

Status and Inventions in Electrical Power and Thruster Systems for Drillship and Semi Submersible Rigs

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Abstract

During the years of 1995-2000, there were ordered a large number of drill ships and semi submersible drilling rigs for operations at deep water, up to 10,000 feet. For the first time, dynamic positioning by use of electrical, variable speed azimuthing thrusters was applied in a larger scale for deepwater drilling. AC drives became state-of-the art motor drive technology also for higher power levels, and AC drilling started to substitute the traditional DC drilling systems.

After several years of low level of new building of DP drilling vessels, there are signs that the new building activity will increase, due to reduced known petroleum reserves and an increasing demand of oil and gas products.

It is now the time to sum up experiences during these years of operation. Also, the solutions used in the late nineties starts to approach ten years of age, and even though there has been limited investment in new building drilling vessels the recent years, the technologies used in such applications have been developed further.

This presentation focuses on the developments within systems and products for electrical power generation and distribution, and variable speed drilling and thrusters drives – the so-called electrical package.

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