

Effective hazard Management: Effective first step to a safer work place

Hazard management is one of four pillars of a universally sound safety management system (the others being: Incident response, risk management, and safety strategy—there are other elements that shape the efficacy of an individual safety system, but these tend to differ from industry to industry and government to government).

To accept hazard management as a cornerstone of safety you have to accept that without hazards there can be no injuries, so effective hazard management, that is, containing and/or correcting the hazard before someone is injured, is the first step to a safer workplace.

Anatomy of an Injury

For a worker to get injured three things must be present a:

1. Hazard
2. Interaction
3. Catalyst

Hazards

Before we continue, I should define what I mean by a hazard. A hazard is any condition that may cause an injury. Hazards, therefore, can be procedural, mechanical, environmental, and yes behavioural. Effectively a hazard is anything that can cause an injury—accidental or deliberate. Since safety is an expression of probability (We describe something as safe as if the condition of safety is an absolute, but most of us (didn't say ALL for all of those looking to take a slight on behalf of a bunch of people you will never meet) understand that no environment is absolutely free of risk and therefore cannot be described as completely "safe".) Hazards are the things that increase the risk of injuries. What About Behaviour? Before we continue, I should define what I mean by a hazard. A hazard is any condition that may cause an injury. Hazards, therefore, can be procedural, mechanical, environmental, and yes behavioural. Effectively a hazard is anything that can cause an injury—accidental or deliberate.

Interaction

Whenever I meet a new client, I invariably get a worried Operations leader who worries that I am going to “safety them out of business.” I like to tell them that the safest organizations are those who went broke and closed their doors. Nobody is getting hurt in mothballed factories or abandoned mines. Being a good safety professional means recognizing that we can make a process so “safe” that it effectively makes it too inefficient to run. In those cases we protect the workers from injuries, but we also “protect” them from paychecks. A hazard in and of itself doesn’t injure someone unless the person interacts with it. This statement may seem so basic that some of you are thinking, “no kidding genius” but this understanding is key to how we approach containment and correction of injuries.

Catalysts

A catalyst is a factor that sets things into motion, call it the straw that breaks the camels back. Without the catalyst a person can interact with a hazard and escape unharmed. The lack of a catalyst allows workers to engage in at-risk behaviour without getting hurt, which teaches the worker that an unsafe act is benign. We walk by hazards every day, we see them in our homes, and encounter them every day on our morning commute. Think of the catalyst as that little extra element that either sets the injury in motion, makes an injury worse, or makes the interaction far more likely. For example, standing in a puddle of water is not in itself likely to injure someone, but standing in water while making repairs on an energized piece of equipment makes an injury far more likely. (In this case the hazard is the water on the floor, the interaction is standing in it, and the catalyst is working on energized equipment. You could also describe the energized equipment as the hazard and the water as the catalyst and be correct but now were talking semantics.)

Managing Hazards

Hazard management consists of eight steps:

1. **Identification.** The heart of hazard management is finding the hazards and containing them before anyone gets hurt. Unfortunately, we often learn of the existence of a hazard because someone has been injured. What’s more, hazards can be tricky: they come in all shapes and sizes; can grow and shrink with alarming speed; and can move throughout your facility or your process. They can crop up in different places, different times of day, and move across shifts. The best hazard identification process involves front-line supervision walking the work area and asking simple questions about where the process could fail. This is more than just observing workers’ behaviors, and involves taking a holistic look at the process and applying the 5 Ms of production (Manpower, machines, materials, methods, and environment—I never said the M was at the beginning of the word).

Basically the front-line supervisor is conducting a process audit and gathering information on where the operation could fail.

2. **Containment.** Once a hazard has been found the person who discovers it should not leave the area until the hazard is contained. Documenting hazards without indicating how you contained them is a good way to get sued, but that notwithstanding how would you feel if someone was seriously injured because they interacted with a hazard that you knew about but did nothing? Containment actions are quick fixes designed to last only long enough for an unsafe condition to be fixed, so in many cases restricting access, warning employees or other similar low-level controls may be appropriate.

Root Cause Analysis. Before you can appropriately address a hazard you must know it's primary root cause. I've noticed some confusion around Root Cause Analysis. Many people believe it is appropriate to look for a single cause of a hazard. This approach only makes sense if you have a specific problem structure with a sudden occurrence (things are going along just fine until a catalyst creates a problem). Unfortunately, the vast majority of hazards result from a broad problem structure with a gradual occurrence (the straw that breaks the camel's back) where many interrelated causes and effects are at play. To make a long story well...less long, you usually have to look for multiple, interrelated causes of an injury.

3. **Correction.** Containment will only take you so far, and the ultimate goal of hazard management is to permanently correct hazards and keep them from coming back. Correction usually involves maintenance and all hazards are not created equally. The safety committee can work with maintenance to correctly prioritize hazard correction.
4. **Read-Across.** Often a hazard that is present in one area of the organization is present in other departments as well, a solid process for read-across (checking to see where else the hazard might manifest) is a key step that many organizations miss. Read-across allows many areas to benefit from the discoveries of a single walk-thru.
5. **Hazard Trend Analysis.** Finding a single hazard is valuable, finding a trend that tells you where you are most at risk is invaluable. Hazard Trend Analysis should be the primary activity of the safety committee meeting, because it can help make the entire operation far more efficient.

6. **Process Improvement.** In world-class problem solving methodologies, they talk about the importance of fixing the system flaw that allowed the problem to manifest (for instance the recruiting and hiring policies that hire people who are physically unable to do the job.) This is step key in hazard management because fixing the system likely will prevent numerous problems down stream.

Remember as you implement a hazard management process to keep things simple. You will likely face considerable resistance as first line supervisors insist that they don't have time to walk their areas and identify hazards. But if they don't have time to do it right when will they find time to do it over, and ultimately when will they have time to stop work because of a worker injury?

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