

# Striving for Zero Injuries

Donald H. Theune  
Vice President  
The Topf Organization  
King of Prussia, PA 19406  
610-783-1776

I have worked with over 150 client companies helping to identify and change both the human as well as the cultural factors that have kept those companies from achieving a new level of safety excellence.

A culture change process is quite distinct from a "behavioral safety process" or an "observation process". These are too often perceived as "spy or snitch" operations and are therefore bound to meet with resistance.

In the past, lost time injuries were accepted as a cost of doing business. Today, Fortune 500 companies go 4 to 5 years, and 5 to 10 million hours or more without a lost time injury because they have done an excellent job of guarding their equipment, providing personal protective equipment and training employees in safer operating procedures.

However, this approach has taken us about as far as we can go.

Now that lost time injuries have been significantly reduced, the current question is how can your company produce a similarly significant reduction in recordable injuries.

During this session, I will share with you some proven concepts and some of the latest theories that can help you strive for zero injuries as well as reduce environmental spills, releases and operating errors.

I will introduce two additional steps necessary to get to zero injuries. First we need to identify both the human as well as the unique cultural factors that exist in every company. Next, we need to construct relevant trainings – experiential and transformational – so that the material reaches the individual and allows them to utilize the training despite the inherent resistance to change.

This is a methodology that combines existing and proven techniques with a new field of learning specifically designed to address human and cultural factors.

A recent New Yorker article illustrates the importance of human and cultural factors. The author is Malcolm Gladwell. The article is "*Wrong Turn*" – *How the Fight to Make America's Highways Safe Went Off Course* and is available on the author's website: [gladwell.com](http://gladwell.com).

I share this story because I saw a strong parallel between the article and the challenge that many of you face while striving for zero injuries.

*It was a clear and dry Saturday in April 1994. The vehicle was a 1980 Jeep Wagoneer. The driver was the 44 year old editor of a book company. His passenger was his 10-year old son. They were going to spend the day working on train engines. They were driving on a two-lane country road that intersected a more heavily traveled road. Thick stands of trees obscured both lanes to the right and left.*

*As the editor approached the intersection, he didn't see the intersection warning sign. He didn't see the stop sign. He crashed into two other vehicles that were traveling at approximately 45-50 miles per hour.*

The editor suffered massive internal injuries and was pronounced dead two hours later. His son was bruised and shaken up.

Why did the father die?

Why did the son live?

The son had his seat belt on and the father didn't.

- Airbags reduce the risk of dying by 13%
- Seat belts reduce the risk of dying by 43%
- Seat belts and air bags reduce the risk of dying by 47%

The author goes on to explain how in 1958, an effort was started to make cars safer regardless of the changing behavior of the driver. As you will see, this lack of attention to human factors is important to the outcome of the project.

The improvements included:

- collapsible steering columns
- padded instrument panels
- strengthened doors and roof supports
- head restraints
- energy absorbing front ends
- front and side air bags

The improvements have saved countless lives. The engineers and legislators focused on features that would work regardless of the driver's changing behavior.

In 1968, only 12% of the drivers wore seat belts. Convincing drivers to wear seat belts was viewed as futile. The engineers and legislators didn't look to improve human factors because they saw drivers as:

- unreliable
- hard to educate
- prone to error

But something was missed while these technological changes were being implemented. Between the 70's and 90's the United States slipped from having the lowest auto fatality rate in the world to eleventh place. The emphasis was on making the vehicle safer with little attention being paid to the human and cultural factors affecting the driver.

The slipping auto safety record indicated flawed logic: these statistics only tell part of the story and did not consider human factors. The reliance on technology to improve safety such as equipment guards, personal protective equipment and safe operating procedures will take you just so far.

**Human & Cultural Factors:** If you look deep enough at your accident and injury reports, you will discover that most of your injuries are caused by human and cultural factors.

In the early 80's, the Topf Organization recognized human and cultural factors as critical components to every safety dialogue. We conducted research for a major and very safe chemical company. The company's question to us was "How come people are still being injured on-and-off-the-job after we've

spent all that time, money and effort?" Our research showed that injuries were caused by non-deliberate as well as deliberate behavior - both of which are grounded in human factors that are played out in the culture of the organization.

