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Near-Miss Reporting:
The Missing Link of Safety Culture Revolution

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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.

A major construction company, while building a power plant in Louisiana, used an effective near miss reporting program to trigger safety success. Eighteen months into the project, the site had worked 3.1 million man-hours without a lost time injury, had an OSHA recordable rate of 0.68, and achieved the OSHA VPP status. Additionally, the site worked the first 1,000,000 project hours without a single OSHA recordable.

While four main leading indicators were utilized to support this remarkable accomplishment, this article will focus on one: the methods employed to overcome cultural barriers that typically inhibit near miss reporting success.

At the start of the near miss reporting improvement project, the number of near misses reported averaged one or two per month (or about 0.005 reported near misses per employee). Three months after initiation of the project, that number increased nearly 40-fold (to about 0.2 near misses reported per employee). The level of near misses reported continues to climb to a current level of about 230 near misses per week (or about 0.6 near misses reported per employee), well over 100 times the rate when the program was first initiated. 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 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 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 1930's 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 1993, in a study Published by the Health and Safety Executive Group of the British Government 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. Regardless of which of these studies you look at, however, it is quite disturbing that anywhere from 189 to 600 near-misses occur per every significant injury! There was a clear 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 3 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.

After looking at the data for evidence that near-misses were being under-reported, the next logical question for site management was… why? For this, the reasons can be endless. Several methods were utilized 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 Five Fatal Flaws

Most safety professionals are familiar with the data presented above. We all know what the data says regarding the ratio of near-misses to incidents. Many organizations have near-miss reporting and investigation processes in place, including forms and data management software.

Then why aren't we hitting these targeted ratios that tell us we should have 50 near-misses per recordable incident? Why aren't we getting the theoretical benefits of an effective Near-Miss program? As you look for answers, keep this in mind: it is NOT about knowledge and it not about the written processes. No, it is about the cultural barriers that inhibit reporting, problem resolution, trend tracking, paperwork and the like.

In dealing with construction (and other industry) company safety programs, we found these five fatal flaws bury near-miss programs:

1. UPPER MANAGEMENT believes in the near-miss program and will provide financial support, but they are not engaged and don't know how to be.
2. SAFETY PROFESSIONALS (who have the technology to be successful) struggle with how to effectively teach the organization what to them is intuitive.
3. SUPERVISORS (who do not want their people to get hurt) are overburdened and do not want more "non-value added" (questionable worth) work shoved down their throats.
4. HOURLY EMPLOYEES (who are willing to be safer, after all they wear all this uncomfortable PPE) wonder "What's in it for me" (besides a kangaroo court, drug testing, and "another set of concrete ankle protectors") for turning in a near-miss report.
5. DATA MANAGEMENT can be a real red herring. When there is no reporting, there is no data and the above listed fatal flaws seem to be solved. In actuality, this inappropriate non solution just deepens the above listed problems.

As these cultural flaws linger, they manifest themselves in a number of barriers.

Barriers to Near-Miss Reporting:

The Status Quo Factor

In his book, *Leading Change*, John Kotter (3) talks about eight barriers that prevent organizational change. These barriers ring true for building or changing organizational safety cultures. One such barrier refers to organizational status quo and how organizations grow comfortable with the way things are. This is very often true for near-misses. Near-misses are easy to over look, and avoiding the "extra work" can be viewed as benefit to everyone.

By definition, near-misses leave no injuries and no property or equipment damage. They also leave no 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? They need 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 leave 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 helped to demonstrate the seriousness of management and its visible commitment to safety.

Definitions

What is a near-miss anyway? Training sessions and continuous improvement focus teams reveal a surprising barrier regarding just what personnel believed a near-miss event to be. More

importantly, they reveal how these misunderstandings can significantly reduce near-miss reporting.

The point is to identify things that make the workplace safer, period! Choosing a broad, all inclusive, definition for a near-miss can make things easier. Any situation, be it an unsafe act, unsafe condition, or anything else that any employee believes to be unsafe, should be reported as a near-miss. When reported, employees should be thanked, not embarrassed. The message sent was that no one will embarrass you by questioning your knowledge of whether or not something is technically a near-miss or an unsafe condition or act. Proactive effort is rewarded.

Forms – The Five "L's"

How do you stack up?

- Literacy….are your forms easy to read and understand?
- Language…do you provide them in multiple languages if necessary?
- Length…are they short, sweet, and to the point?
- Location…are they easily accessible to the affected worker?
- Logistics…do they enable solutions versus concrete ankle protectors?

