

Model Tests for the DPS of the OD21 Drillship

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Abstract

such as the position right above a drilling hole in drilling operations. As the OD21 (Ocean Drilling in the 21st Century) project aims a deepwater scientific ocean drilling up to 4000m water depth in case of a riser drilling and 7000m water depth in case of a riserless one, DPS is the only solution for the position keeping of the OD21 drillship. In general, high capability and reliability are required for the DPS in riser drilling operations. Detailed investigations have been, therefore, carried out for the capability and reliability of the DPS. In this connection, several model tests have been conducted at basins of the Akishima Laboratories (Mitsui Zosen) Inc. in Tokyo, Japan.

DP control logic of the actual (full scale) DPS is usually, in a sense, “a black box” for an owner, shipyard and laboratory, because the logic is involved in a confidential know-how by a DPS manufacturer. Mitsui Engineering & Shipbuilding Co., Ltd. is, however, not only a shipyard but also a DPS manufacturer who fully utilizes the own possessed Akishima Laboratories. The DP control logic is, therefore, no more “a black box” for the authors and the model tests have been able to be successfully performed with our intellect and experience. As a matter of fact, the DPS of the OD21 drillship has been developed based on such an intellect and experience with use of the model test results.

This paper describes mainly the model tests for the DPS and briefly the overview of the OD 21 project and features of the vessel.

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