**Non-deliberate behavior** is caused by human factors such as inattention, loss of focus, daydreaming and stress. After reviewing hundreds of accidents and injury reports, our conclusion is that over 60% of injuries are caused by non-deliberate behavior.

Let's look at this example: A worker is walking down a well-lit stairwell. The stairs have non-slip treads and handrails. She is distracted by an upcoming merger. She loses track of where she is. She thinks that she is on the stair landing, but is really one stair up. She steps forward rather than down, loses her balance and sprains her wrist in the fall.

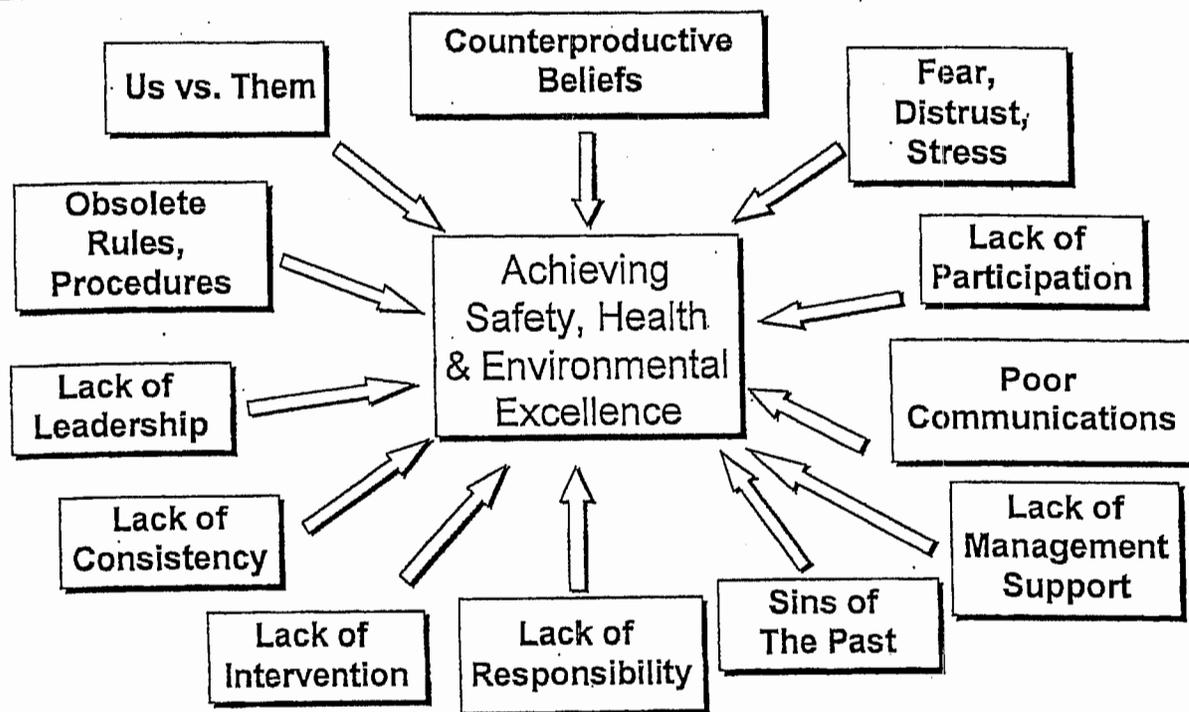
**Deliberate behavior** is the second human factor and is responsible for approximately 40% of injuries. There are a variety of deliberate behaviors such as risk-taking and short-cutting to save time, be comfortable, for the sake of convenience and/or "looking good".

Here's an example: A mechanic chooses not to wear a safety shield while grinding metal stock because getting the safety shield from his locker is inconvenient. A particle of metal flies off the grinding wheel into his unprotected eye.

Therefore, we need to go to the next stage and consider the cultural factors to get a complete understanding of what really occurred because this is not meant to be an example of "blaming the worker" for the injury. Cultural factors impact everyone and prevent the organization from achieving safety and environmental and operational excellence.

**Barriers to Cultural Change:** Closely interconnected barriers to safety excellence such as "us versus them" can form a tight web that literally traps a company, stops progress in the areas of injury prevention, production, quality, customer service and environmental conformance. The following chart illustrates how these barriers impact all aspects of the organization.

