Looking for Trouble

A Comprehensive Union-Management Safety and Health System

"We look for trouble, because if we don't, trouble will come looking for us."

United Steelworkers
2015

Fundamentals

The United Steelworkers represents workers in two countries, in several thousand workplaces, and in scores of different industries. USW members work on pipelines on the Alaskan North Slope, in government offices in the Virgin Islands, iron mines in Labrador, tire plants in Alabama, nursing homes in Minnesota, oil refineries in Louisiana, hospitals in California, paper mills in Maine, sawmills in British Columbia, and copper smelters in Arizona.

There may not exist another organization with this breadth of workplace experience. Federal OSHA comes close, but OSHA does not cover mining, or public employment. Canadian provincial agencies cover everyone, but only in a particular province. Some companies are highly diverse, but not as diverse as the Union. Groups like the National Safety Council are broadly constituted, but they do not have thousands of local union representatives working on safety and health every day, nor do they have the same level of involvement with the workplaces of their members.

This breadth of experience gives us unique advantages. In the late 1970s we worked with the steel industry to control catastrophic releases of carbon monoxide from blast furnace operations. Insights from those programs were directly applicable to the development of process safety management programs in the 1990s. A major project to improve the safety of mills and calenders in the rubber industry led to similar improvements in pulp and paper plants.

At one time or another, USW members have encountered every kind of hazard – as well as every kind of safety program. We know what works, and what doesn't. Much of that knowledge came at great price. The death rate in USW workplaces has fallen steadily, but it still stands at twenty-five to thirty per year. And for every fatality there about eight deaths from long-term occupational disease, as well as thousands of injuries and near misses. Every accident and illness tells a story. There are far too many such stories. But to ignore the story – and not learn the lesson – only compounds the tragedy.

Happily, there are positive stories as well, stories about hazards eliminated, accidents prevented, lives saved. Those stories are even more important.

What follows represents the collective experience of thousands of steelworkers. The words may have been written by a few full-time International Union staff, but the true authors are the men and women serving as local union safety representatives in every state and province, in every industry represented by the USW, who look for trouble and strive to eliminate it every day.

Why a System?

Rules are not enough.

But all too often, rules are how safety and health is managed. OSHA, MSHA and Ministry of Labour standards are comprehensive sets of rules, hundreds of pages long. Employers establish their own rules for doing a job safely. Some industries have extensive sets of voluntary standards and rules.

Rules are necessary, but they are never enough. Football is a game of rules, but it is also a game of strategy, skill, experience and knowledge that go way beyond the rulebook. A team that only knows the rules won't have much of a season.

Nor do the rules cover every possibility. Molten metal and water are a dangerous combination. Spill molten metal on a puddle of water, or even on a wet surface, and the result is a powerful explosion as the water flashes into steam and throws incendiary splashes of thousand-degree metal everywhere. Workers have died from metal and water explosions in steel mills, foundries, aluminum plants, copper smelters and many other workplaces. But OSHA has no standard requiring an employer to keep surfaces dry where a molten metal spill might occur. OSHA has sometimes cited the hazard under the "general duty clause" of the law, which requires an employer to keep the workplace "free of recognized hazards," but you would never recognize the hazard by reading the OSHA rulebook.

Rules can even lead to trouble. Some employers base their safety program around a set of simple "cardinal rules" or "golden rules," and think they've done enough. They become so fixed on enforcing the rules and punishing violators that they overlook the hazards that the rules don't cover and the impediments that get in the way of following the rules. Workers are fearful of reporting accidents if they think they will be disciplined.

Several years ago the USW Health, Safety and Environment Department reviewed a randomly selected set of fatality reports from our files. One of the things we found was that in almost half of the cases, one or more of the root causes did not violate any OSHA, MSHA or Canadian standard applicable to that workplace. On reflection, that's not surprising. Standards work. When OSHA established standards for confined spaces, grain dust explosions, and locking out equipment during maintenance, the death rate from those hazards dropped dramatically. Workers still die when standards are violated, but just as many die when hazards go unrecognized because they weren't covered by the rulebook.

