

On November 2, 2004, Central Texas Iron Works experienced a lost-time injury. It hasn't experienced one since.



SAFETY ISN'T MAGIC. It isn't rocket science either.

It's a culture. It's a commitment. An ever-present awareness. Ask any fabricator where they rank safety, and no doubt most of them will tell you it's their number-one priority. And they'll mean it.

But it's those shops that develop a culture of safety and an ongoing commitment to it that achieve impressive feats—such as not having a lost-time injury (LTI) for an entire decade.

Central Texas Iron Works (CTIW) in Waco, Texas, hit that milestone this past November, and the streak—which equates to 4.1 million labor hours—is still going. In fact, up until November 2, 2004, when the shop experienced an injury that sent an

employee home for a few days (he's still with the company today), it had also gone the previous 1,057 days (over one million labor hours) without a lost time injury—a nearly three-year stretch.

Before going any further, it's worth explaining the difference between an LTI and what's referred to as a "recordable." An LTI means that a person has sustained an injury and must take time off work to recuperate. A recordable incident is one where a minor injury (like a cut) is sustained, but the employee is able to return to work—even temporarily in another capacity, if necessary—after tending to the injury. And in addition to staying LTI-free for a decade, CTIW has drastically reduced recordables as well.



- ▲ Members of CTIW's safety committee.
- ▼ CTIW's shop sits on 100 acres of land.



- ▲ Much of CTIW's material arrives via rail spur.
- ▼ An visual indicator for a completed assembly.



- ▲ Employees are given 80 hours of training before starting work in the shop.



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“Ten years ago we had roughly 38 recordables a year,” says Jay Cockerham, CTIW’s human resources manager. “Now, we’re down to seven a year—the most common of which is typically a metal shaving in the eye. And even in those cases, the injury can be drastically reduced via proper irrigation. What makes that type of injury worse is when someone starts rubbing their eyes. So part of the philosophy is not only trying to reduce accidents in the first place but also trying to reduce their impact when they do occur.”

The reduction in injuries has paid off not only in the well-being of CTIW’s employees but also in its bottom line. In

1991, Cockerham notes, the company typically saw \$1 million worth of injuries per year. Today, the annual injury cost is in the low thousands.

Long-Term Commitment

So how is this high level of safety achieved? For CTIW, it starts at the top.

“A truly effective safety program involves acceptance of responsibility and accountability from the top down,” says David Harwell, CTIW’s president and a former Chairman of AISC’s Board of Directors. “We take an all-or-nothing approach, so



- ▲ Bar codes help track material through the shop.
- ▼ Cable routed below the floor in a saw house to minimize tripping.



- ▲ Safety records are posted as they happen.
- ▼ One of the automated sections of the shop.



this mentality extends to the office, not just the shop. I once got chastised by a shop employee for walking onto the floor without eye protection.”

“A properly implemented safety program also involves providing employees with the resources they need to do things safely—part of which, of course, is training. You have to acknowledge the nuances of working in a manufacturing environment so as not to make it dangerous.”

And that training begins on an employee’s first day, which consists of eight hours covering OSHA regulations, common accidents and general orientation. From there, the shop’s safety

manager puts new employees through 80 hours of on-site training on tools and equipment before they are allowed to begin work on the floor, and every new employee signs an agreement to commit to safety.

After an employee becomes approved to work on the floor, they have to wear an orange vest for three months. This, of course, lets other shop personnel know to pay closer attention to them and assist when necessary, as safety and awareness of surroundings might not yet be habitual.

This concept of visibility is a big part of CTIW’s safety plan, and it doesn’t just apply to newbies. The shop has a volunteer



▲ A stop light in the lunch room indicates if an unsafe situation arises.

▲ Material is moved virtually untouched through the facility.

▼ Each department keeps close, up-to-date track of its safety records.





▲ ▼ Employees keep an eye out for unsafe practices and conditions not only in their own respective areas but also across all areas of the shop, creating a localized and also a “30,000-ft view” approach to safety. Successes and issues are discussed at monthly “toolbox” meetings.



▲ Safety committee members wear red hats or shirts in the shop.
▼ Most material is transported through the shop via forklift.

▲ ▼ The shop has the capacity to fabricate roughly 2,500 tons of steel per month.





◀ While much steel arrives at the facility via train, it all leaves via trucks.



- ▲ Even seemingly little things, such as not putting a grinder wheel-first on the floor, become everyday practice.
- ▼ By stressing safety at work, the hope is that employees will practice it everywhere.



safety committee of 22 employees, all of whom wear a red shirt and/or hat in their various stations throughout the facility and serve as safety “beacons” for all of the company’s 200 workers. Not only do they act as go-to people for safety-related issues, they also provide a visual cue to work safely—a heightened sense of awareness—and also as a reminder that everyone must be vigilant for unsafe practices or situations.

