

An Effective Safety Program Delivers Value to the Owner

by Jim Emmons

Today's owners face a variety of risks when they undertake a construction project. Owners must be concerned with potential risks to their employees, tenants, or property, and also the risks the contractor bears. Safety is a critical issue on all construction projects for multiple reasons, including protecting the welfare of employees, providing a safe work environment, and controlling construction costs. The importance of safety as a cost-controlling measure, however, is often overlooked by owners and contractors. As a means of reducing the risks associated with construction, safety can significantly impact the overall cost. A dedicated commitment to safety by the owner and contractor helps ensure project success and can positively impact the bottom line.

Owners should understand that all of the contractor's risks, or even the threat of them, will either add considerable cost to the contract or decrease the potential profit a contractor is able to make on any specific contract. Because every contractor is in business to bring profit to the bottom line, overhead would naturally take into consideration the "costs of doing business." Expected losses have to be taken into consideration and included in the estimate if the contractor wants to stay in business.

How Can Safety Work for the Owner?

Contrary to common perception, there is little up-front cost to the owner for implementing and maintaining safety programs required because the contractor is already mandated by law to comply with local, state, and federal regulations. To take advantage of this safety benefit, all the owner has to do is demand that the contractor document and implement the proper safety programs that will protect employees working on the job site.

To avoid the high dollar losses caused by injuries, contractors are required to implement various safety procedures like fall protection, respiratory protection, confined space entry, and competent person and other programs that control the causes of injuries. If the contractor is successful in preventing these injuries, overhead costs of insurance and hidden costs of accidents are significantly reduced, bringing more profit dollars back to the contractor. Hidden costs of an accident are four to 10 times the actual

costs of the claim and account for items such as employee replacement costs, OSHA citations, loss of use, increased insurance costs, and damaged product. The claim only includes items such as doctors, ambulance, indemnity, as well as prescription and medication costs.

Therefore, if the contractor has a great workers' compensation safety record, the firm is more efficient in reducing risks, more profitable, has more on-time completion of contracts, less rework and is, in effect, actively working to reduce the construction risks to the owner of the project. Owners who want to recognize the advantage a good contractor's safety program can bring to a project should hire and demand contractors that actively and successfully control their risks through comprehensive safety programs.

How Owners Can Work with the Contractor

Owners sometimes hesitate and feel that they are interfering with the contractor's way of doing business if they express concerns over safety at a job site. In reality, owners have the absolute right to mandate that a good quality safety program is an important part of the selected contractor's culture. The contract documents are a very effective tool for the owner to convey safety requirements to the contractor. In addition, there are many benefits to prequalifying a contractor by comparing the firm's safety record and other company statistics with the competition. A contractor with a good safety program is often a better choice even if the initial bid package is higher than the firm's competitors. Poor safety compliance increases the owner's risks and often inflates the final costs of a completed contract, and it is the final costs that need to be factored into this decision-making process.

It is important for owners to take charge of the project and start viewing the contractor as a partner in the construction process. After all, the owner needs to have the project completed and the contractor needs the work. Neither one can be successful without the other. Although it takes a little more effort for the owner to become part of the process, his or her involvement will be rewarded with a smooth-running, low-stress, on-time, and on-budget project. Without participation in the process, the

owner is passively giving control to the contractor. This tends to create greater risks and the owner will often spend more time struggling to cope with the challenges rather than ensuring that his or her expectations are being met. Significant amounts of money are at stake during construction projects, and owners can either choose to control risks or let the contractors add money to their contracted price to cover the ultimate or expected losses.

How a Safety Program Controls the Owner's Risks

Cost savings of safety versus nonsafety

The process of preventing employee injuries and illnesses itself makes the contractor more efficient and effective with projects. The pressure to cut corners, skimp on materials, reduce quality, or rush to get the project completed is significantly reduced through compliance to a good job site safety program.

There are many components of a good safety program, depending on the type of project. To be effective, most programs should have the following components:

Pre-project planning (PrePP)—PrePP is the simple process of getting the leadership team together to discuss how the project will be carried out in accordance with the contract. Every phase of the project and corresponding tasks are examined including project overview and contracts, internal organization, schedule management, task planning, resource management, material/supplies, cost management, budget/production, cash flow management, risk management, safety, subcontractor management, and responsible individual list.

A contractor who plans work in this manner is more likely to perform the contract to the owner's expectations, particularly if the owner is actively engaged with the contractor as a joint venture partner in the project. This joint venture relationship also helps the contractor become very responsive to the needs of the owner.

Safety is planned into the job as an integral part of the operation rather than something that is used only when it is necessary. This reduces the "shoot from the hip" decision-making process and replaces it with thorough planning. For example, if a public risk is identified, a plan is developed for the protection of the people using the facility. The plan would include tools, materials, and labor costs as well as the design, engineering, and scope required to install the proper protection. Getting on-time deliveries of the materials, tools, and other equipment needed to build the protection is also improved because of effective planning.

