Behavioral Changes Must Be Made in the Thinking Processes of Both Management Staff and Field Staff for a Safety Program to 100 Percent Be Successful

By Jim Lucker

Five percent of the nation’s work force is employed in construction, yet that small percentage accounts for a disproportionate 20 percent of all occupational fatalities and 12 percent of disabling injuries. This translates into six to 10 fatalities on construction sites every working day throughout the United States, and has led to a doubling of workers’ compensation rates since 1980.

Traditional safety efforts (see Figure 1, right) developed and implemented over the past two decades have indeed improved the performance of many contractors. These efforts include awards and recognition, job-site safety meetings, safety committees, slogans and posters, and the hiring of safety directors. Efforts are then reinforced through the measurement of accident and incident rates, and celebrations are routinely held for completing a period of time without an accident or incident. Yet even with these efforts, lost workday cases have declined only 10 percent over the past 15 years.

In order to achieve world class zero accident safety performance, the imperfections of current approaches must be understood. Eighty-five percent of accidents are the result of an unsafe behavior, not the failure of the system (see Figure 2, opposite page). At the heart of the construction industry’s movement toward a truly safe work environment are whether or not you can determine what causes this unsafe behavior, and whether or not you take action to correct it.

**NOTE THE BEHAVIOR**

Behavior is defined as an observable act. We can define the safe and unsafe behaviors on a jobsite and, through

![Figure 1: Traditional Safety Management](image-url)

- Training
- OSHA
- Slogans on Posters
- Customers
- Policies
- Job Safety Meetings
- Safety Director
- Awards and Recognition
- Safety Committees

**Questions: What works? What doesn’t?**
observation, assess the safety of that site. Any site where a high tolerance for unsafe behavior exists is an accident waiting to happen. It is just a matter of time before probability catches up (see Figure 3, page 59).

The problem with unsafe behaviors and the resulting accidents is that they are statistical in nature, much like the dice on a craps table. On some days you can roll all day without hitting a seven and on other days you lose roll after roll. One can only be certain that if you roll the dice enough times you will eventually hit the seven. The objective of the injury-free jobsite is not to roll the dice at all, to strive for no unsafe behaviors.

How is this theory put to work in construction? How do we identify these behaviors and what makes them occur in the first place? Can we expect to rid the jobsite of these unsafe behaviors?

One of the largest obstacles to achieving the zero-injury jobsite is the perception and acceptance that accidents are an inherent result of the construction process. Therefore, if people are working on jobs, someone will get hurt. The problem with this attitude is that it encourages people to take chances, believing that they are a necessary part of a profitable job.

For the zero-injury process to exist, management must believe in and commit to the result. Without this conviction, the risky behaviors will continue and accidents will occur. Once the management team has agreed to the goal of zero injuries, it must be communicated throughout the organization. Employees must get the message that safety is the ultimate goal and that its compromise will not be tolerated. Management must reinforce this fact at all times. Each job meeting must start with a review of safety and attention to any identified accidents or unsafe behaviors.

Beyond management’s commitment is the buy-in of the entire organization. Everyone associated with the firm must understand the concept and be striving to reach the goal. As with any other improvement initiative, the most effective way to achieve buy-in is through involvement. Employees must be involved in the development and monitoring of safe behaviors.

Learn from the Past

The first step in the zero-injury process is to review past accident cases for unsafe behavior. This review provides a good baseline listing of those behaviors that are putting people at
risk. Crew members and safety personnel must be involved in the creation and review of this list, and care must be taken to include behaviors necessary for compliance to standards of the Occupational Safety and Health Administration.

During this assessment stage, the at-risk behaviors are analyzed to determine their causes. The most common approach is the antecedent, behavior, consequence process—the ABC Analysis. For example, when the phone rings, you answer it and discover who is calling. In this example the ringing is the antecedent, the answering of the phone is the behavior and the result of finding out who is calling is the consequence. Most of us know how compelling the ringing of the phone is, and would be hard-pressed not to answer it.

What does this have to do with safety in construction? The same powerful effects are at work on the job and can foil the best safety initiative. On the job workers are given hard hats and expected to wear them at all times. As soon as the supervisor leaves, the hats are left off to the side and the potential for an injury exists. Why does this happen?

Using the ABC Analysis, we would expect that supplying hats and urging the workers to use them would result in the behavior of wearing the hats, and not getting injured would be the consequence. Unfortunately, another look at this situation reveals more powerful forces at work. First, the perceived discomfort and peer pressure not to wear hard hats are powerful antecedences. Therefore, the behavior becomes one of avoiding wearing hard hats. Since
injury on the jobsite is a rare occurrence from a personal standpoint, the consequence is a perception of improved comfort and no accidents. This continues, however, until someone is injured, and then we again reinforce the behavior of wearing hard hats.

This example leads us to examine another aspect of behavioral science. Theory states that the most powerful behavior-inducing consequences are those that are soon, certain and positive. This means that when we answer the phone, we are certain to find out who is calling immediately, and the result will be a pleasant conversation. Imagine if your phone rang and the caller hung up immediately. It wouldn’t
take too many cycles of this for you to ignore the ring of the phone, or to unplug it.

The same reasoning applies to the wearing of hard hats. If all workers donning hard hats had positive experiences because of wearing them, most would. Unfortunately, the only possible consequences are that they would not be injured (uncertain), or that they would not be reprimanded (again not certain or positive).

**Execute a Program**

The answer to improving safety on the jobsite is to identify safe behaviors and understand how to make the antecedents and consequences positive and compelling. Several companies have done just that through the implementation of a behavioral-based safety process. Using this process, the proper antecedents are developed, and some soon-certain-positive consequences are defined. The result is improved implementation of the existing safety processes, a reduction of at-risk behaviors and progress closer to the zero-injury jobsite.

In many cases the existing award and recognition programs used in construction companies today are reinforcing good luck or the non-reporting of accidents. We reinforce only the results of accidents or the lack of accidents without considering the probability factors.

In the zero-injury process, awards and recognition are based on up-stream measures as well as results. This is the basis for the soon-certain-positive consequence to safe behavior. A crew is observed and the safe and unsafe behaviors are noted. The result is reviewed with the crew as soon as the observation is complete (soon), safe behaviors are noted (positive) and awards are achieved (certain). The basis of this approach is the reinforcing nature of measurement used in quality and productivity improvement processes.

In addition to the immediate feedback, the results of observation are used by the organization to provide an ongoing safety assessment. This measure, combined with the results of the process recording frequency, is a true indicator of safety performance. The results also are reviewed and used to facilitate safety improvement at the weekly toolbox meetings. This results in a continuous improvement process.

The last element of the zero-injury process is training. Training is required for management to gain individual commitment to the process. Employees also must be trained to understand and participate in the process, and additional training is necessary for facilitators and observers.

The zero-injury process is the best tool available today to move your safety program to the next level of effectiveness. Only by setting your goals high and involving the entire organization can you achieve maximum efficiency through the elimination of costly accidents, and provide your employees with a safe working environment.

**About the Author**

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