Session No. 638

Near Miss Reporting: The Forgotten Piece for Sustainable Safety Cultures

Todd Britten, MS, CSP
Senior Consultant
CoreMedia Training Solutions
Portland, Oregon

Doug Nugent
Safety Manager
Shaw Group
Lena, Louisiana

Introduction

Near Miss Reporting, or the lack of it, is a strong indicator of an organization's safety culture. Do you receive 50 near miss reports for every minor injury suffered by your employees? If not, it is likely that several significant barriers exist within your culture. These barriers are keeping your organization from learning the "free" lessons available from incidents that did not result in loss—this time.

To date, the Shaw Group is building a power plant at the CLECO site in Lena, La. The site has worked 2.7 million man-hours without a lost time injury and attained an OSHA recordable rate of 0.68. The site worked the first one million project hours without a single OSHA recordable. While four main leading indicators are utilized to support this remarkable accomplishment, this article will focus on one: the methods employed to successfully establish a near miss reporting process.

At the start of the near miss reporting improvement project, the number of near misses averaged about one per month (or about 0.005 reported near misses per employee). Three months after initiation of the project, that number has increased by nearly 100 fold (to about 0.5 near misses reported per employee). After starting at around one near miss reported per month, the culture at the Shaw Group CLECO site now yields over 60 near misses reported per month and has done so now for over nine consecutive months. This successful initiative has built trust, encouraged employee involvement, enabled the identification and control of previously unknown or unrecognized risks, and enhanced management credibility through very visible and positive

action. The approach, techniques and results used to obtain these results will be discussed and presented in this article.

Is Your Current Approach Working?

The management team at Shaw knew that identifying and investigating near misses was a key element to finding and controlling risks BEFORE employees were injured or property was damaged. They also knew that near miss reports were few and far between. To cement organizational dissatisfaction, as well as determine the amount of improvement needed, the Shaw safety department turned to varying studies regarding accident ratios. There are numerous studies that can provide insight as to whether your near miss reporting program is working. Let's look at a few.

The Accident Triangle developed in the 1930s gave us one of the first glimpses into accident probabilities. H.W. Heinrich noted in his book, Industrial Accident Prevention, that for every major injury, there were 29 minor injuries, and 300 no-injury incidents (near misses).

In 1969, Frank Bird, Jr. completed a study (1) to determine accident ratios as they occur in a variety of industries. His analysis of 1.75 million incident reports within 297 organizations and 21 different industries revealed that for every serious or major accident, there were 10 minor injuries, 30 property damage events, and 600 no loss incidents.

In a 1993 study published by the U.K.'s national Health and Safety Executive (HSE) organization titled the "Cost of Accidents at Work" (2), the authors concluded that for every Lost Time Injury (over three days in length), there were 7 minor injuries (first aid only in this case) and 189 non-injury accidents.

While these studies are meant to provide general guidelines and probability estimates for risk potential, they will likely vary within individual organizations. That said, it should be quite disturbing that, depending on which of these studies you look at, one can estimate anywhere from 189 to 600 near misses per every significant injury! Shaw's management team clearly understood the message in the data: hundreds of opportunities to improve organizational safety performance were being lost.

Finally, there are the non-scientific indicators from our work over the past three years. As we assess safety cultures, invariably, near miss reporting shows up as a significant improvement opportunity…even in organizations that apparently do well in safety. For example, only 3 of 98 attendees at a near miss reporting presentation given at the Region IV VPPA conference (VPPA sites are among the best of the best) in June of 2007 expressed satisfaction with their near miss reporting processes.

So why do many organizations struggle with making near miss reporting a successful part of their culture? Let's examine the barriers more closely.

Barriers to Near Miss Reporting:

After looking at the data for evidence that near misses were being under-reported, the next logical question for Shaw was… why? For this, the reasons can be endless. Shaw utilized several methods to involve employees and capture their suggestions for making the near miss reporting process better. One unique approach was to include near miss training during new employee orientations while the project was being ramped up. During this training, a full section was devoted to the discussion of near miss reporting barriers. Some broad categories, and findings are listed below:

The Status Quo Factor

In his book, *Leading Change*, John Kotter talks about eight barriers that prevent organizational change. These barriers ring true for building or changing organizational safety culture. One such barrier refers to organizational status quo and how organizations grow comfortable with the way things are. Why is this often true for near misses?

