

Title: Operability Study for DP Vessel Operations at a Deepwater Spar – A Decision Support Tool

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Abstract

This paper describes the approach and methodology used to undertake an operability and uptime study for a gangway connected operation of a DP vessel to a floating production facility in order to provide support to the construction and commissioning teams. Traditional operability and uptime studies focus on metocean conditions, vessel motions and vessel's station keeping capabilities. The objective of the study was focused on

- Consider the requirements of the vessel to operate within the established Activity Specific Operating Guidelines (ASOG, project specific).
- Qualify and identify the DP control accuracy for various environmental conditions
- Provide practical guidance in execution planning to operational and project teams

The paper focuses on the approach and the iterative process between the participants to carry out their respective scopes which included

- Project variables and ASOG
- Dynamic Coupled motion analysis of the two bodies
- DP simulation work for relative positioning using production facility motion time traces

The approach adopted delivered results which were used to provide information to support the decision making process of:

- Project teams
- Operational teams during execution

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