## Barriers



- Counterproductive Beliefs: “It won’t happen to me,” “I’ve done it this way 1,000 times before,” or “we don’t have time to do it safely,” encourages risk taking.
- Fear, distrust and stress: Fear of layoffs and increased production pressures lead to an increased tendency to rush and ignore safety procedures, as well as stress levels that produce inattention, fatigue and loss of focus.
- Lack of participation: Employees may be resistant to participate if their attitudes don’t reflect the value or benefit to themselves and others. Past attempts to make a difference with no results can inhibit people’s willingness to try again.
- Poor communications: Employees who do not inform co-workers when they are about to engage in a hazardous activity present a real threat. For example, a craft worker enters a tank alone and fails to notify a co-worker or supervisor, or a change in safety policy/procedure does not “make it down the line.” Upper managements’ message and commitment can break down with communication ineffectiveness.
- Lack of management support: Although management claims, “ people are our most important product”, management’s lack of presence on the production floor and lack of funding for safety projects sends the opposite message.
- Sins of the past: Line and management employees often feel discouraged about trying new approaches to safety, health, and environmental improvement because of past events. For example, management decisions that were unfavorable to employees in the past, such as wage and benefit cuts, or a lack of support for suggestions for improvement, can hamper involvement in the present.
- Lack of responsibility: Employees who believe that their safety is the responsibility of someone else will less likely be accountable for their own safety or take steps to learn safer habits.
- Lack of intervention: Many hourly employees, supervisors, and managers hesitate to intervene when they observe another’s unsafe behavior. This is usually due to a fear of the other person’s response.
- Lack of consistency: For example, one week, the supervisor is intent on production at any cost, but at a prior week’s safety meeting, she/he stated that safety was the company’s top priority. A lack of alignment in actions by all managers and supervisors can create the perception that safety, health, and the environment, are not taken seriously.
- Lack of leadership: When supervisors and managers fail to provide proper direction to achieve safety, health and environmental objectives, wear PPE or follow safe operating procedures, they lose credibility as a role model.
- Obsolete rules and procedures: If rules are unclear, outdated or inappropriate, employees tend to ignore them, finding ways around the requirements.
- Us versus Them: Unresolved past conflicts combined with current stresses are a powerful force that can encourage noncompliance.

William James, a noted philosopher and psychologist, said “The greatest discovery of my generation is that a human being can alter his or her life by altering his or her attitude.” Therefore, trying to change

any employee's behavior by focusing solely on behavior will produce limited results and success. Changing behavior by changing employee attitudes requires overcoming the basic human resistance to change. For most of us, we are more comfortable with the status quo.

In order for a culture change to be effective, it needs to impact all levels of the organization. Leave no one out because the group that you leave out will anchor your culture to the old way of doing things and impede the culture change to excellence in safety, health and environmental performance.

An effective attitudinal and behavioral; improvement process involves all levels of the organization in creating and aligning behind a common safety, health and environmental vision:

- The self management level
- The peer/team support level
- The leadership level, including managers, supervisors and line/union leaders
- The organizational level, including the culture, the norms, values, beliefs, attitudes, systems, and commitments of the company and its employees.

## **Steps to Success**

The following steps have proven to produce breakthrough results in preventing accidents, injuries, environmental incidents, and in reducing workers compensation costs:

### **Step 1- Assess**

- Survey the culture to determine prevailing attitudes, beliefs, and behaviors related to safety, health and the environment by way of confidential questionnaires, interviews and focus group meetings.

### **Step 2 – Train All Employees**

- Training that focus on what causes people to become distracted, to take risks, or to act unsafely, even when they know what they should do is essential. It also should address the underlying, “human mechanisms,” that cause people to place themselves at risk. Specific skills should include self-observation, self-management, and interpersonal skills. Leaders must be trained in leadership, communication, empowerment, behavior change, coaching and counseling skills.

### **Step 3 – Involve Employees**

- Leave no one out. Greater participation results in greater ownership, which leads to increased conformance. Using a structured problem solving process that identifies rules, policies, procedures, equipment and processes that need fixing focuses the organization on continual improvement. Then having labor and management work together to make timely repairs and corrections creates cooperation, alignment and support.

### **Step 4 – Reinforce**

- Ongoing training for all employees reinforces key concepts.