The alternative to planning is just waiting to see what kind of innovative protection is erected, if any, and how effective the minimal protection is going to be. Further, the cost associated with the protection



Employee training can effectively convey management's safety expectations



Hands-on participation improves employee comprehension during training process



Safety is critical on repair projects, as access is often difficult and potentially dangerous

will probably exceed the estimate—assuming that an estimate for this cost was done in the first place.

Risks Owners and Contractors Face

Risk to an owner includes:

Cost overruns	Damage to property	Unidentified repairs
Contract extensions	Loss of use	Owner's client challenges
Business interruption	Client safety	Unresponsive contractor
Contractual liability	Public safety	
Third-party lawsuits	Unwanted publicity	

Risk to a contractor includes:

Employee injuries	Employee illnesses	Delayed material deliveries
Property damage	General liability claims	Improper storage of materials
Lawsuits	EPA litigation	Improperly trained workforce
OSHA citations	Contractual liability	Poor workmanship (rework)
Increased insurance costs		

Simply, PrePP reduces the owner's risks because the contractor, working with the owner's involvement, will consistently complete the project on schedule, on budget, and with the quality anticipated. The contractor is also rewarded because jobs that are preplanned are consistently completed with greater than expected profitability; fewer, less severe injuries; and greatly reduced hidden costs of incidents.

Pre-task planning (PreTP)—PreTP is simply engaging the employees who are going to do the work. Conducting the PrePP planning generates a tremendous amount of critical information. To make the investment work effectively, additional planning sessions with the workforce may need to be completed. This is where the site-specific safety program is developed and various types of training programs are selected based on the specific tools, materials, access, tasks, and equipment that will be used to build this project. Further, this planning sets the expectations for the whole job. The owner is typically invited to participate with this process and often contributes critical information directly to the people who will do the work.

Safety goals—Setting and monitoring safety goals for the project is really directed at how well safety is actively controlled on the project. This is usually completed in two ways: measuring results and measuring activities.

Results are usually measured by tracking the various OSHA Recordable Incident frequencies rates. There are three calculations that are typically used:

1. $\text{No. of OSHA Recordable Incident} \times 200,000 / \text{No. of man hours worked} = \text{No. of recordable injuries}/100 \text{ full-time employees/year}$
2. $\text{No. of lost work day cases} \times 200,000 / \text{No. of man hours worked} = \text{No. of lost work day cases}/100 \text{ full-time employees/year}$
3. $\text{No. of lost work days} \times 200,000 / \text{No. of man hours worked} = \text{No. of lost work days}/100 \text{ full-time employees/year}$

Unfortunately, these OSHA measurements are after the fact and are not as effective as they could be because they are reactive. A more effective measurement would be to monitor safety activities that have been put in place to prevent injuries. Participation in the morning job safety analysis (JSA), conducting manager safety audits (MSA), keeping up with the Assured Grounding Program or some other safety function will work for this type of measurement. Although effective, it will take more time and effort to tract them, which could add to the overall cost of maintaining the program.

Claims management programs—Claims management programs, which include detailed management directives, drug testing, and return to work procedures, are an excellent indication of the contractor's safety culture. Having a clear motto such as "Treat first and ask questions later" is an insight into how the contractor works with employees and their workers' compensation claims.

Claims management is clearly a reactive program that is a very positive way to control the cost of a claim while protecting people. A good claims management program will also include workers' compensation incident and near-miss incident investigations as a mandatory part of the process. These programs are both very proactive and will prevent future incidents by looking at the root causes of the incident. The near-miss incident review is probably the most proactive because this allows you to prevent accidents before they can happen.

Accountability, responsibility, and authority for safety—To develop a safety culture, the contractor must first hold employees responsible and accountable for safety. This means that all employees, not just a select group, have their annual compensation measured and indexed to the success of the company to meet its safety goals.

In addition, the annual review process should have a safety component that the contractor's employees can be measured against. Any merit,

wage, or salary increases should be heavily based on the employee's ability to meet these specific safety measurements, which could include the OSHA Recordable Frequency rates or some other proactive, measurable safety activity or criteria that can be applied to this process.

Probably the most important aspect of safety is that all employees should be given the authority to carry out safety. Anyone has a right to shut down an operation if there are known safety hazards that have not been addressed, and the company will back-up and address the safety issues these employees have identified.

Finally, having a good safety culture must be considered a condition of employment. A contractor with a good safety culture not only requires safety but demands that all employees "Live it, breath it." Just saying that they have a safety culture isn't good enough without all the employees actively working to make safety an integral part of the job process.

Formal safety program with a working field safety manual—A good safety program requires written procedures, specifications, and engineering that documents safety requirements and details how employees will work to a specific standard of safety. This program should also be behavior-based because it has been shown that approximately 96% of all hazards are related to the unsafe acts of people while only 4% are due to unsafe conditions.