In short, rules are important. They represent the collective wisdom of many generations of safety and health professionals and activists. Sadly, much of that experience was gained through workplace tragedies. Compliance with standards is critical. But it is not enough. An effective safety and health program may begin with compliance, but it cannot end there. It must have a workable way to find and fix workplace hazards whether or not they are covered by the rules, and it must address the impediments that make it hard to do a job safely.

We call that process "looking for trouble" – trouble that can get you injured, sickened, or killed. Trouble comes in many forms, from machinery that can crush an arm, to dusts that can ignite to awkward repetitive tasks that can cripple over time, to chemicals that can cause poisoning today or death from cancer twenty years later. Looking for such trouble, and eliminating it, is the goal of this system. Otherwise it will eventually find and attack us and those we represent or manage.

Hazards or Behavior?

"Looking for Trouble" is a system firmly based on finding and fixing hazards, not on attempting to "correct" worker behavior. For the last century the movement for workplace safety has been plagued by the idea that "90%...95%...97%...(pick your own number) of accidents are caused by unsafe acts," and only a tiny fraction are caused by unsafe conditions. The statement isn't just wrong, it's meaningless. All accidents are caused by unsafe conditions – by hazards. There are no exceptions. If there's no hazard – if there's nothing that can hurt you – you cannot get hurt.

All accidents are also caused by "unsafe acts," but not necessarily acts committed by victim or a co-worker. Often the unsafe act was committed years earlier, miles away, and much higher in the corporate structure. Perhaps it was the failure to properly design the job or the equipment, a refusal to substitute a safer chemical, neglect of proper maintenance and inspection, a decision to cut staffing levels and combine jobs, or a corporate culture that rewards shortcuts in favor of production. Even where the victim made a mistake, that mistake was probably made more likely – even inevitable – by outside factors like fatigue, conflicting job demands, poor training, and faulty instrumentation.

How people do their jobs is important. To say otherwise insults workers by ignoring their skill, dedication and professionalism. We start from the assumption that everyone wants safe work, and to work safely. The most important task of any effective safety and health system is to find, reduce or eliminate the hazards that make work unsafe. But it is also important to remove the barriers to working safely, and to design jobs where a simple mistake won't get you killed. Those factors are a critical part of "Looking for Trouble."

The Elements of Looking For Trouble

What follows is a brief summary of each of the elements of Looking For Trouble. A complete description of each is, or soon will be, posted on a USW website listed in the "Implementation" section at the end of this publication. That section also describes the Looking For Trouble training available from the USW's Tony Mazzocchi Center.

Commitment

Many recommended union-management programs begin with "management commitment and union involvement." We believe "commitment" is the right word for both parties. The employer has the exclusive legal responsibility for a safe workplace. Their commitment is a legal obligation. The union's obligation is moral, but it is no less important.

The dictionary defines "commitment" as a promise, pledge, or an attitude. But it is much more. To be real, commitment requires a set of concrete steps and obligations at all levels of the organization.

Structure

The essential workplace structure for safety and health is the union-management safety and health committee. Effective committees vary in size and composition, depending on the workplace. But they share a number of features. Their job is to find and fix hazards, investigate accidents, and resolve problems. The fundamental relationship between the union and the employer is called "collective bargaining," and the committee operates under the rules and procedures of collective bargaining. That doesn't mean it has to be an overly formal process, and certainly not an unfriendly one. But under U.S. and Canadian law, the union and the employer have defined rights and responsibilities that committees must respect.

For example, the law gives the union the exclusive right to pick the committee members who come from the bargaining unit. The law does not require that the union members of the committee sometimes meet on their own, but where they don't, the committee is much less effective.

Other structures also exist – the corporate safety and health department, and the International Union safety and health staff. Other elements of the union and the employer often come into play – the union grievance committee, the corporate human resources department, plant engineering, a chemical process safety expert, or an industrial hygienist.

The committee and other structures are established and supported by the union contract, or labor agreement. The contract is a defined, enforceable document setting forth the rights and obligations of the employer, the union and union members. Effective contract language is essential to safety and health.