### **Step 5 – Offer Ongoing Support**

- Ongoing support is needed to sustain the process and keep it on track.

### **Step 6- Customized Observation and Review**

- Line employees, supervisors, and managers work together to develop meaningful processes for observation and feedback, support, and empowerment, as well as activity measures.

## **Sustaining the Change**

Resulting cultural changes also help carry the process forward, and create other lasting and positive changes. Chief among these are improved attitudes, increased trust, better communication, and increased participation, which boost quality, productivity, and morale. Employees perceive – rightly – that they are respected that their input carries weight, and that they have more control over their own destiny. They have more trust in management and fewer grievances.

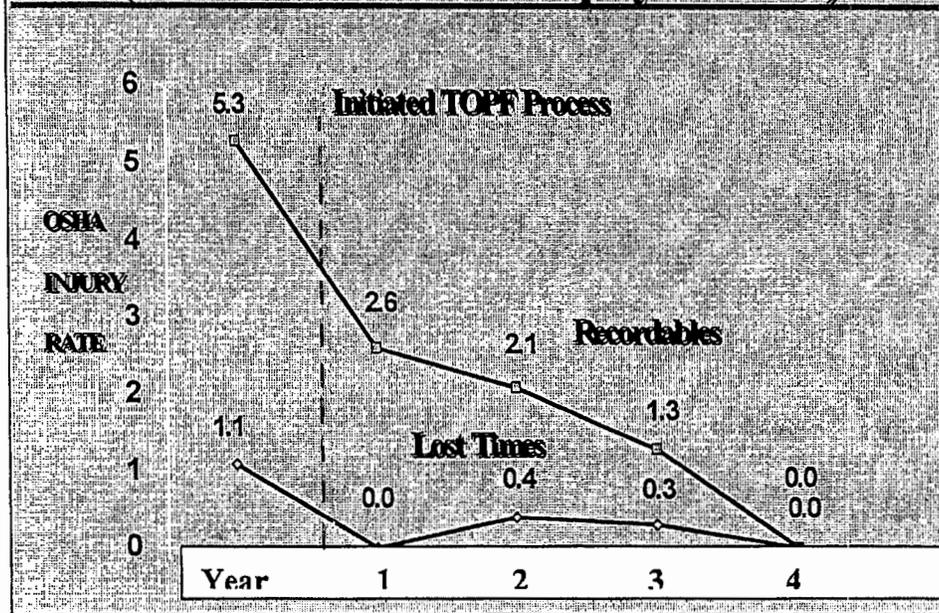
## **Results**

Results from an effective culture change process that impacts safety, environmental and operational improvement process are consistent in all parts of the country, across a variety of industries and employee groups. Short-term results (months 1-4) include changes in personal attitudes and beliefs which lead to greater use of protective gear, improved compliance with regulations, increased cooperation and willingness to give and receive corrective feedback, resolution of long-standing safety concerns, and greater responsiveness and support from supervisors and managers.

Mid-term results (months 5 -12) include significant reductions in injuries. Recordable and lost time injuries drop an average of 55% and 78% respectively. Cultural change is in progress – clients report better relationships among all personnel, and more support for members of the organization. Over the long-term (13 –60 months) statistics tell the story and solid cultural changes herald a permanent transformation in individual and group response.

- A pharmaceutical company of nearly 410 employees reduced its total number of incidents by 99% over a 5-year period.
- An applied R & D facility in the chemical industry with 374 employees reduced recordable incidents and lost time accidents over four years down to zero injuries.
- A petrochemical company with 440 employees dropped its number of unsafe incidents from a 0.8 OSHA rate to a 0.3 rate over three years.

## Fortune 500 Company (Downsized From 566 Employees to 374)



### Toward Integration

Forward-looking employers are unequivocal in their belief that safety, environmental and operational responsibility must become fully integrated with other business processes. The human factor and cultural factor approach holds that attitudes and behaviors that lead line employees, supervisors and managers to "do the right thing," when it comes to safety, environmental and operational performance are precisely those that lead them to succeed in other arenas at work and at home. The process promotes organizational as well as personal well-being.

### Bibliography

Gladwell, M. (2001, June 11). *Wrong Turn*. *The New Yorker*. NewYorker.com