

Ethics in Safety: How Much to Spend? -Prequel to the Safety Culture Series

Key Points

- "The "Right versus Right" safety spending decision of the past has changed to "Right versus Wrong."
- Prevent Injury through an employee "Zero At-Risk Behavior" Culture ... a "Zero-Injury Mind-Set".
- Establish employee safety as a company value.
- Investments in following proven concepts to create a Zero-Injury Mindset and a strong Safety Culture have been shown to result in higher profitability.
- The construction industry has the ethical responsibility to invest in the long term good ... to manage workforce safety for "Zero Injuries'.

Introduction

When considering ethics, management leaders are often confronted with a "Right versus Wrong" decision. Such a decision may occur when management discovers that a tool has worn to the point it is unsafe to operate. In this case it is "Right" to replace the tool versus it is clearly "Wrong" not to replace the tool. Such decisions are moral in nature and employers who are sensitive to the ethics of the situation choose "Right."

In safety, such decisions are not necessarily so easy. Trying to decide the "Right" number of resources and effort to put into safety efforts can be problematical. There is, after all, another "Right"; to conserve resources to assure the financial health of the company. The purpose of this Executive Insight is to help construction management make the ethically correct "Right" decision and avoid the "Wrong" in this complex balance.

The Right versus Right Decision in Spending for Safety

Evolution in ethics thinking has advanced the concept that in many cases employers face more difficult dilemmas that can only be resolved by a more tedious "Right versus Right" decision. In such cases, a choice must be made between two Rights, "it is Right to do this" versus "it is Right to do that."

Even today many "cost conscious" business leaders deliberate on how much money to allocate to the "cost of safety" to prevent injuries. It is easy to see that it is "Right to spend money" on safety to protect the employees and the facility and it is also clear that it is "Right" to conserve money to insure the long-term financial health of the company.

That is, should we spend more on safety training, safety inspections, improved tooling, slip-free flooring, safer scaffolding, salaries for safety professionals, etc. even though it may affect our ability to ensure payment of bank loans, employee salaries, etc. and negatively effect the profit at the end of the fiscal year? Spending more on safety versus paying bills and making a profit both have aspects which define them in the ethical category of "Right."

In the 1970s the economic pressures on business found employee injury incidence rates, thus injury cost, far too high in most business enterprises. It became more and more apparent that the Right versus Right decisions on how much to spend to reduce injury was favoring the "conservation of capital" over "the reduction of injury."

During this period the human tragedy of employee injury became increasingly unacceptable in the public eye. Eventually legislative activity found fruition at the federal level in the enactment of the Occupational Safety and Health Act (OSHA) in 1971. "OSHA was created because of public outcry against rising injury and death rates on the job."

OSHA Intervenes

With the presidential signing of the OSHA legislation in 1970 it became a legal obligation to invest in workplace safety. This legal development posed a classic "Right versus Wrong" decision; "Right" to obey the law, "Wrong" to ignore the law. Many called the OSH Act "a legislative leveling" of the playing field.

The Act forced all private employers of more than 10 employees to accept and comply with a set of minimum safety standards as a legal obligation. This "leveling" cost became the legislatively mandated minimum investment in safety for the affected companies. The legislators assured the public that by forcing corporate spending on safety through the OSH Act, that employee injuries would decrease. To monitor the progress, OSHA was chartered to keep records of injury frequency in all industries. If one views this data, it is easy to see that during the last 52 years something has continued to cause a dramatic reduction in construction injury frequency. For instance, the OSHA Total Recordable Incident Rate (TRIR) in construction in 1972 was 10.9 per 100 workers, and in 2023 the TRIR was 2.3.

Following the enactment of the OSH Act in 1971, it could be argued that safety investment to merely meet the legal requirements of the Act was "Right" and additional investment would be "Wrong".

History of Safety in the Construction Industry

Construction industry TRIR in the 18 years from 1972 to 1990 dropped 38% to 6.7. In the following 18 years from 1990 to 2008 the TRIR dropped 55% to 3.0. It has remained between 3.0 and 2.3 ever since. There is an accelerated drop beginning in about 1991 and an indicated lack of improvement beginning in 2008.