Hazard Identification and Risk Assessment

First, some definitions. A hazard is something that can cause harm. The risk is based on how likely that harm is to occur, how severe it could be, and how many people could be affected. For example, working at height is a hazard. But if the working platform is strong and well-guarded, and you have good fall protection, the risk is low. Also, working 100 feet off the ground is riskier than working 10 feet off the ground.

The first step in the system is to identify the hazards. We use a variety of tools in hazard identification, including hazard mapping; body mapping; process mapping; workplace inspections; audits; the results of accident investigations; and records of injuries, illnesses and near misses. It's especially important to look for the hazards that aren't present all the time, like those that result from emergencies or upset conditions. Rare maintenance tasks can involve unusual hazards. That's why it's critical to involve the workers assigned to such tasks.

Some hazards are obvious; others are hidden. Some result from the way the work process is organized. There may be a great confined-space program on paper, but if workers don't have the time to follow it, it's worthless. And is there a way to avoid having to enter a confined space in the first place?

The next step is to figure out the risk. Risk assessment is sometimes wrongly used to decide which hazards can be ignored. But no hazards should be ignored. In our system, risk assessment serves two purposes. First, it's a way of determining priorities, of deciding which hazards should be addressed first. Second a proper risk assessment leads naturally to solutions. For example, if the hazard is working at height, and the job is risky because there's no fall protection, then the control is obviously to provide fall protection. An even better control is to find a way to do the job on the ground.

There are many kinds of hazards. Some cause sudden, acute traumatic injuries. But some do their damage over years or even decades. Occupational cancer, for example, often occurs after retirement, and may not even be recognized as occupational. For every workplace death from traumatic injury, there are an estimated eight from long-term occupational disease.

Most occupational disease is never reflected in injury and illness statistics. The only way to uncover a health hazard is to carefully evaluate the chemicals, dusts, and substances that workers are exposed to, or could be exposed to in an accident, as well as the potentially harmful "physical agents" like noise and radiation.

Health problems can also be caused by poor job design, leading to fatigue, constant stress and other issues that impair the quality of life and can even lead to cardiovascular disease and other long-term disability.

Some health hazards can be explored through medical surveillance. The particular medical tests depend on the hazard – ranging from simple hearing tests for noise exposure to advanced CT scans for substances that cause lung cancer. Good medical surveillance is intended to catch disease quick enough to make a difference.

Medical surveillance can be a useful source of information about risks in the workplace – so long as two conditions are met. First, the lack of medical cases should never be an excuse for ignoring a hazard. Second, individual privacy has to be respected.

Some workplaces, like oil refineries and chemical plants, have the potential for catastrophic fires, explosions and large releases of highly toxic materials. Preventing these "high consequence, low probability events" takes a special kind of hazard analysis and control called "process safety management."

Accident Investigation

We learn by mistakes. Past accidents, including process upsets and near misses, can be a rich source of information about workplace hazards. In fact, the USW's highly successful Triangle of Prevention Program (TOP) is based on intensive accident investigation.

One tool for investigating accidents is root-cause analysis. Most accidents have multiple causes – things that led directly to the accident – as well as contributing factors which did not directly cause the accident but made it more likely or more severe.

Root cause analysis constructs a "logic tree" which separates causes from contributing factors, weeds out non-causes, and follows the direct causes of the accident back to their source.

The goal of accident investigation is not to blame individuals, but to determine what deficiencies in equipment, work rules, and the overall system caused the accident. In fact, the quickest way to kill a proper accident investigation is to focus on individual blame. Even where an individual made a mistake, the question is why the mistake happened. Was it inadequate training, faulty instructions, conflicting job demands, fatigue?

Job and Task Analysis

Job and task analysis is a procedure for examining all the hazards a worker might face on a job, exploring the risk, and using that information to determine how to make the job as safe as possible. The analysis should be done by a union-management team. It's essential that the team include a supervisor responsible for the job and workers assigned to it.

Done right, job and task analysis often results in changes to the process, procedures or equipment. Job and task analysis also leads to a written explanation of the hazards and how to avoid them, along with a list of procedures and equipment for doing the job safely.