By definition, near misses leave no injuries, no property or equipment damage…or evidence that they even occurred. As such, it is easy and often desirable to ignore them. Do employees have a reason to believe these reports will be viewed positively and be acted upon? Evidence such as that provided in the very early stage of the orientation training when one employee asked why he had not heard anything about a very significant near miss he had reported several weeks earlier. A high-level site manager in the training at the time did not let it up to the third party trainer to respond. Instead he stopped class to gather pertinent data needed to investigate the situation and provide an answer to this employee. This act demonstrated the seriousness of management and its visible commitment to safety.

Definitions

What is a near miss anyway? The training and orientation sessions at Shaw revealed a surprising barrier regarding just what personnel believed a near miss event actually was and, more importantly, how these misunderstandings can significantly reduce near miss reporting.

The point is identify things that make the workplace safer, period! As such, the broad definition chosen for a near miss was made as easy as possible. Any situation, be it an unsafe act, unsafe condition, or anything else that any employee believed was unsafe, was encouraged to be reported as a near miss…and when reported, employees were thanked, not embarrassed. The message sent was that no one will embarrass you by questioning your technical knowledge of whether or not something is technically a near miss or an unsafe condition or act. Proactive effort is rewarded.

Forms – access, language, time/length

Is literacy an issue? What about multi-lingual work sites that also create additional sub cultures that may value safety and near miss reporting differently? Shaw created additional training classes, to include a Spanish-speaking instructor to assist and encourage Spanish-speaking crewmembers to increase near miss reporting. In the course of this training, they discovered additional attention to this group of workers may be needed as a result of a culture that encouraged it's members to "stay low and keep one's head down; don't make waves". Breaking this barrier was critical to success. Ensuring Spanish speaking personnel were included in developing the near miss process as well providing native language opportunities to clearly

understand the process proved very valuable. Strongly recognizing this group of employees for stepping out and reporting near misses was also a critical element of success.

Fear of punishment, retaliation

The fear of punishment and retaliation was apparent from the training. The overwhelming commonality was in its subtlety. Employees told stories about previous employers giving the worst, most undesirable jobs to "trouble makers who made waves by reporting problems". We know from the data that near misses are occurring much more frequently than reported. Why? Management often fails to create a culture that expects supervisor safety performance, including capturing, resolving and rewarding near misses. Supervisors, like employees, are led to believe that near misses are signs of incompetent supervision. Why report something no one knows about and risk trouble? Why report issues that result in more short-term work when no one measures or recognizes this effort? Measuring near miss reporting performance forces supervisors to create a more cooperative environment and enables intervention when they are struggling to do so.

Lack of recognition/feedback

When participating in any event (such as reporting near misses), human nature is to ask oneself a relatively simple question. By taking this action, what happens to me that is good and what happens to me that is bad? Will this action result in something positive, or something negative? Is this action worth the effort? Management must take purposeful, intentional, and visible actions that demonstrate and prove that good things happen when near misses are reported. Nothing is more frustrating than to be told something is important, to find out later that you get no response or feedback for your efforts.

Peer pressure

Maybe even worse than lack of recognition is negative peer pressure. The example used at Shaw was peer pressure that develops within crews. During the training, an example was provided to describe what employee peer pressure might look like. The example went something like this:

Today, each person in the training is hearing about near misses, about what they are and why reporting them is important. You are learning about how this program makes it less likely for you to be hurt while working on this site. Some of you might even be starting to believe and are anxious to participate. On the other hand, some are ready to dismiss it as *bull* and can't wait to get out of here today. Tomorrow, one of you on the crew — the one who is excited about improving safety — is going to see and report a near miss. You are going to get one of the forms in the project bulletin boards and fill it out; maybe even in front of your peers. When you do, you will get a reaction from your peers; and that reaction will go a long way in determining if you (or anyone else present) will ever report a near miss again. So the question to your peers: What is that reaction going to look like? Are you going to be excited and encourage the report? Are you going to help find potential solutions? Or are you and the majority going to stick to the status quo? Are you going to make fun of the peer reporting the near miss, maybe tell him (or her) how big of a suck-up he is? The choice, ladies and gentlemen, is yours.

Concern about record and reputation

As noted earlier, supervisors and managers often (correctly) perceive that near misses are negative events that will be used against them (in performance reviews, etc.) as an indication of their management inadequacy. Hourly employees often fear supervisor retaliation, and other negative consequences (such as getting to take a drug test for reporting an event that no one

would have known about if they hadn't spoken up) for reporting near misses. Site leaders often wonder if corporate REALLY means they want an increase in near miss reporting and what will REALLY happen when this increase occurs.

Additionally, and particularly in nomadic type trades like construction, one's perceived desirability by future employers is very important. Employees will do what the boss wants and what peer pressure dictates.

