
- Observation data is recorded and trends are identified.
- Action is taken to correct adverse trends.

### Observers: Employees or Supervisors?

There are many options when designing a behavioral observation system. First, a decision must be made as to who makes the observations, employees or supervisors? There are advantages in selecting supervisors as they are normally better trained and motivated, and the quality of their observations may be superior and of course, the observed employee is more likely to accept suggestions from a supervisory-level employee. However, since worker involvement is one of the keys to a strong safety culture, training hourly workers to conduct observations has benefits, particularly in construction where it can be a struggle to devise methods of employee involvement. The advantages of using employees to make observations are:

- Enhanced involvement in the safety process.
- Opportunities for additional safety training that might not be feasible otherwise.
- Empowerment of employees.
- The identification of future safety leaders.

### Training Supervisors and Observers

Those selected or who volunteer to act as observers must be trained in the conduct of observations and the recognition of unsafe behaviors. Either the OSHA 10-hour construction course or a hazard recognition training course will satisfy the need for knowledge of the risks that are most prevalent on a construction project. Many companies have such a course specially developed for the most prevalent risks. However, the most critical training element is in the conduct of the observation and the interface between the observer and the worker being observed. The training of observers must be thorough and conducted by an experienced safety professional.

### The Observation Checklist

The observation checklist is an essential tool used by observers to assess behaviors. In General Industry, it is most common to develop a list of critical safety behaviors that pertain to plant operations at individual locations with employee input. While the freedom exists to do this in construction, in BE&K, we have a standard safety observation checklist that measures safe and unsafe behaviors and percentages are computed to use as an indicator of overall safety status. The standardization of the checklist from one construction project to the next enables compilation of the data in the corporate intranet site so it can be accessed by all levels of management and trends can be determined by anyone with access.

### Conducting the Observation

The key to a successful observation is the initial contact between the observer and the worker or workers that are the subject of the observation. Observers are trained to establish a friendly contact and explain the purpose of the observation and that he/she will identify both the positive observations and the behavior or unsafe condition that requires correction. It is also stressed that with the exception of an intentional and flagrant safety violation, there are no names to be associated with the observation. If the worker being observed fails to correct or respond positively to the observer, the supervisor is called and the observation is halted. Normally, however, the observer finds nothing but safe behavior and thanks the worker for their cooperation and gives the worker praise for doing their job safely. Following the observation, the observation form is completed. In some companies, a personal data assistant or PDA is used to record the observations.

### Analysis of Trends

The observer enters manual entries on the form. On a weekly basis, the forms are reviewed by the observers' committee and subsequently are entered into a database. Ultimately, the data is assessed for trends and actions are taken to address the corrections that are needed. An example of trend analysis and resultant corrective action is an unsafe acts index that shows 10% of the observations of ladder use to be unsafe. The corrective action is a toolbox safety meeting to re-explain the safety requirements associated with ladder use.

## **Conclusion**

A behavioral safety process is dependent on management's dedication to protecting workers by implementing systems such as those identified by the CII Zero Accidents Task Force and by keeping a construction project free of hazards and in total compliance with OSHA, company and client safety and health requirements. Behavioral safety is an important aspect key and the observation of behaviors is essential to detecting behavioral trends and taking corrective actions as warranted. But not all projects or companies can implement the process due to the short duration of a project or the low number of assigned craft workers.

In construction, the implementation of a behavioral safety process is not only possible on most projects it is essential if the construction company seriously believes that zero injuries are possible.

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