Is literacy an issue? What about multi-lingual worksites that also create additional sub cultures that may value safety and near-miss reporting differently? Additional training classes, to include a Spanish-speaking instructor to assist and encourage Spanish-speaking crew members, were created to increase near-miss reporting. In the course of this training, and additional barrier was discovered. This group of workers needed some additional focus and recognition due to a culture that encouraged its members to "stay low, keep one's head down, and 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. Site managers and supervisors wonder if more near-misses will make them look better or worse to their boss. Employees wonder if the supervisor thinks the report makes supervisors and employees look bad and what retaliation might be expected.

The overwhelming commonality is 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 interventions 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, then find out later that you get no response or feedback for your efforts.

Peer pressure

What is the perception of co-workers to a reported near-miss? Are you a hero or a goat?

Maybe even worse than lack of recognition is negative peer pressure. An example is peer pressure that develops within crews, and how leadership, defined simply as "influence" by John Maxwell (4), can be used to make this peer pressure positive or negative. Following is an example that was used in a training session to describe what employee peer pressure might look like:

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. Some of you, however, think this is bull and cannot 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 the peers is, 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/her how big of a suck-up he/she is? The choice, ladies and gentlemen, is yours to make.

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 having 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 never walk again.

We all make value and priority decisions. The challenge is to encourage action. Empower work groups 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 "kangaroo court" 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?

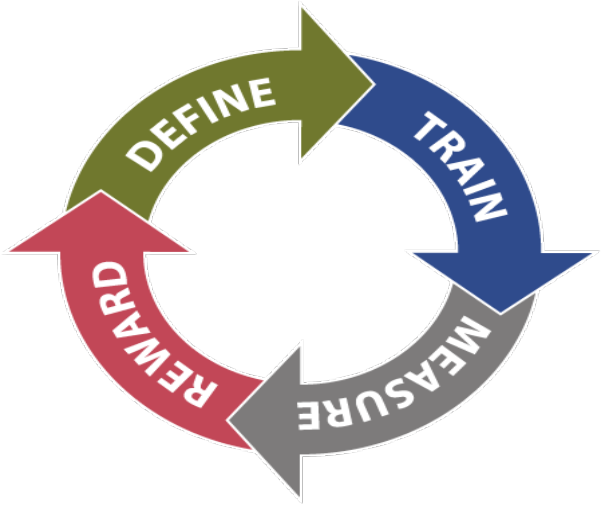
If the above system sounds remotely like yours, look out for this barrier. It is unlikely you are getting truth even for the incidents that cannot be buried due to their severity. Your chance for getting to truth with near-misses is negligible. While coaching and discipline are necessary, why after the 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, looking at some additional research is useful. First, Dr. Dan Petersen's six criteria of safety excellence (5) can be 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.



Specifically:

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

The Solution

In essence, the information above is used to develop a bulletproof near-miss reporting process. A process that results in a culture that addresses the barriers listed above.

Defining What Is Expected

An expectation might be that all employees report unsafe acts, conditions or other situations regardless of perceived risk. As noted earlier, the site started slowly and improved by over 100 times. A key to success is going beyond step one (define) of the accountability cycle and moving toward steps two (training), three (measurement), and four (reward). The closer these definitions get to workgroups and individuals, the better

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 other barriers that commonly inhibit near-miss reporting. They were then asked to help identify any current barriers to include suggested 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 to 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 this site. People will do what the boss wants, not what the safety professional wants. As one of the sites leading safety indicators, it was 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. Poor 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, site management 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. This program is so well received; it has spread out as the site grows, now identifying and rewarding 10 crews (out of 135) per week.

A significant 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 5 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 on-going success throughout this project. However, stopping there would be a big mistake. The real story is in how these numbers were achieved. One of the best summaries that can be made is in the example of one simple change. At the beginning of this project, the site, like most companies, had their injury results and statistics posted for all to see when one entered the facility. As a result of everyone's efforts and the focus on the presence of safety, not the absence of accidents, employees no longer believe this type of sign reflected their culture. The old sign, reflecting the old culture, is coming down. A new, sign, reflecting a new culture, is replacing the old sign. On this new sign, the amount of employee safety effort and activity will be posted. The crews want to know daily how many near-misses are reported; they want to know daily how they are doing with regard to accident prevention activities. They understand this focus will enable an accident free environment.

Upon entering this site and seeing this sign, it is obvious that something is very different here.

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