

Tandem Loading and Drilling Operations Under Changing Environmental Conditions

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Abstract

Rapidly changing environmental conditions is one of the major challenges for many types of DP operations. Examples of such situations are tandem loading (FPSO to shuttle tanker) under change of the tidal stream in the English Channel, drilling operations under Gulf of Mexico loop current situations and in general sudden wind speed and direction changes.

The presentation includes a review of the tandem loading operation under changing environmental conditions. The difference between offloading from FPSOs with and without active heading control is discussed. In the case of a heading controlled FPSO one of the tasks is to optimize the “combined” DP capability for both vessels. In the case of an FPSO with limited or no heading control, the shuttle tanker has to actively adapt its position and heading to the actual situation as dictated by the freely rotating FPSO.

An example showing a drilling vessel under a strong sea current situation is also included in order to highlight the similarities and differences between the drilling operation and the tandem loading operation. Advantages and limitations in the use of Online DP capability plots as an operator guidance tools is discussed as part of the presentation.

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