

Risk Management in Construction of Marine projects (According to the PMBOK)

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1) Introduction:

Dealing with risks is one of the most important elements of managing capital project (1). In today's world which the importance of parameters as time, cost and ... is ever increasing, attention to risk in marine projects which are considered to be the national projects of the country would be fundamental. Now that our country has rather achieved self sufficiency in construction of great marine projects, regarding the special conditions and rather short background, executing such projects in one hand and using EPC based contracts and instable economic-commercial conditions in the other attracted much attentions on the said field more than ever. The constant difference is on planning and the real execution of the projects in scope, time, cost and the quality derived from the effects of positive and negative risks involved in a project life time span which are unidentifiable sometimes.

History of risk management shows that its improvement has started with modern project management in the 1950 and this process has continued in next decades.

Several project management standards provide definition to project risk management. Risk management is a process that includes the phases of risk: identification, estimation, response development, and processes for controlling risk in these activities. The risk management process of identification, estimation, and response development is generally repeated during the project process. Recent development in the field have enabled better understanding of the overall risk management processes. This ranges from nine (Cano, Cruz 1998), to eight (Chapman, Ward 1997), to six (Kahkonen 1998) phases (2).

The one of these standards is PMBOK (Project Management Body of Knowledge) that the American project management institute has published it, and fortunately is using in our country expand. In this article, we show how to execute risk management according to this standard, and our experiences in huge marine projects.

2) Using Engineering- Procurement-Construction Contracts (EPC), and its role in risk management:

Before studying risk management processes in PMBOK, we study choosing of contracts, and how it influences in execution of marine projects. Nowadays, most of the main marine contracts in our country that are handed over to the contractors are in form of EPC. These contracts are developed because of some benefits like decreasing of cost, time, and reducing in construction during, and generally EPC is one of the most favorite project delivery systems between governmental & private clients (3). Nowadays, there are not a comprehensive culture for using this contract. Sometimes, clients pay attention to transfer total risk without its results.

As shown in Fig (1), the buyer and seller risk is associated with a variety of contract type. Generally, fixed price contracts create risk for the seller, while cost reimbursement contracts create risks for the buyer. Time & materials (T&M) contracts fall somewhere in between (4).