Because of today's diversified workforce, safety manuals need to convey information in a manner that will promote understanding of complex ideas. Pictures and demonstrations of work tasks are often more effective than written documentation. Having the information translated in both English and a second language is also important if the contractor truly intends for the program to be understood by all employees in today's diversified workforce.

Unfortunately, there are many companies that produce safety manuals that are designed to only meet OSHA requirements and don't consider all the necessary elements of a safety program. Equally problematic, many contractors simply purchase these safety manuals and never intend to use them in the field.

There is nothing more important to an owner than selecting a contractor who has a user-friendly field safety manual, applicable for the project being done and available to the employees who are most affected by unsafe behaviors and conditions found in the work place. Project managers, engineers, and general superintendents are seldom affected in the same way as the laborers doing the work. A manual that can only be read by a small percentage of the people exposed to the hazards is ineffective and should be replaced by a guide that can be used by all employees.



All work must be performed under safe conditions, using the proper protective equipment



Equipment such as gloves, hard hats, proper footwear, and protective eyewear ensure worker safety



As most repair jobs have unique challenges, site-specific training is also necessary

Safety training program—Safety training is often a good measure of a contractor’s ability to establish and maintain a safety program. The willingness of management to spend the time and money it takes to do the training up front reflects the importance safety is given in the work that is going to occur.

Training is how management expectations for safety can be effectively conveyed to their employees.



It is critical for all employees to comprehend site-specific training



The owner and contractor can work together to create a better, safe working environment

Topics to include for site-specific safety programs:

Site-specific programs could include these topics and many others depending on the specific contract:

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|-------------------------|-------------------------------|
| Hazard communication | Permit entry confined space |
| Fall protection | Respiratory protection |
| Swing stage scaffolding | Competent person |
| Forklift certification | Hydrodemolition certification |

Employees will receive the positive messages through leadership participation in the training. Although training must include the OSHA required safety information, there are many other things that should also be included in the program to have positive effects. Pre-task planning goes into the actual work task risks and the corrective actions that will prevent the risks from manifesting on the job site.

To improve comprehension, it is better to give demonstrations that allow the employees to participate in the process. There are four general steps for training to be successful.

- 1) Prepare the employee for the work he/she is about to perform;
- 2) Present the job through demonstration and detailed explanations;
- 3) Involve the employee with actual hands-on experience; and
- 4) Follow up by letting the employee do the work while still being available for questions and feedback as to the safety and quality of the work.

Once focused on safety requirements, the crew becomes more productive, efficient, effective, safer, and aware of the risks associated with the job site. This in turn makes the contractor more profitable and able to meet the cost, production, and safety expectations of the owner.

By participating in, or at least ensuring that the contractor is actively training employees, the owner is helping to reduce his/her risks and create a more positive and safe workplace. Another method that owners can use to keep construction costs to a minimum is to select contractors with this training capability.

How to Find a Contractor with a Good Safety Culture

The best way for an owner to become involved in the process and locate contractors with good safety programs is to implement a prequalification or screening process. This is accomplished by looking at the contractor’s past safety history (experience modification rate). Review the following for the past three years: OSHA Recordable Rates, Lost Work Day Case Rate, and the Lost Work Day Rate. Also, be sure to review the contractor’s current safety history and obtain references from past clients. Further, there are many other ways that an owner can determine the contractor’s ability to control safety. For example, ask questions that deal with the specific nature of the work that is planned, the capacity of the contractor to do the work, and experience with the type of work being performed. Many companies will request the contractor’s organization chart to see that the necessary leadership structure is there to support an active safety culture.

A great reference for additional safety information and ways to control safety on your job site is a book titled *Construction Safety Management* by Raymond Elliot Levitt and Nancy Morse Samelson.

The Bottom Line

To reduce overall construction costs, decrease the time for completion, and improve the quality of the job, owners have learned that it is important to take an active role in the contractor's safety and training programs. Examining the contractor's current and past safety performance history allows an owner to see how successful the contractor has truly been with their safety and health programs.

A safe contractor wins because he/she understands that safety affects the successful completion of the contract and adds to bottom-line profits. Insured losses as well as the hidden costs of accidents are significantly reduced, which also continues to add to the bottom line. The added bonus is a reduction in the contractor's workers' compensation, auto, and general liability premium rates charged by the firm's insurance carrier. The owner wins because his/her involvement helps to

promote quality workmanship, prevent third-party lawsuits, and reduce general liability and property damage claims that would otherwise inflate the overall costs of the contract.

Perhaps the most beneficial aspects of owners and contractors working together with a joint venture safety program is that it provides for the safety, health, and well being of the owners' clients, employees, and other people who live and work in or around the project. What a great way to give back to the community.



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