“The safety committee is not meant to police employees but rather to educate and empower them,” notes Harwell. “And that education is continuous. It’s not a matter of just training someone then walking away and telling them ‘Good luck,’ it’s a matter of encouraging constant awareness as well as recognizing the ever-changing nature of the shop. When equipment and layouts change, you create a different work environment.”

In other words, it’s about keeping the ‘macro’ safety radar on at all times to address safety fundamentals while also taking the time to address ‘micro’ issues related to a new environment—almost an ongoing safety brainstorming session.

The idea is to make everyone part of a shop-wide distant early warning system, not just those on the safety committee. If someone is seen doing something carelessly, such as standing on a bucket, the expectation is that it can and should be addressed immediately by whomever notices it first. And it’s not just about running immediately to someone on the safety committee; sometimes it’s a simple matter of saying, “Hey! That’s not a good idea.” It’s as much a situation of watching over as it is looking out for one another.

“It’s really about awareness,” explains Cockerham. “We work in an environment involving heavy machinery, equipment and materials, but it’s when a worker isn’t focused or tries to take a shortcut of some sort that they get in harm’s way.”

Team Effort

The backbone of the safety program at CTIW is the safety committee—which again, is compiled of 22 shop and office employees. Besides their high visibility and duties on the floor, they also gather every month for 45 minutes and hold what are



◀ ▶ Safety education is continuous, stresses CTIW president David Harwell. "It's a matter of encouraging constant awareness as well as recognizing the ever-changing nature of the shop. When equipment and layouts change, you create a different work environment."



- ▲ CTIW celebrated its decade of no LTIs with a party and 16-oz. ribeye steaks.
- ▼ The company employs 200 people working one shift. The majority of the company's work is making modular assemblies for industrial applications.



referred to as toolbox meetings. Near misses—incidents that could have gone wrong but didn’t—are discussed and addressed, as are common issues, such as putting a grinder wheel—first on the floor (which can damage the wheel and create a hazard during use). Each department raises their own issues to the committee, which are then passed on to management and addressed, creating a system of checks and balances where awareness and ideas are exchanged between all areas of the facility. Issues are discussed as are necessary solutions or steps to be taken. For example, the shop’s last LTI involved an employee leaning into a machine, getting his hand caught and not being able to free himself (luckily, a coworker was nearby and was able to assist). This led to the practice of outfitting all machine operators with an alert necklace. In another area of the shop, one of the saw houses, wires were creating a tripping hazard, so they are now routed below the floor. This kind of “tweaking” of the shop and addressing obvious or revealed safety hazards has been a great complement to and result of the overall policy of awareness, and has made it more and more difficult to find issues to address—a good problem to have.

“Honestly, nowadays it’s about nitpicking the small stuff,” says one safety committee member. “Back strains, flash burns and hearing issues, people forgetting eye protection. We’ve come so far with the awareness that we have the luxury of not experiencing major issues. But it’s a matter of maintaining that awareness.”

The company also has a corporate safety director who travels between CTIW and its sister facilities (the company has been owned by Herrick since 1983) and passes along information between the shops. And not only are CTIW’s practices noticed with-

in its corporate network, they are also noticed by other steel and manufacturing facilities.

“One of our supplier mills has approached us about how our safety policy can apply to their facility,” says Cockerham. “So has [candy-maker] Mars and even some local schools. In fact, we’ve had other fabrication shops ask for advice as well. Fabricators aren’t big on sharing their processes with one another, but we’re absolutely up for exchanging safety advice.”

A final piece of the safety puzzle is rewarding its employees for a job done well and safely. Salary adjustments are tied to consistent safe practice and recognition is given for meeting milestones. When the company hit the ten-year mark with no LTIs, for example, the shop stopped working and was treated to a steak lunch.

What has also helped, notes Cockerham, is the fact that the steel industry in general has become safer. He mentions a U.S. Bureau of Labor Statistics ranking from 2007, citing that the steel industry was the fourth highest in terms of workplace fatalities. Five years later, it wasn’t even in the top ten.

All of these components add up to a safer workplace at CTIW. But Harwell reiterates the most important one of all: making safety an ongoing priority.

“Years ago, we didn’t take time to go off the floor to meet and talk about safety,” he says. “That meant a loss of production. Well, so does an accident. An accident doesn’t do anyone any good, and an employee obviously isn’t being productive if they’re hurt. So we had to raise our expectations of ourselves not only for production purposes but also for human purposes.” ■