

Sedco Express DGPS Operations – Five Years of Lessons Learned

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Abstract

While serving as a DPO on the Sedco Express, the author (Stephane Angue) learned that reliable, continuous and accurate position reference is central to the DP function. Also, an often overlooked but critical component of DGPS (Differential GPS) performance, particularly during a DP event or equipment failure, is operator judgment and experience. The DP operator must quickly and correctly deal with fault, loss of performance and simply failure of these position references systems. A good understanding the DGPS systems, their interfaces, and how data is processed by the DP System is essential to maintain safe and efficient DP operations. DGPS technology constantly evolves. As DGPS manufacturers provide new systems with extra features and improved reliability, these systems also become more complex, and thus more difficult to operate. Simplification of the user interface would benefit vendors and drilling contractors, as much as DPOs. The Sedco Express has used three different types of DGPS equipment in three different operating areas. The paper shares the experience with DGPS and DP system during drilling operations as the rig moved between Egypt, Brazil, and West Africa. This paper also discusses the limitations, the deficiencies, and failure modes of DGPS in drilling operations, and suggests possible improvements.

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