

# Research Outlook

## Contractor Safety Management in a Complex World

The issue of managing contractor EHS performance is an ongoing concern among organizations of all industries, typically because contractors may be performing non-routine work at sites that are not directly supervised by an EHS manager, or any manager at all. Much research has already been done to determine why safety can be negatively impacted through contractors and how much (or little) attention is paid to managing contractor safety. A forthcoming research report investigates how and why Campbell Institute Members manage contractors on site from prequalification to post-job evaluation, overall exploring cross-industry best practices for contractor management.

The prequalification process for contractors involves numerous steps and variables, with safety and health being just one factor out of many. Empirical and anecdotal evidence shows that occupational safety and health (OSH) is often poorly managed in contractor relationships. This fact, however, paradoxically offers an opportunity for contractors and supply chains to be used to enhance OSH in supplier and purchaser organizations.

OSH is often overlooked in contractor relationships and the prequalification process because other criteria tend to take precedence during vetting. In a literature review and exploratory survey of 58 program managers, directors and general managers, Watt et al. (2009) found that the top preferred criteria to evaluate contracts were: contractors' management and technical capability, past experience and performance, reputation, and proposed work methods. Environment, health and safety ranked only about tenth in a list of important criteria in the literature review, and

ranked even lower in the survey results. A survey of those in the construction industry (Wong et al., 2001) asked participants to rank the importance of "site organization, rules and policies (health and safety, etc.)" in awarding contracts. While this particular factor was never ranked below 13 out of 37 for any type of project, the most consistently highly ranked factor was "ability to complete on time."

While it is a rigorous and often drawn-out process, there are many benefits to the prequalification process that go beyond mere assurance of occupational safety. In terms of relationships and communication, prequalification was found as an opportunity to develop solid relationships between owners and contractors and encourage contractors to modify their behavior in light of a long-term view of the contracting relationship (Baroudi & Metcalfe, 2011). Additionally, because prequalification forces contractors to scrutinize their practices and systems, it appears that prequalification provides opportunities for continuous improvement (Ibid., 2011).

Despite formal language in company guidelines that focus intently on a contractor's "financial soundness, technical ability, management capability, and *health and safety performance*" (Walters & James, 2011:991, italics added) during the bidding process, researchers have found that the factors most in consideration during pre-qualification were contractor experience, quality record, and company reputation (Ibid., 2011). OSHAS 18001 standard recommends that safety and health requirements be applied to contractors and the ANSI Z10-2012 standard implies that contractors be vetted with respect to their previous safety performance before being

awarded a contract. Even with these recommendations, contractor outsourcing is far from standardized across companies.

Several researchers have looked into the major ways in which occupational health and safety is compromised by use of contractors. Researchers typically identify three sets of factors explaining why safety outcomes are compromised through outsourcing and subcontracting (Quinlan et al., 2013; Underhill & Quinlan, 2011). First, financial pressures and impending deadlines often lead to contractors cutting corners or engaging in unsafe behavior. Workers in temporary employment often work with minor injuries out of fear of losing employment, making them susceptible to greater injury.

Secondly, hazardous forms of disorganization, such as lax training and supervision and fractured information flows can compromise safety among contractors. Contracted employees and subcontracted workers may be undertrained and underqualified, and lack of communication and supervision means that they never acquire the needed skills or safety knowledge for the job. Cox and Cheyne (2000) found that contracted workers expressed concern that briefing documents were unclear and ambiguous and that opportunities for their involvement in safety initiatives were low. The hiring and oversight of subcontracted workers is of particular concern in communicating safety information and defining safety roles. Unclear work responsibilities among contractors, subcontractors and owners (e.g. Who should conduct hazard assessments? Who oversees subcontractor safety?) can lead to higher incident and injury rates (Clarke, 2003; Loosemore & Andonakis, 2007). To compound matters, the potential amount of cultural diversity and different languages can make it difficult to communicate safety and health

information (Loosemore & Andonakis, 2007; Schubert & Dijkstra, 2009).

Lastly, insufficient safety standards for contractors and relaxed enforcement of such standards explain why contractor safety performance is lower than owner organizations. These factors contribute not only to the compromised safety of subcontracted workers, who are more susceptible to risk exposure than permanent employees, but may have spillover effects on product quality and the safety of regular workers (Quinlan et al, 2013).

The quality of information and communication is one of the most cited reasons for fatal incidents among outsourced operations. In a case study analysis, Nenonen (2011) found that deficiencies in instructions, inadequate flow of information, and insufficient task planning and hazard identification were cited more frequently as root causes of fatal incidents for outsourced operations than for in-house operations. Fittingly, occupational instruction and better task planning were the most recommended corrective actions for managing contracted labor (Ibid., 2011).

Non-rigorous standards for contractor requalification can also be seen as a significant challenge to contractor safety management. While the majority (72%) of contractors in a study by Jennings and Holt (1998) were reassessed on an annual basis, 17% of small contractors (those with revenue of less than £5 million, or \$7.4 million) and 21% of large contractors (those with a revenue of more than £50 million, or \$74.3 million) were never reassessed after being placed on a standing list. This is a disturbing fact when one considers that a periodic review is the main touch point for determining if certifications and training are up-to-date and that the terms of the contract are being fulfilled (Colby, 2014).

