

PERFORMANCE

Improving Contractor

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Contractors are often hired for their technical competency and skill to construct a project that has been conceptualized by the project owner and designed by the owner's architect(s) and engineer(s). However, since the construction project occurs on the owner's site, the owner is potentially exposed to additional liability (i.e., OSHA fines and tort liability) that must be considered. In general, there are two approaches to address such potential liabilities – a “hands-off” approach or a “hands-on” approach.

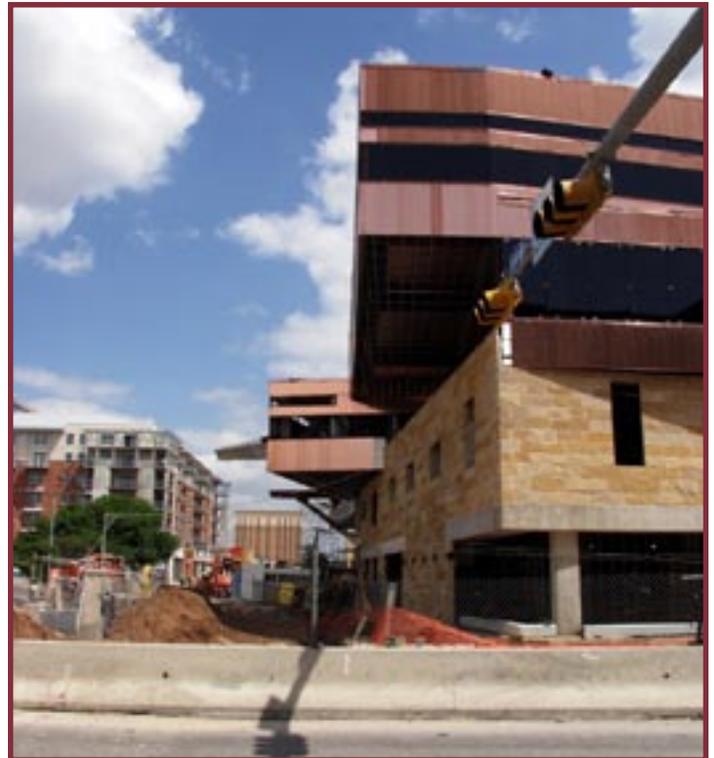
The question of liability is a complex issue. Some case law gives an incentive to owners to keep contractor's “at arm's length” while other case law appears to require owner involvement that gives rise to additional liability (Yohay and Sapper 28). As a result, it appears that preventing an injury may be the best way to prevent a lawsuit. Contractor safety, health, and environmental (SH&E) performance can be improved by integrating SH&E activities into the contracting process, which includes the following:

- Prequalification and contractor selection
- Designing and planning
- Work-in-progress assessment and verification
- Post construction performance evaluation

PREQUALIFICATION AND CONTRACTOR SELECTION

A formal prequalification process is an important initial step in establishing an effective contractor SH&E program. Although SH&E personnel are not typically in control of the contractor prequalification or selection process, there are opportunities to provide input on the SH&E performance of prospective contractors during the prequalification process.

The prequalification process typically involves



the prospective contractor providing the owner with a completed prequalification questionnaire (PQQ) and supporting documents and programs. The purpose of the PQQ is to identify those contracting organizations with effective safety management systems with proactive cultures. The completed PQQ should be evaluated by a review panel comprising of a variety of experts from various departments within the company. Areas of expertise represented on the review panel should include the following (Farrow 33):

- **Safety, health, and environmental issues**—looking at culture, safety management systems, regulatory compliance, and safety performance.
- **Technical issues** – reviewing organizational structure, discipline/trade skills, ability and experience in similar projects.

- **Quality issues** – evaluating the ability of the contracting organization to ensure the integrity and quality of the service.
- **Financial issues** – ensuring that resources are available to meet the demands, performance standards and costs.



OSHA and EPA citation history: A contractor that is subject to regular scrutiny by OSHA should be avoided since the presence of that contractor would increase the likelihood of OSHA inspections performed at the owner’s site. OSHA inspection records are public records and may be obtained by conducting a company search on the OSHA inspection database Internet site (www.osha.gov/cgi-bin/est/est1).

References from previous customers: The owner should talk with previous customers and determine whether or not previous customers were satisfied with the contractor’s SH&E performance.

Prequalification Criteria

The effectiveness of the contractor’s risk reduction practices should be the basis for contractor safety prequalification criteria. Commonly used contractor SH&E performance criteria include the following:

Experience Modification Rate (EMR): It is common practice for owners who have a formal contractor SH&E program to require contractors to have an EMR of 1 or less.

Injury frequency and severity rates: Specific target injury rates are typically company specific and are often revised (i.e. lowered) periodically by the owner based on the owner’s contractor safety goals.

SH&E program evaluations: SH&E program evaluations are time-consuming and more subjective than reviewing injury statistics but the evaluator should base his/her judgment on the presence or absence of specific management system elements.