The obvious question is, "What caused these changes in the past?" Did OSHA become more effective at working in cooperation with industry to improve safety? Did increasing medical service costs and Workers' Compensation Insurance rates promote higher compliance to regulations? Was there a change in the way construction companies managed safety? The truth is all these made a contribution.

This Executive Insight discusses a change in many construction companies' perception of safety management systems based on applying a zero injury mind-set as developed by the Construction

Industry Institute (CII) in 1990. We also discuss what needs to be done going forward to address the plateau in safety performance that has occurred since 2008.

Going Beyond Compliance with OSHA

If one were to attempt to justify safety spending above the required minimum to meet the OSHA standard, the justification has to be based on more than a requirement to comply with the law. This going beyond the compliance spending requirement ventures into optional spending that often is met with management resistance based on conservation of capital for other purposes; clearly once again in the territory of "Right versus Right."

When in this monetary range of investing in safety the tough decision is "How much to invest?" Unfortunately, perceiving the benefit of monetary outlay beyond compliance with OSHA to further improve safety is difficult for many leaders. Questions arise like, "How can I be sure the additional money spent is going to increase the return on investment?" or on a more moral plane, "How can I be sure the additional money spent is, in fact, going to reduce injury to my employees?" The benefit of "Right versus Right" spending is too often found in the eye of the beholder. It is not easy to quantify how much to spend, and it is not clear to many.

Despite the apparent usefulness in reducing employee injury there is a psychological downside. Business leaders finding their companies fully in "compliance" with OSHA regulations are too often tempted to assume that this "compliance" in and of itself constitutes an effective safety program. Those in the safety professions usually know that OSHA compliance does not automatically yield an acceptable reduction in employee injury. Rather, it is on this OSHA Compliance foundation that the management of employee safety really just begins. OSHA rules, in the main, require the management of safe conditions. However, it only tangentially addresses the mind-set of employees and supervisors and the overall culture of safety of the workplace.

For many years now the psychological aspects of managing employee safety have been getting more and more attention. It is in the mind of the employee that one finds the real reasons for any improvement in injury rates.

Preventing Injury Through an Employee "Zero At-Risk Behavior" Culture, coupled with a "Zero-Injury Mind-Set"

In the late 1980s it became apparent in analyzing the available published construction safety data that on the projects of some owners, worker injury was a very rare event. Seeing this "injury is rare" phenomenon increasing, in 1990 the Construction Industry Institute (CII) created a Zero Accidents Research Task Force with a mission to determine why some employers could work relatively injury free while others could not. The task force report in 1993 identified five high impact management techniques that defined a zero-injury construction project.

Safety management is a people management challenge. Working with little to no injury is all about "winning the mind of the worker" by proving to them that management is indeed more concerned about their personal safety than about production. Thus, the first step in lowering injury rates is for management to adopt the concept of "Zero At-Risk Behavior". That is, each activity on a job must be undertaken in such a manner as to eliminate actions or conditions that pose a safety risk to workers.

Management must demonstrate that Zero At-Risk Behavior is expected, and employee injury is an unacceptable work outcome, voiced at the CEO level.

To accomplish this management must first develop a zero-injury mind-set. The term zero-injury is the end result of what literally everyone wants in the first place. No injuries. For many, zero-injury seems improbable, if not impossible. In looking at the long term, the CII study does not argue with this stance, but offers an alternative view. The meaning of the term zero-injury as used by CII is not aimed at the probability or the improbability of injury. Rather, the term "Zero-injury describes a company management mind-set that defines the desire that any work be accomplished with a no injury result. That is, "**The fact that injuries occur does not mean that injuries must occur.**"

If one just stops a moment and thinks about where zero injuries can be found, they can immediately see zero happening every day. For instance, in manufacturing the OSHA national average recordable injury incident rate for 2002 was 7.2 incidents per 100 workers per year. There are 250 workdays in a year. With 7.2 incidents, an average manufacturer with 100 employees works an average of 35 days between recordable injuries. These spans of 35 days are zero-injury days. Another way of looking at it is 243 days out of 250 workdays or 97% of the work days are recordable free. Looking at injury frequency in this manner immediately reveals the irrefutable logic behind the term "zero".

