



**OTC 19577**

## **Financing New Technologies and Managing Financial Risks in the Offshore Industry**

H. M. P. M. C. Diogo and B. Martejijn, Fortis

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This paper was prepared for presentation at the 2008 Offshore Technology Conference held in Houston, Texas, U.S.A., 5–8 May 2008.

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### **Abstract**

In today's offshore oil and gas industry innovation is key in order to improve production of existing fields and enable production of new fields. New technologies for production in ever deeper waters and, or in combination with, difficult field conditions are being developed at a rapid pace and subsequently utilized in actual projects. This led to financing needs for these projects to increase substantially over the years, not only in number of projects but as well in the size of each project. Financing of projects with new technologies requires a slightly different approach to risk management than projects with long tried technologies.

We will look at the main topics financial institutions will focus and the risk based approach they take when financing projects in general and with new technologies in particular. We will focus on the marine-based operations, in particular the financing of field development projects. We will furthermore discuss issues that may come up during the lifetime of the project and that may potentially affect the continuity of operations and how effective risk management can avoid or mitigate those issues.

### **Introduction**

The decision to invest in ventures using new technologies can be seen in two main contexts: either as part of a broader corporate investment program, when a portfolio approach will be adopted, or as an investment decision for a stand-alone development.

When the financing requirement is in the context of a corporate company, funding will be centralized by the company's treasury department and provided by a mix of banks, debt investors and shareholders mostly on the basis of the mix of businesses, technologies and investments of that company. The funding is therefore not purely dependent on the success of the new technology. If the new technology fails, the corporate company as a whole absorbs the costs, in effect meaning that the remaining activities of the company subsidize the new venture.

Differently, when the financing will be sought only for a specific project where new technologies are to be used, then the analysis of all items related to that project becomes crucial as all investors into the project, either equity or debt investors, rely on the project on a stand-alone basis to recover their original investments and make their expected return over the life of the project.

Each of the elements to the project and the way they relate to each other will be analyzed to achieve a complete overview of the risk profile of the venture. On that basis a decision can be made on the best suited funding structure, contractual arrangements and other risk management tools that enable to optimize the risk-reward relation for all investors (equity, debt and others).

While we will be focusing on projects financed on a stand alone basis, a similar reasoning can be used for projects financed within a company with broader businesses. Using the same methodology should lead to a better evaluation of the risks and costs associated with the investment at hand even if purely for internal purposes.

Ultimately, the analysis and structuring process for all parties involved into the project can use the same methodology. The biggest difference will be what degree of risk each of the parties is willing to accept and what expected return they demand over the life time of the project.