Yemenu and McCartin (2010) identify other proactive measures for managing contractors. There should be a clear communication of corporate values to contracted workers through as many means possible (e.g. email, bulletin boards, in-person meetings) and owner companies should perform a thorough vetting of contractors through performance indicators (TRIR, DART) to make contractor procurement decisions. To account for a lack of standardization in obtaining contractors, Yemenu and McCartin (2010) recommend obtaining continual updates on lagging and leading indicators of contractors to inform on performance and identify areas for improvement. Their analysis shows that contractors that meet the owner's scorecard requirements had a three-year TRIR average that was 78% lower than those contractors who did not meet scorecard requirements, and that actively managed contractors have lower incident rates than industry peers (Ibid., 2010).

A final case for incorporating OSH in contractor management is that effective contractor relationship management is a key factor for failure-based learning. Gressgard and Hansen (2014) found that contractor relationship management, measured by follow-up of contractor feedback and certifying proper training of contracted workers, had significant positive effects on knowledge exchange between contractors and relevant units of an owner organization. The study's overall conclusion was that contractor relationship management leads to increased knowledge

exchange and the ability to learn from failures, which ultimately increases the level of safety at an owner's site.

With these challenges for contractor safety management in mind, the Campbell Institute has initiated a research project to discover what world-class companies do to bridge these gaps and maintain high-level EHS performance even among a contracted workforce. The outcome of this research project will be a collection of best practices in contractor management, from prequalification to post-work evaluation, from 13 Campbell Institute member organizations. While the majority of this research will focus on the lifecycle of short- and long-term project contractors, it is important to note that all types of contract workers – from delivery drivers and vendors to janitorial and grounds keeping services – can be accounted for under the practices presented in this paper. The best practices in this forthcoming report will collectively represent a model or general framework for managing contractors at all points of the lifecycle. The information from this research should be relevant not only to those organizations seeking to improve their contractor programs, but also to already high-performing companies seeking to benchmark their practices and continue their journey to zero.

Stay tuned in the coming months for updates on this research project and the final white paper report to be released at the 2015 NSC Congress & Expo in Atlanta, GA.

## WORKS CITED

- Baroudi, B.M., & Metcalfe, M. (2011). A human perspective of contractor prequalification. *Australasian Journal of Construction Economics and Building*, 11(2), 60-70.
- Campbell Institute (2013). The business case for EHS: Creating a sustainable business. National Safety Council: Itasca, IL.
- Clarke, S. (2003). The contemporary workforce, implications for organizational safety culture. *Personnel Review*, 32(1), 40-57.
- Colby, C. (2014). A four-step process for safety success with a temporary workforce. *EHS Today*, Sept. 2014, 32-34.
- Cox, S.J., & Cheyne, A.J.T. (2000). Assessing safety culture in offshore environments. *Safety Science*, 34, 111-129.
- Gressgard, L.J., & Hansen, K. (2014). Knowledge exchange and learning from failures in distributed environments: The role of contractor relationship management and work characteristics. *Reliability Engineering and System Safety*, 133, 167-175.
- Jennings, P., & Holt, G. (1998). Prequalification and multi-criteria selection: A measure of contractors' opinions. *Construction Management and Economics*, 16, 651-660.
- Loosemore, M. & Andonakis, N. (2007). Barriers to implementing OHS reforms: The experiences of small subcontractors in the Australian construction industry. *International Journal of Project Management*, 25, 579-588.
- Nenonen, S. (2011). Fatal workplace accidents in outsourced operations in the manufacturing industry. *Safety Science*, 49, 1394-1403.
- Quinlan, M., Hampson, I., & Gregson, S. (2013). Outsourcing and offshoring aircraft maintenance in the US: Implications for safety. *Safety Science*, 57, 283-292.
- Schubert, U., & Dijkstra, J.J. (2009). Working safely with foreign contractors and personnel. *Safety Science*, 47, 786-793.
- Underhill, E., & Quinlan, M. (2011). How precarious employment affects health and safety at work: The case of temporary agency workers. *Industrial Relations*, 66(3), 397-421.
- Walters, D., & James, P. (2011). What motivates employers to establish preventive management arrangements within supply chains? *Safety Science*, 49, 988-994.
- Watt, D.J., Kayis, B., & Willey, K. (2009). Identifying key factors in the evaluation of tenders for projects and services. *International Journal of Project Management*, 27, 250-260.
- Wong, C.H., Holt, G.D., & Harris, P. (2001). Multi-criteria selection or lowest price? Investigation of UK construction clients' tender evaluation preferences. *Engineering, Construction and Architectural Management*, 8(4), 257-271.
- Yemenu, D., & McCartin, K. (2010). Contractor management best practices: Using data for improved decision making. ISN Software Australia Pty Ltd., Australia Square, New South Wales.