Doing a job analysis right takes time. Some of the hazards will not be obvious. And it's critical to look beyond the immediate hazards to ask whether the work is organized in a way that workers have the time, the training, the tools, the information, and the number of people to do it safely.

Job and task analyses should be done for all routine jobs and tasks, beginning with the most hazardous. But a large percentage of fatalities and serious accidents happen during upsets or unusual circumstances. It is important to have a task analysis or pre-planning procedure that can be used whenever a non-routine task is assigned.

Controlling Hazards, Reducing Risks

Identifying hazards – finding trouble – is one thing. Eliminating the hazard or, when that is not possible, reducing the risk, is another. The key is the "hierarchy of controls," which lists the general ways to control safety and health problem, from the most effective to the least. The best way to control the hazard is to eliminate it altogether, by changing the process or the equipment. An example is changing a process so that it no longer requires a toxic chemical.

Other controls on the hierarchy include isolating or guarding the process to contain the hazard, changing the work rules to limit exposure, training workers to identify and address the hazard, installing warning signs and alarms, and – least effective – using personal protective equipment like flame-resistant clothing and respirators.

Properly applied, each of these controls make the job safer, but rarely do they make it perfectly safe. Usually, several controls are needed. A new chemical may be much less toxic, but it may be flammable or have other hazards. Even water can be hazardous under the right conditions. A dangerous process may be completely isolated behind barriers, but eventually it will have to be maintained or repaired. These hazards have to be carefully evaluated and addressed. Once again, it's critical that workers who do the job in question are included on the team that picks the controls; they have the best perspective on what will and won't work.

Choosing the best controls doesn't ensure that they'll get installed. Equipment purchases and maintenance jobs that don't improve production have a way of going to the back of the line. There has to be a defined way of assigning a priority, getting the job scheduled, and then following up to make sure it gets done.

And once the controls are installed, it's critical to ensure that they remain in place, and are used. Too often, production pressures overwhelm safe work procedures. Controls should be periodically reevaluated to ensure that they are working as intended.

Working Safely

Programs built around worker "behavior" – programs that assume workers are the problem instead of the solution – are bound to fail. Nevertheless, how people do their jobs is important.

No one wants to get hurt. People want to work safely. All too often, the problem is that the system makes it difficult or impossible. Therefore, the first step is to remove the barriers to working safely. One such barrier is fatigue. It's ironic that some companies have drug-testing

programs based on the idea that no one should work impaired, while at the same time assigning workers to involuntary overtime that leaves them exhausted.

Other barriers include conflicting or excessive job demands that force people to take shortcuts, faulty instrumentation that gives a false or incomplete picture of the true situation, confusing controls, poor illumination, and inadequate training. The biggest barrier of all is pressure to just get the job done, and get it done fast.

Jobs should be designed to fit human beings, and not vice-versa. The process of doing so is called "human factors engineering." It recognizes that all of us will sometimes be tired, careless, upset, distracted. Jobs should be designed to make it easy to be safe. Processes should be designed so that when something goes wrong, the process shuts down safely. "Fail-safe" doesn't mean that the process can't fail. All processes fail. "Fail-safe" means that the process fails in a safe mode. All of us are human; all of us make mistakes. The workplace should be designed so that a simple mistake doesn't get you killed.

In fact, the leading cause of occupational injury in North America – poor ergonomics – is directly caused by the failure to adapt tasks and tools to human capabilities.

Many "incentive" programs pretend to make workers more "safety conscious" by promising a jacket, or dinner, or raffle ticket, or a small payment to workers or teams that go a certain period without injuries. Such programs don't cut injuries; they cut injury reporting. The best way to build safety consciousness is not by discipline or incentives or preaching. The best way is to actually work on safety. That's why a good safety system should involve every worker in identifying hazards and determining the proper controls.

The worst way to run a safety and health program is through punishment. You cannot discipline your way to safety. Discipline for honest mistakes, momentary lack of attention or bad luck is not only unfair, it makes people think twice before reporting accidents or safety problems. Injury victims work hurt, and the hazard goes unrecognized. Discipline should be reserved for cases of malice, recklessness, or defiance of legitimate, realistic and properly communicated safety rules.

