Safe Offloading from Floating LNG Platforms

Von 2006-01-01 bis 2009-06-30

Ziel

There are substantial economic, safety and environmental advantages in liquefying the natural gas on an offshore production platform and offloading it to a shuttle gas carrier. Such a system is usually referred to as floating liquefied natural gas (FLNG). FLNG systems have been considered globally as a development option for a number of offshore gas fields, but due to perceived operational difficulties none has yet been developed. This project addresses some of the major operational difficulties of these systems. The environmental winds, waves and currents excite the vessel motions that limit FLNG operations. If the weather windows that allow production and offloading are sufficient, the system has the potential to work safely and efficiently, and the economic benefit of FLNG can be realised. The main objective of this project is to maximise the weather windows during which FLNG platforms can be offloaded. Accordingly, an optimised hull design and an active heading control strategy will be considered to reduce motion levels. This will maximise the safety and efficiency of the offloading operation and minimise the possibility of collision or breakage of cryogenic lines. The capability to predict the behaviour of vessels during offloading will be further developed, leading to an improved capability to make the best, rational, real-time, risk-based decisions on whether to proceed with approach and offloading. Improved understanding of the physical processes that govern the vessel motions during offloading and improved ability to analyse the offloading process for design will be developed. A prototype of a decision support system that monitors continuously the environment and combines this information with weather forecasts and simulations of vessel motions will be developed.

Verwandte Informationen

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