Therefore, zero-injury workdays do occur for every employer unless an injury occurs every work day of the work year. There is another powerful feature of the zero-injury concept. The use of this term by the CEO, and the rest of company management, clearly establishes employee safety as a company value rather than a priority. Company commitment to zero-injury clearly sets the safety quality standard to be sought on all work. With this expectation set, all employees, management and workers alike, can give support to the avoidance of all injury. It is then that there no longer an argument around the question of "How safe is safe enough?"

Some would argue that to tell employees that you want zero injuries would lead some to hide injury in order to please. Performance expectations are part of life itself. Throughout our lifetimes we are expected to meet performance standards set by our parents, our teachers, our spouses, our supervisors and our government. Do we fail at some of these expectations? Yes. Do we try at times to hide our failures? Yes. There are failures. However, the fact that we sometimes fail, does not remove the viable and even moral option of setting expectations. To argue that it is not OK to set a zero-injury safety performance expectation is arguing against life itself.

The concept of zero-injury can only work in an environment of an overall safety culture where reporting incidents is encouraged and hiding incidents is discouraged. For further insight in developing and maintaining a strong safety culture see the National Academy of Construction Executive Insight on Understanding Safety Culture.

Developing a "Zero-Injury" Safety Culture

CII performed research into how some companies in the construction industry could work extended periods of time with no employee injury while others struggled to match the OSHA national average for injury incident rates. This zero-injury research was performed on 122 companies and construction project sites. Some 50% of these sites were experiencing zero Lost Time Injuries at the time the research was done. Around 10% of the sites were experiencing zero OSHA recordable injuries. (CII 2002)

In 2003 CII created a 24-point Safety Cultural Evaluation list for a "Zero-Injury" culture to exist.

1. The president/senior company management reviews safety reports generated by the projects.

2. Top management has involvement in injury/incident/accident investigations.

- 3. Management and supervision are evaluated on safety performance.
- 4. The project safety representatives report directly to company senior management.
- 5. The company maintains a minimum of one safety representative to 50 workers. The safety representatives are charged with the orientation and safety training of all employees plus insuring compliance to all OSHA requirements.
- 6. The project has a site-specific safety plan.
- 7. Before each task, a task safety analysis/pre-task planning meeting is held with the foreman's crew.
- 8. Safety training is a line item in the project budget.
- 9. Every worker on the project attends a standard orientation training session.
- 10. The safety orientation training is formal.

11. Workers receive an average of at least four hours safety training each month.

12. Superintendents and project managers attend mandatory safety training sessions.

13. All levels of management and supervision receive training in behavior-based safety.

14. A structured worker-to-worker safety observation program is established.

15. The company/project supports and maintains an effective near-miss reporting and tracking process.

16. A formal documented system exists to report near misses.

- 17. Workers are encouraged to report near misses.
- 18. Safety recognition/rewards are given to the workers at least monthly.
- 19. Family members are included in safety recognition dinners.
- 20. Workers are evaluated on safety performance.
- 21. Subcontractors are required to submit project-specific safety plans.
- 22. Sanctions are imposed when subcontractors do not comply with safety requirements.
- 23. Safety perception surveys (worker input) are conducted on the projects.
- 24. Off-site company personnel perform frequent audits/assessments.

Does "Zero-Injury" Mind-Set Work?

Employers successful in using the zero-injury safety management approach simply apply the research proven zero-injury techniques to their work. In doing so, the member companies of the Construction Industry Institute (CII) logged over one billion work hours during 2002 with a recordable rate of 1.23 and a lost time case rate of 0.43. These rates compare to OSHA national averages for construction in 2002 of

7.10 and 3.80 respectively. In terms of human suffering these CII contractors and owners avoided over 11,850 lost time injuries and another 23,650 recordable injuries to their employees.

The current North American record number of hours worked in construction with zero recordable injuries is between 4 and 5 million hours by several of the larger companies. This is equivalent to 100 employees working over 12.5 years with zero recordable injuries.

