A TOLERANCE FOR FAILURE

If your operational process produces an injury, you have a safety problem.

ZERO DEFECTS OR ZERO ACCIDENTAL INJURIES ARE ONLY ONE OF SEVERAL INDICATORS OF SUCCESS.

Years ago, I attended a quality conference of a major manufacturing company. I was in a room with over 1,000 company executives and managers, and the CEO was speaking. He proudly announced that, for the first time in the company's history, they had reached their goal of Six Sigma quality control. The room erupted in thunderous applause that lasted until the CEO had to quiet the crowd. He then said, "Isn't that great?" and applause thundered again. After the crowd began to quiet and take their seats the CEO leaned in to the microphone and quietly added "…unless you were one of the over 2,000 customers who opened our product and it was defective right out of the box!" The CEO went on to make the point that developing a tolerance for ANY level of failure would ensure that the company never reached zero defects.

BADBOO | DREAMSTIME

At an executive meeting at another company, the quality consultant in the room was W. Edwards Deming. Deming was the brilliant mathematician who became a leading spokesperson for quality after WWII and was invited to Japan by General Douglas McArthur to help rebuild Japanese industries. Deming was preaching "zero defects" when a young engineer in the room challenged him. He suggested that "zero" was perfectionistic and therefore possibly unrealistic and demoralizing to workers who were trying their best. Deming responded by saying, "You have missed the point, young man! You may never be perfect, but you can't quit trying to be. If you accept any level of imperfection as okay, you will always have it!"

If you wonder why I am talking about quality instead of safety, it is because they are almost identical issues. If your organization's goal is to provide a product or service, then you develop a process to accomplish that. If your process produces that product or service effectively and efficiently, you don't have a problem. If your process produces a defect, you have a quality problem. If your process produces an injury, you have a safety problem. Either way, the problem is that your process is not doing what you want it to do, or it is doing it while producing unwanted outcomes.

Processes are made up of a combination of people, equipment, work environment design, materials and procedures. Without an accurate analysis of these elements and their functioning, you may not address the real issues that are causing the problems with your process. The following are common examples of problems we often find in each of these areas.

PEOPLE

This area is often the last to be addressed since the others are more common and less complex. Psychology, sociology, performance management and the behavioral sciences all take different approaches to explain what shapes and reinforces human behavior, and few safety professionals or organizational executives are expert in more than one of them. But on a basic level, when people do not perform adequately, it is because of one of four basic reasons: they are not capable; they are not held accountable; they are not willing; they are not motivated. All these can be influenced by leadership or by company culture.

EQUIPMENT

If your processes are dependent on equipment, the equipment can cause your processes to fail. Determine if the equipment is in good working condition and properly maintained. Are similar pieces of equipment operated in the same way? Is operation of the equipment intuitive or counter-intuitive? Are portable pieces of equipment available, conveniently located, in good condition, and are workers properly trained in their use? Are adequate numbers of workers cross-trained so that no one is required to operate equipment for which they were not trained when certain workers are absent?

WORK ENVIRONMENT DESIGN

Our audits have discovered an alarming number of workplace designs that make good ergonomics difficult or impossible. Seasonal issues can impact

the workplace, especially in older facilities where temperature extremes are not adequately addressed. Apart from the obvious, many workstations are simply not designed to facilitate the work. Dell, for instance, started counting the number of times an assembly worker had to touch a part to build a customized computer. They innovated their workplace design to minimize "touches." Another question that can be useful is to determine if workers were involved in workplace design decisions. We often find supervisors and managers made changes with good intentions that workers perceive made the design worse instead of better.

MATERIALS

Variations in raw materials can greatly impact product quality and material handling safety. Deming urged companies to forge strong relationships with vendors and stay with them rather than constantly shopping around for a lower price. By doing so you have a better chance of getting stability in your supply chain. Having materials available and conveniently located can also help maintenance workers complete their jobs more safely, which can impact quality, productivity and safety.

PROCEDURES

The sequencing of work can either facilitate or hamper productivity. Beware of the heritage practices ("because we have always done it that way"). Procedures are developed for a reason but the reason for them can change. Be sure that the way you ask workers to perform and the safety precautions you require of them are a good fit for the current reality. Some of the best performing organizations review procedures with multi-level teams on a regular basis to make sure they are doing things the best and safest way that they know of.

While all these aspects of performance can help avoid failure, make sure your main goal is to achieve success. On the surface these sound like the same thing but they are not. Zero defects or zero accidental injuries are only one of several indicators of success. Zero can come from luck or normal variation as well as from excellent performance. Make sure when you get these good lagging indicators you know exactly HOW you got them and develop the confidence you can achieve them again next year. A tolerance for failure is really a lack of excellence. **EHS**

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