Worker Rights

Workers need not only the ability to work safely, but also the right. The most important such right is the right to refuse unsafe work. OSHA, MSHA and Canadian agencies all include this right to some extent, but it must also be a basic part of the union-management safety and health system, guaranteed by the union contract and by the employer's policy.

Workers also need the right to report injuries, accidents, hazards and problems without fear of retaliation. Workers and the union need the right to full information about processes, hazards and risks. Again, most government safety and health agencies protect these rights, at least officially. But any safety and health program that does not make them a centerpiece of the system will be ineffective and hypocritical.

Workers have these rights as individuals, but they also have rights collectively, as the union. For example, in the United States, the union has the legal right to all the information it needs to represent its members, and to demand that the employer bargain with the union over workplace changes. Most union contracts include the right to submit grievances to fair and impartial third-party arbitration.

Training and Education

Job training is obviously important, and there needs to be a system for assessing the appropriate training for every job and task, and then ensuring that every worker assigned to that job or task knows how to do it safely. Too often, training begins and ends with a set of steps or procedures. The reasons for the steps are never explained, the hazards at each step are overlooked, and there's no training in what to do if something goes wrong. This kind of training is not only incomplete; it's dangerous. Workers who followed the listed procedures to the letter have been killed because the job or the equipment had changed.

True education goes beyond training. The aim of the education program should be to give workers a complete understanding of the job, the hazards, and what to do in emergency and upset conditions. It should teach workers how to look for, recognize and deal with hazards, especially including those that may be hidden or intermittent.

The safety and health system should include training for the entire workforce. No training can anticipate every possible problem. Everyone should be trained to look for trouble. Everyone should know what to do when they find it. Everyone should have a thorough understanding their rights.

Persons with special responsibilities for safety and health, such as the union-management safety and health committee, need more extensive training. Such training is available from the USW's Tony Mazzocchi Center, and at the USW's International Safety and Health Conferences.

Dealing with Workplace Change

Changes to processes, procedures, equipment, chemicals – to the job in general – need to be analyzed in advance for their impact on safety and health. Every good safety and health program will include a system for assessing the impact of proposed changes and addressing identified problems prior to the changes being made.

Emergency Response

Every workplace should have an emergency response plan. Even an office needs a plan for fires, natural disasters and workplace violence. Job and task analysis should always include a consideration of emergency response, in case the worker doing the job gets into trouble. Emergency response is also important for events that occur at work, but aren't directly caused by work. For example, heart attacks and strokes can occur at work. There should be a rapid

and efficient way of getting medical help to stricken workers, including automatic external defibrillators.

Ongoing Evaluation

Every safety and health system needs a way to evaluate its effectiveness, chart its successes, and – most important – learn from its failures. But what do we measure? Injury rates are a poor choice. First, minor injuries are a poor predictor of serious injuries, and an even worse predictor of fatalities. Second, injury rates are too easy to falsify, sometimes through outright cheating, but more often policies or programs that discourage workers from reporting injuries. Third, injury rates are "lagging indicators" – that is, they only come into play when the program fails. Better to choose indicators that can be responded to before someone gets injured. Such indicators could include audit performance, measures of problems identified and corrected, and the length of time it takes to get them corrected.

Evaluating the system, and improving it, should be routine duties of the union-management safety and health committee.

Implementing Looking For Trouble

Looking For Trouble is a comprehensive system, but it has to be adapted to each individual website. The staff of the USW Health, Safety and Environment Department and the Tony Mazzocchi Center is ready to help you do that. USW local unions can ask for our assistance through your staff representative or district director. And anyone is welcome to contact us directly at:

(412) 562-2581
safety@usw.org

A longer description of each element will shortly be available on the Looking for Trouble website:

https://www.usw.org/act/activism/health-safety-and-environment/resources/looking-for-trouble

Specific education for each element of Looking For Trouble, and for the system as a whole, is available now or is under development by the Tony Mazzocchi Center for Health, Safety and Environmental Education. In many cases that education can be delivered free of charge. The Center can be contacted at the phone number and email address above.