

The Significance of a Well-Defined Systematic Approach in Risk Management for Construction Projects within Oil Industry

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Abstract : Construction projects in the oil industry can be very complex, having unknown outcomes and uncertainties that cannot be easily predicted. Each project has its unique risks generated by a number of factors which, if not controlled, will impact the successful completion of the project mainly in terms of schedule, cost, quality, and safety. This paper highlights the historic risks associated with projects in the south and east region of Kuwait Oil Company (KOC) collated from the company's lessons learned database. Starting from Contract Award through to handover of the project to the Asset owner, the gaps in project execution in terms of managing risk will be brought to discussion and where a well-defined systematic approach in project risk management reflecting many claims, change of scope, exceeding budget, delays in engineering phase as well as in the procurement and fabrication of long lead items should be adopted. This study focuses on a proposed feasible approach in risk management for engineering, procurement and construction (EPC) level projects including the various stakeholders involved in executing the works from International to local contractors and vendors in KOC. The proposed approach covers the areas categorized into organizational, design, procurement, construction, pre-commissioning, commissioning and project management in which the risks are identified and require management and mitigation. With the effective deployment and implementation of the proposed risk management system and the consideration of it as a vital key in achieving the project's target, the outcomes will be more predictable in the future, and the risk triggers will be managed and controlled. The correct resources can be allocated on a timely basis for the company for avoiding any unpredictable outcomes during the execution of the project. It is recommended in this paper to apply this risk management approach as an integral part of project management and investigate further in the future, the effectiveness of this proposed system for newly awarded projects and compare the same with those projects of similar budget/complexity that have not applied this approach to risk management.

Keywords : construction, project completion, risk management, uncertainties

Conference Title : ICPMRA 2018 : International Conference on Project Management and Risk Analysis

Conference Location : New York, United States

Conference Dates : October 08-09, 2018