Some examples of individual company records are:

- S&B Engineering and Construction, Houston, Texas. From 1996 to 2003 its personnel worked over 33 million man-hours with zero lost time injuries. Their typical recordable injury rate is under 0.33, which means a recordable occurs approximately every 600,000 work hours. When asked how they accomplish such sterling performance, the S&B Safety Director replied, "One could say we are a safety company that does construction."
- 2. Kiewit Corp., Omaha, Nebraska. For the years 2022 and 2023 its personnel worked 120+ million man-hours with a Total Recordable Injury Rate of 0.165. This relates to working over 1 million-man hours between recordable injuries.

These are just a couple of examples of what can be accomplished. If these companies can do it, all can do it.

Right versus Right

Applying these safety management techniques has an installation and ongoing sustaining cost. Thus, the need arises to solve the ethical question of the "Right" of reducing injuries to workers and the "Right" to conserve resources to assure the financial health of the company.

Deciding between two Rights is typically difficult. The degree of difficulty being defined by the known and often unknown details of the benefits of each Right. How does one make error-free value judgments between two Rights using an inadequate battery of knowledge? What can a safety professional do when economic pressures tilt safety spending decision in the direction of capital conservation?

In recognition of this "to spend or not to spend" dilemma, safety professionals began to search for ways to quantify the benefits of safety spending and to seek ways to reflect an optimization of safety spending. Out of this need, a few safety professionals developed an analytical process to determine how one can find the theoretical point where the sum of prevention costs and accident costs are minimized. The theoretical point suggests a discretionary budgeted amount for prevention and detection that will still yield failures, but at a level such that the sum total of Safety, Health and Environmental (SHE) costs and accident costs is optimal from a purely financial standpoint. In theory, such an analysis can be used to seek to influence a "safety spending reluctant" company management to spend more on employee safety.

Counter to the above logic, many concerned professionals hasten to point out that such a financial optimum analysis cannot correctly be termed the minimum or optimal cost of safety. To claim such a definition is a grave misnomer. It does not take into account the remaining human suffering cost of non-safety. As properly pointed out in the article, that management philosophy places value on protecting the employees as an asset.

It should be noted that if and when the cost of safety analysis is used as described, the company is inadvertently making the following statement to its employees. "It is OK if we injure some employees, because it would cost us more to avoid the suffering of those employees injured.

Employees concerned about their personal safety would rightly flee a firm applying such flawed and heartless "wrong" spending logic to employee safety.

Total Cost of Injury

Injuries have two cost components: the direct cost and the indirect cost. The direct cost is the cost of medical care plus a partial wage payment, both covered by Workers' Compensation insurance. These costs are readily available from a firm's "Workers' Compensation losses." "Losses" is an insurance industry term describing the injury costs of an employer.

Indirect costs are those costs that are not insurable and directly measurable. Reducing incidents with a zero-injury mind-set helps establish a strong safety culture. The National Academy of Construction Safety Culture Executive Insight on "Improving Construction Profitability" describes many indirect benefits to the avoidance of accidents. It lists these indirect benefits observed in companies with strong safety cultures": improved morale and employee engagement, reduced downtime, enhanced reputation and client satisfaction, greater efficiency and project performance, improvements in being able to attract and retain talent, and avoiding regulatory non-compliance fines and penalties.

A CII Task Force (CII 1991), after in depth cost evaluations of over 700 projects found that the ratio of indirect to direct costs was:

Type of Injury	Ratio of Indirect Costs/Direct Costs
Restricted Activity/Lost Workday	20.3
Medical Case	4.2

From the ratio of indirect to direct costs, it is clear that indirect costs are much higher than direct costs, and the prudent construction manager must make aggressive plans to reduce the occurrence of worker injuries.

The lower ratios applied when the injury was fairly simple and the employee was back at work fairly soon. More complex and serious injuries required more administrative time and case management effort so the costs went up in proportion. Then when the lawsuits were filed and the courts became involved the indirect costs soared to 20 times the direct costs.