Integration of SH&E on current projects: The most effective means of evaluating a contractor’s SH&E capabilities is to visit a job site to evaluate their performance (Hislop 123). Interviewing the prospective contractor should also be conducted to assess the prospective contractor’s corporate safety culture, SH&E knowledge, management skills, and philosophy.

SH&E Contract Requirements

Prudent contractors usually include the cost of supplying safety equipment and employee training in their bids (Nwaelele 28). Consequently, their bids may be higher, causing owners to look elsewhere. In other words, some effective SH&E programs go unrewarded. Owners can change this by making SH&E considerations an integral part of project management. Many owners have well written contractor SH&E programs and incorporating their standards as specific contract requirements should be considered. The more specific the SH&E requirements are stated in the contract, the greater the ability the owner has in ensuring the work is conducted in a safe manner (Hislop 94). SH&E requirements should also be objectively stated to avoid ambiguity and interpretation issues. The project team should work with legal and contract specialists to formulate project safety specification. Although SH&E contract specifications vary from company-to-company and often from project-to-project, the following topics should be considered when developing SH&E project requirements (MacCollum 49 – 50):

- Naming the person who will be responsible for overseeing contractors' performance and ensuring that the work is performed in a safe manner
- Requiring all contractors to prepare and submit an acceptable SH&E plan that defines supervisory and employee safety training prior to the start of their particular work
- Listing specific published SH&E standards and hazard prevention requirements
- Listing special SH&E requirements that are to

during the initial design phase often costs significantly more to retrofit or otherwise correct after the project is completed or even during the construction phase of the project.

The owner's project team should include a safety engineer who analyzes conceptual project designs and predicts hazards that may evolve (Nwaelele 28). By performing formal SH&E assessments and reviews during the designing and planning phase can identify and assess hazards early on so that the project team can eliminate them or provide engineering solutions to efficiently control hazards during the construction phase. Some specific examples of how SH&E issues

may be addressed during the design and planning phase include specifying temporary decking to be installed as soon as possible to prevent injury from falling, designing permanent stairways and walkways to be constructed first so that the use of temporary scaffolding is minimized, and removing or relocating utilities.



WORK-IN-PROGRESS ASSESSMENT AND VERIFICATION

A monitoring program typically includes SH&E performance reporting, inspections (by owners and contractors) and incident reporting. Owners often require periodic (i.e. at least monthly) reports to be submitted to the owner to track the contractor's SH&E performance. Consideration should be given to measure and track both results-based metrics (such as injuries and incidents) and activity-based metrics (e.g., inspections, audits, job safety analyses completed, toolbox safety meetings, number corrective actions from audits, behavior observation and feedback, etc.).

Once the contractor is on site, the owner should periodically monitor the work practices of the contractor. If improper SH&E practices are observed, the owner needs to take action to ensure the responsible contractor(s) correct the situation. The frequency of monitoring should depend on the level of risk associated with the work the contractor is performing. The contractor should conduct internal SH&E inspections according to their procedures.

be followed for unique hazards not adequately defined in the provisions contained in the published SH&E standards referenced above

- Listing qualifying requirements for eligible contractors to ensure that bidders are restricted to those contractors whose past SH&E performance indicates that they are competent and safe contractors and includes an assessment of the contractor's current SH&E capabilities.

DESIGNING AND PLANNING FOR SAFETY

Considering SH&E issues while designing the project and during preconstruction planning of the project could have a dramatic impact in reducing injuries that may occur during the construction phase of the project. SH&E considerations not addressed

The contractor's self-inspection reports may either be submitted to the owner or be available to review upon request. A formal system should be established to review the audit findings with the contractor(s) that reflect corrective actions needed, person(s) responsible for implementing the corrective action, and due dates to ensure the deficiencies are corrected in a timely manner.

POST CONSTRUCTION PERFORMANCE EVALUATION

After the completion of the project, a post-construction evaluation of the contractor's performance should be performed. The SH&E portion of this evaluation should incorporate data from the contractor's monthly reports, audit findings, and observations. This comprehensive report can be used to build a database of contractors for future projects (Nwaelele 29). Furthermore, contract close-out reports should be completed by both company and contractor management teams that details the positive and negative aspects of the contract and the recommendations for similar contracts in the

future. If the contractor does not meet the owner's expectations and requirements, a meeting may provide the contractor an opportunity to discuss the issues and develop a corrective action plan. In some cases (consistent with contracting provisions), the owner may determine that the contractor should be removed from the approved contractor list.

In summary, successful contracting management requires the involvement of various owner and contractor representatives. The key to improving SH&E performance is through the integration of SH&E into the contracting process, which includes establishing formal prequalification and contractor selection criteria and incorporating SH&E requirements into the contract. Since designing and planning with construction safety in mind provides the greatest opportunity to minimize incidents in the field, formal SH&E reviews should be performed during the designing and planning phases of the project. Finally, the contractor's performance should be evaluated both during and upon completion of the project to not only provide feedback to the contractor so they can work to improve their performance as needed but also to determine if the contractor should be considered for future projects.

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