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Managing the Safety of Large, Onshore Workforces - the Qatargas 2 Project Experience

Ching Thye Khoo, Yow Yeen Lee and Mark D. Pratt, Qatar Liquefied Gas Company Ltd. (II)

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Abstract

Description:

Managing the safety of very large construction workforces (over 25,000) made up of workers from very diverse backgrounds and experience levels can be a major undertaking on any project.

The Qatargas 2 Onshore Project experience involved building two mega LNG trains, each capable of producing 7.8 million tons of LNG per annum, and associated storage and export facilities in Ras Laffan Industrial City in the State of Qatar. At peak activity levels, the workforce exceeded 28,000 workers originating from more than 30 countries, with a majority having relatively low experience levels. Managing the safety of this workforce involved craft and safety training, proper personnel protective equipment, managed work schedules, multilingual communication programs, acclimatization and special programs to combat the harsh Middle East summers, and a comprehensive set of structured safety programs designed to be effective for a large number of workers. Underpinning all these was an uncompromising management commitment to safety characterized by the project goal “Nobody Gets Hurt.”

The first priority was to provide basic safety training and instill personal safety awareness and a strong safety culture in the workforce. This was especially important and challenging considering many of the workers came from non-industrial backgrounds. Also critical at a very early stage was proactively addressing the numerous worker health and welfare needs created by a diverse workforce of this size. With a relatively short project duration, it was imperative to reduce the chances of having worker injuries as quickly as possible. To achieve this goal, comprehensive, tailored training programs were required, as well as safety programs which were designed with two things in mind – 1) to allow individual supervisors and workers to more easily understand and relate to their job and related safety requirements, and, 2) to enable effective implementation of these programs, involving many workers across a large, high-activity site (at peak activity, there were more than 300 cranes on site).

The QG2 Project has expended more than 250 million work hours to date and achieved safety levels of 0.02 Lost Time Injuries/200,000 work-hours. Management leadership and commitment at all levels of the organization in strong partnership with the Contractor leadership was instrumental in overcoming numerous challenges and achieving this safety performance.

This paper will discuss the challenges faced and the key safety programs employed including Competency and Training, Heat Stress Prevention, Leading Indicators and Worker Welfare Programs.

Application:

Recommendations, lessons learned, and future opportunities for effective management of safety on future large-scale projects of a similar nature.

Results and Conclusions:

The key success factors for effective safety management of these types of large, onshore construction workforces include strong and visible management commitment and safety leadership between owner and contractors, continuous safety program