"Right versus Right" becomes "Right versus Wrong"

There is convincing evidence providing proof of a return on investment over 100% being the norm when a company reaches success in eliminating substantial numbers of injury. Some have calculated the return on investment at over 500%. In addition, CII research and the experiences of practitioners using the CII "Zero Injury" strategies have proven that these techniques do in fact eliminate most injuries and the return on investment has been shown to be substantial. That is, the "Right" of investing in safety also enhances the "Right" of providing financial stability. Thus, it is wrong to not invest it what it takes to develop a zero-injury mind-set and a culture of safety. What was once considered to be a "Right versus

Right" decision on investment into safety to eliminate injury has been shown to clearly be a "Right versus Wrong" decision. That is, from a straight economic standpoint, it is right to invest in safety and wrong not to make this investment.

Beyond Economic Considerations

Although we have made the economic case for investing capital in establishing and maintaining a zeroinjury mind-set and a safety culture to minimize employee injury, there is an ethical case to be made as well. Injuries and deaths cause suffering and hardship to individuals and families which cannot be adequately covered by insurance. No one wants to be responsible for someone losing a leg, brain function, or life. Watching the effects on an employee's family can be life altering.

While from a pure financial point of view investing in a zero-injury mind-set and a strong safety culture may be a "Right" vs. "Wrong" decision the balance is shifted even further when considering the ethical responsibility of providing a safe workplace for employees and then general public. Thus, even if a firm's safety performance is far less than the national average it is clearly apparent that eliminating that last serious injury is worth the marginal expenditure required.

It is clearly ethically WRONG for an employer not to invest capital to implement research-proven zero injury safety management techniques that eliminate the pain and suffering of injury.

Concluding Remarks: The Remaining Problem

The US has a vast cadre of highly qualified safety professionals. The current challenge seems to be in effectively spreading the word among them about the research and other approaches to eliminate employee injury. While many employers in the construction industry are reaching unparalleled successes using the zero-injury mind-set techniques, many are not applying them.

The techniques could be applied in other industries as well. Too many are thinking; "my industry is different," thus it does not apply. Nothing could be further from the truth. The CII research reveals proven methods of managing personnel in any business enterprise to minimize injuries toward a zero-injury culture. Tailoring the techniques to fit the specific industry will be required, but that is what safety professionals are trained to do.

When successfully accomplished, all business leaders along with their safety professionals and other allied professions can experience the elation in seeing employee injury virtually disappear. How then can this good news be presented to business leaders and safety professionals in such a way that old barriers are broken down?

The CII research has proven there is great return on investment when management demonstrates their commitment to manage workforce safety for zero Injuries with the employee's buy-in and involvement. With the current factual, anecdotal and research-proven successes being reported, safety spending to eliminate injury is clearly the right thing to do!

It is one thing to read about these that are using the CII techniques to eliminate injury but another to actually take that leap of faith and try it. To do so requires an understanding beyond the pure financial benefits but also an understanding of ethical responsibility and the moral courage to invest in a long term good.

For Further Reading – Safety Culture Series (Executive Insights)

- Introduction to the Safety Culture Series (Understanding Safety Culture)
- Safety Culture Human Performance Principles
- <u>Safety Culture Worker Participation in the Safety Management System (SMS)</u>
- Safety Culture Demonstrating a Culture of Care and Support: The Leaders' Role
- Safety Culture Drug and Alcohol Testing
- Safety Culture Incident/Accident/Near-Miss Reporting and Investigations
- Safety Culture Safety Training
- Safety Culture Safe Work Practices
- Safety Culture Management Commitment: All Safety Incidents Are Preventable
- Safety Culture Subcontractor Involvement in the Safety Culture
- Safety Culture Recognition and Reward
- <u>Safety Culture Job Safety Analysis</u>
- <u>Safety Culture Leadership Involvement in Office and Site Visits</u>
- <u>Safety Culture Improving Construction Profitability</u>
- <u>Safety Culture Developing and Using Effective Leading Indicators</u>
- <u>Safety Culture Construction Site Safety Staffing Process</u>
- <u>Safety Culture Gaining Buy-In from Employees to Avoid At-Risk Behaviors</u>
- <u>Safety Culture Audits and Surveys Improve Your Safety System Management</u>

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