

Analyzing Petrobras DP Incidents

Authors: Marcelo Santa Rosa Costa and Gilberto Beduhn Machado, *Petrobras*

Abstract

New depth-related demands on Dynamically Positioned vessels is pushing existing technology to its limit. The deeper the water, the greater the variety and complexity of the challenges. There is a general need to improve the safety and reliability of DP vessels. Considering these kind of vessels, Petrobras has different operating scenarios: “old” wells workovers in shallow water (500 m), development of deepwater fields in crowded areas with close proximity to other vessels – DP or Moored, FPSO, Production Facilities, Special Vessels, and ultra deepwater exploration (up to 2750 m).

When Petrobras started using DP-operated vessels, the state-of-the-art technology had been developed for shallow water operations and was not necessarily appropriate for deeper water. Before 1992, operations such as drilling, production, testing and well intervention was performed by vessels using mooring systems. In deeper water, however, purely DP-operated vessels had proved a better alternative.

Regarding the challenges inherent to using dynamically positioned vessels, special care must be taken since their characteristics of "intrinsically unsafe" and the risk of a positioning loss or a black out are always present. The consequences, especially for the environment, are potentially catastrophic.

The first DP unit to work for Petrobras started her operations in 1984. Since then, the number of DP rigs has increased in three different periods.

Within the second period, challenging operational scenarios, such as operations in crowded areas, made Petrobras develop a safety program called DPPS (Dynamic Positioning – Programa de Segurança), composed by several projects to avoid incidents, or minimize their consequence. Among them, a DP Incidents Database was created. DPPS works in a proactive way to anticipate problems either by using the newest technology or by pushing the industry to create particular solutions. This system and some of its objectives are discussed in this paper.

Click below to:

[**Review the complete paper**](#)

[**Review the presentation**](#)

[**Return to the Session Directory**](#)