Desire to avoid work interruption

Be honest. You and others are busy and have deadlines to meet. You see an unsafe situation or near miss and make a decision based on whether or not the perceived risk can wait, or whether or not immediate attention is warranted. All of this is logical.

At the same time, one of the most heart wrenching stories from the training involved a supervisor who on a past job, noted a piece of rebar sticking up from the ground. He was busy and made a mental note to take care of it later in the day. This was too late. How painful it is to hear a man tell a story about not removing this rebar only to come back and find one of his personal friends impaled and injured to the point he would no longer walk again.

We all make value and priority decisions. The challenge is to encourage action. At Shaw, crews were empowered to place near miss reporting forms wherever most convenient. Some equipment operators started carrying forms with them right alongside the daily pre-use inspections, thus ensuring the forms were always close at hand. While correcting the unsafe situation is obviously more important than completing the form; employees were taught the importance that trend tracking could have on low probability, yet frequently occurring hazards. For example, replacing the guard on a power tool is a good thing, even if not reported. That said, what if you were one of ten people to do that and not report it? Not reporting these types of issues could result in failure to uncover root causes of missing tool guards, such as purchasing low quality tools or poor tool maintenance processes.

Desire to avoid red tape

What red tape will entangle me if I turn in this near miss report? Will the form take four days to complete or can I do it in less than a few minutes? Will I be called before the site "grand jury" and be grilled and questioned, or will my team be able to take steps to lessen risk and be asked by management if they can provide further support? Will unreasonable solutions be forced upon me or will I have a significant say in my safety? Tuning into the employee radio station "WIIFM" or What's in it for me" is a critical component of eliminating red tape.

Fault finding mindset

Whose fault was it? How often have you heard that question asked when someone gets hurt? When incidents occur, does the organizational investigation system uncover and remove root causes in the management system, or, does it let the employee take the heat, while nothing else changes? Is disciplinary action an overwhelming outcome of investigations? If so, give me one good reason why an employee should openly participate in the witch-hunt? Are leaders disciplined as well?

If the above system sounds remotely like yours, look out for this barrier. It is unlikely you are getting truth even for the incidents that cannot be buried due to their severity. Your chance for

getting to truth with near misses is negligible. While coaching and discipline are necessary, why after the fact? Why after this same scenario probably occurred multiple times and was deemed okay as long as production needs were met? To change this mindset, actions must be taken to steer employees toward desired actions by clearly defining what is expected; then intentionally looking to catch them "doing what is correct".

Overcoming the Barriers

In looking to overcome these barriers, Shaw turned to some additional research. First, Dr. Dan Petersen's Six Criteria for Safety Excellence were used as a filter to determine the appropriateness of action. These six criteria of safety excellence must be in place in order to achieve safety success. They are:

1. Top Management is Visibly Committed
2. Middle Management is Actively Involved
3. Supervisor Performance is Focused
4. Hourly employees are actively participating
5. System is flexible to accommodate site culture
6. System is perceived as positive by the hourly workforce

Second, the concepts of the safety accountability cycle were built into the Near Miss Reporting Program.

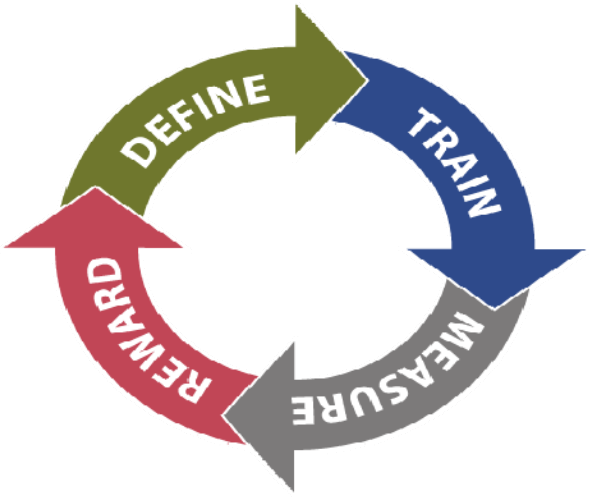

Exhibit 1.

Specifically:

1. Defined expectations. What must be done at every level of the organization to ensure satisfactory near miss reporting?
2. What training is necessary to enable performance of these expectations?
3. How will performance be measured? How does the organization know, by affected individual and or crew, if expectations are being met?

4. How would successful performance be rewarded in a way that is meaningful to those whose actions the organization is trying to motivate?

The Solution

In essence, the Shaw Group CLECO site used much of the information above to develop a bulletproof near miss reporting process. One that addresses the barriers listed above.

