

[SPECIAL SECTION: SAFETY]

Keep Safety In Mind from The Start

BY JEROME SPEAR

Contractors often are hired for the technical competency and skill required to construct a project conceptualized by the owner and designed by the architect/engineer. Because the construction project occurs on the owner's site, the owner potentially is exposed to additional liabilities, such as Occupational Safety and Health Administration (OSHA) fines and tort liability.

The question of liability is complex. Some case law gives owners an incentive to keep contractors at arm's length, while other case law requires owner involvement that gives rise to additional liability. As a result, preventing an injury may be the best way to prevent a lawsuit.

Contractor safety, health and environmental performance can be improved by integrating Environmental Health and Safety (EHS) activities and considerations into the contracting process, which includes prequalification and contractor selection, designing and planning, work-in-progress assessment and verification and post-construction performance evaluation.

PREQUALIFICATION AND CONTRACTOR SELECTION

A formal prequalification process is an important initial step in establishing an effective contractor EHS program. The prospective contractor typically provides the owner with a completed prequalification questionnaire (PQQ) and supporting documents and programs. The PQQ iden-

tifies those contracting organizations with effective safety management systems and proactive cultures. The completed PQQ should be evaluated by a review panel comprising a variety of experts from various departments in the company. Owners should consider the following areas of expertise:

- Safety, health and environmental—Look at culture, safety systems, regulatory compliance and safety performance.
- Technical issues—Review organizational structure, discipline/trade skills and experience with similar contracts.
- Quality—Evaluate the ability of the contracting organization to ensure the integrity and quality of the service.
- Finances—Ensure resources are available to meet the demands, performance standards and costs.

PREQUALIFICATION CRITERIA

The effectiveness of the contractor's risk reduction practices should be the basis for contractor safety prequalification criteria. Commonly used criteria include:



- Experience Modification Rate (EMR): The firm's EMR, calculated by the insurance industry, is a benchmark comparing a firm's loss experience to the loss experience of all other similar businesses during a three-year period. Owners with a formal contractor EHS program commonly require contractors to have an EMR of one or lower. The insurance carrier may use the EMR as a multiplier to the firm's workers' compensation premium.
- Injury frequency and severity rates: Specific target injury rates typically are company-specific and often are revised (i.e., lowered) periodically by the owner based on the owner's contractor safety goals.
- EHS program evaluations: EHS pro-

CONSIDERING EHS ISSUES WHILE DESIGNING AND PLANNING A PROJECT COULD HAVE A DRAMATIC IMPACT ON CONSTRUCTION-RELATED INJURIES.



Many owners have well-written contractor EHS programs, and incorporating these standards as specific contract requirements should be considered. The more specific the requirements stated in the contract, the greater ability the owner has to ensure work is conducted in a safe manner.

EHS requirements also should be objectively stated to avoid ambiguity and interpretation issues. The project team should work with legal and contract specialists to formulate project safety specifications.

Although EHS contract specifications vary from company to company, and often from project to project, the following topics should be considered when developing EHS requirements:

- name the person responsible for overseeing contractors' performances and ensuring the work is performed in a safe manner;
- require all contractors to prepare and submit an acceptable EHS plan that defines supervisory and employee safety training prior to the start of work;
- list specific published EHS standards and hazard prevention requirements;
- list special requirements for unique hazards not adequately defined in the published EHS standards; and
- list qualifying requirements to ensure bidders are restricted to contractors with competent EHS performance records that include assessments of the contractors' current EHS capabilities.

DESIGNING AND PLANNING FOR SAFETY

Considering EHS issues while designing and planning a project could have a dramatic impact on construction-related injuries. EHS considerations not addressed during the initial design phase often cost significantly more to retrofit or otherwise correct during the construction phase or after the project is completed.

The owner's project team should use an industrial hygienist or safety engineer to analyze conceptual project designs and predict potential hazards. This assessment allows the project team to eliminate hazards early on or provide engineering solutions to efficiently control them during the construction phase. Solutions could include specifying temporary decking to be installed as soon as possible to prevent falls, relocating utilities, or designing permanent stairways and walkways to minimize the use of temporary scaffolding.

gram evaluations are time consuming and more subjective than reviewing injury statistics, but the evaluators should base judgment on the presence or absence of specific EHS management system elements.

- Integration of EHS on current projects: The most effective means of evaluating a contractor's EHS capabilities is to visit a jobsite. The prospective contractor also should be interviewed to assess corporate safety culture, EHS knowledge, management skills and philosophy.
- OSHA and Environmental Protection Agency citation history: A contractor subject to regular scrutiny by OSHA should be avoided, as it could increase the likelihood of OSHA inspections performed at the owner's site. OSHA

inspection records are public and can be obtained by conducting a company search on the OSHA inspection database (www.osha.gov/cgi-bin/est/est1).

- References from previous customers: The owner should talk with previous customers and determine their satisfaction with the contractor's EHS performance.

EHS CONTRACT REQUIREMENTS

Prudent contractors usually include in their bids the cost of supplying safety equipment and employee training. Consequently, their bids may be higher, causing owners to seek other bids. In other words, some effective EHS programs go unrewarded. Owners can change this by making EHS considerations an integral part of project management.

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WORK-IN-PROGRESS ASSESSMENT AND VERIFICATION

A monitoring program typically includes EHS performance reporting, inspections by owners and contractors, and incident reporting. Owners often require contractors to submit periodic (at least monthly) reports to track EHS performance. Consideration should be given to measure and track both results-based metrics, such as injuries and incidents, and activity-based metrics, such as inspections, audits, job safety analyses, toolbox safety meetings, number of corrective actions from audits, and behavior observation and feedback.

Once the contractor is onsite, the owner periodically should monitor work practices and compliance with EHS requirements. If improper practices are observed, the owner must take action to ensure the responsible contractor corrects the situation. From a legal perspective, the owner is exercising reasonable diligence.

The frequency of monitoring should depend on the level of risk. Contractors should conduct internal EHS inspections according to their procedures. These self-inspection reports may be submitted to

the owner or made available on request. A formal system should be established to review the audit findings with the contractor to determine corrective actions, persons responsible for implementing the corrective action and due dates to ensure the deficiencies are corrected in a timely manner.

POST-CONSTRUCTION PERFORMANCE EVALUATION

Owners should conduct a post-construction evaluation of the contractor's performance that incorporates 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.

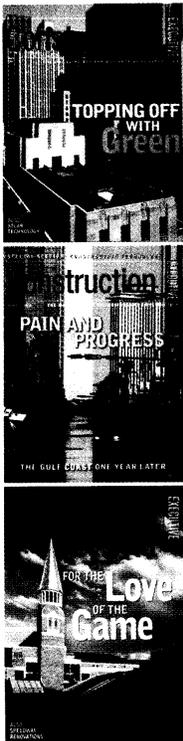
In addition, owner and contractor management teams should complete contract closeout reports that detail the positive and negative aspects of the contract and make recommendations for similar contracts in the future. If the contractor does not meet the owner's expectations and requirements, a meeting may provide the contractor an opportunity to discuss the issues and develop a corrective action plan. In some cases, the owner may determine

the contractor should be removed from the approved contractor list.

Successful contracting management requires the involvement of owner and contractor representatives. The key to improving EHS performance is establishing formal prequalification and contractor selection criteria and incorporating EHS requirements into the contract. Because designing and planning with construction safety in mind provides the greatest opportunity to minimize incidents in the field, formal EHS 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 for performance improvement, but also to determine if the contractor should be considered for future projects.

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