APPLICATION OF A RISK-BASED ASSURANCE PROCESS TO A MEGA LNG LIQUEFACTION PROJECT

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Overview

LNG is produced by a very capital intensive industrial process. Manufacturers of LNG cannot acquire market share by differentiating it from the product offered by other producers, nor on price. Since LNG is an internationally-traded commodity its price is set by the marketplace based on actual and perceived supply & demand and broader macro-economic considerations.

The enabler in this value chain is the LNG Liquefaction Plant which must have effective project management techniques applied throughout the design, engineering and construction implementation phases that will be successful in supplying the LNG at a competitive price on the world market.

At OKLNG it was recognized that the project management methodologies that had been applied to other similar projects would need to be extended in the areas of Value Assurance because of the regional challenges and the need to align the perception of risk and uncertainty between the shareholders in order to be able to land an agreement on the commercialization criteria of the project. The Project Team considered it a necessity to create an integrated methodology, defined as the Risk Based Assurance Process, which was needed to be in place to be able to build a liquefaction facility to compete with other Atlantic Basin producers of LNG.

This paper examines some novel techniques around Value Assurance and how they are being deployed by OKLNG to compete at a superior level in the present challenging environment.

Methods

Using the context of a new mega LNG liquefaction project (OKLNG, Nigeria), and drawing on a combined 60 years of industry experience, authors conducted an objective review of current project management practices in the area of Value Management with a meticulous analysis of Value Assurance and Risk Management techniques.

The paper takes as a null hypothesis (H_o) that fully effective project management will lead to value maximization whereas our proposed alternative hypothesis (H_1) is that without the addition of an appropriate Risk Based Assurance Process maximum value will not be achieved.

Results

First, Value Assurance and Risk Management are recognized as essential contributors to the project manager's arsenal with respect to achieving and maintaining high project value.

Second, the application, according to normal industry practice, to use each individual technique separately throughout the project's life cycle is scrutinized and pointers given as to achieving optimum usage.

Third, by the integration of Value Assurance and Risk Management into a novel Risk Based Assurance Process, authors purport that the alternative hypothesis H_1 is to be favored and H_0 rejected in order to realise maximum value from a capital project.

Conclusions

Recognizing:

- Different perceptions and attitudes towards Risk and Value between shareholders as well as amongst the management team, hence the challenge of aligning and prioritizing project objectives for all stakeholders

- The diligence necessary to successfully and simultaneously implement a Risk and an Assurance process to be able to understand, communicate and manage the value proposition represented by the project opportunity
- That comparison to other projects will inevitably occur such that clarity of derivation and justification of actions will need to be documented

- we propose that a Risk Based Assurance Process is not only appropriate but that it is superior in terms of ultimately maximizing value.

With the above review and argumentation we suggest rejection of H_0 in favor of H_1, thereby hypothesizing that the addition of an appropriate Risk Based Assurance Process is necessary, in addition to effective project management, in order to achieve maximum value from a given project.