Defining what is expected

At Shaw, the expectation was that all employees were expected to report unsafe acts, conditions or other situations regardless of perceived risk. As noted earlier, the site started slowly and improved by nearly 100 times. A key to success at the Shaw Group was going beyond step one (define) of the accountability cycle and moving toward steps two (training), three (measurement), and four (reward).

Training

All new employees coming on site were given a safety orientation. This orientation consisted of a four-hour course on the importance of and method to report near misses. Employees were taught what near misses were, the location of forms, the effect of peer pressure and group norms, as well as the barriers that commonly inhibit near miss reporting. They were then asked to help Shaw identify any current barriers and asked for solutions, thus increasing buy-in to the program.

Employees were also given practice at reporting near misses and were encouraged to take class time to complete actual near miss reports from incidents they had witnessed over the last day or so. This allowed employees to "test the waters" and see what kind of reaction management would have; in other words, to see if management would respond and if this response would be positive or negative. Completing reports for actual events reinforced how many near misses were actually occurring and tied the training to real life situations; increasing employee confidence in their ability participate in this process.

Additionally, employees were given a four-hour course on how to speak-up when they observed unsafe behavior. Included in this training were powerful stories from volunteer participants about personal consequences, both at work and at home, where failing to speak -up resulted in injury and even death. On the reverse side of this communication, employees were given a self-assessment tool to determine personal strengths as listeners. This assessment allowed employees to experience how failing to listen, or reacting negatively to another's feedback attempt, can effect whether or not they would even receive future feedback.

Measurement

The axiom that what gets measured gets done is proven true at Shaw. People will do what the boss wants, not what the safety professional wants. As one of the sites leading safety indicators, Shaw decided to track the number of near misses reported; by crew. The number of near misses reported by crew began to be tracked along with several other expected safety actions. In short, each crew, as well as everyone else on site, knew who was and who wasn't completing assigned safety actions. The indicator board was posted on bulletin boards throughout the project for all to see.

This measurement system really kicked in when the parallels to good safety performance as defined by these activities correlated directly to the performance of safety outcomes as well as to the performance of other key indicators, such as schedule and budget. Weak performance in these leading safety indicators was predicting where first aid injuries were most likely to occur, as well as where poor adherence to quality, schedule, cost, and other factors were most likely to occur.

Management was not accustomed to having this information.

Reward

To complete the accountability cycle, Shaw created a crew of the month program to recognize top crews in safety. Based on the completion of the most proactive safety actions for the month, individual crews were named as the winner of crew of the month.

The key to the success of this program was the reward. After the announcement to all employees regarding the details of how the crew of the month program would work and when it was to begin, subsequent questions regarding employee awareness in the orientation classes met with little excitement or acknowledgment about the existence of the program.

What a difference the visible rewards make. When everyone started asking why a certain crew got to leave the site early every day, got special parking close to the gate, and got a celebratory lunch, among other things, it did not take long for other crews to want to be recognized for their efforts as well.

Several ingredients made this reward program work:

1. The rewards were very meaningful to the crew (a five-minute early out enabled a 30-minute early home arrival)
2. The methods to win were in the control of the crewmembers. Completion of the activities (that you can control) allows a chance to win. The contradictory element of luck for having no accidents was minimized.
3. The visibility of the effort. Updated counts and tallies of progress were visible for all to see.

Ongoing Success

The numbers indicate ongoing success throughout this project. And resting on the laurels of progress would be a big mistake.

The real story is how these numbers were achieved. The transformation can be illustrated in simple symbol of posting the right data for all to see. Like most operations, injury results and statistics are posted at the jobsite's entry. As a result of Shaw's efforts and the focus on the presence of safety — rather than the absence of accidents — employees are replacing an old sign that posted incident records with something new to reflect what matters most: safety efforts.

The crews want to see the totals of daily near misses; they want to know at any given time how their incident prevention activities are progressing. Why? Because they're now focused on

proactive measures. They're empowered. They understand how accountabilities lead to an incident-free environment.

The message is refreshingly positive and it's hard to miss: things are very different here.

References

Bird, W. Frank. Jr., *Practical Loss Control Leadership: Third Edition*. Duluth Georgia: Det Norske Veritas, Inc., 2003.

U.K. Health and Safety Executive (HSE) Commission, Costs of Accidents at Work, 1993

Kotter, John, P., *Leading Change; First Edition;* Harvard Business School Press, 1996

Maxwell, John, C., *The 21 Irrefutable Laws of Leadership;* Thomas Nelson; First Edition, 1998

Petersen, D., Ed.D., *The Challenge of Change: Creating a New Safety Culture,* Portland, Ore: CoreMedia Training Solutions, 1993