Title: **On the Development of a Classified Guide for the Dynamic Positioning System**

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Abstract

The dynamic positioning system (DPS) marked its 50th anniversary in 2011. Although the fundamentals of the DPS remain the same, there have been very significant advances in DPS technologies and applications. Over the years, many guidelines have been published by membersof the industry, such as MTS and IMCA. And classification rules as well as regulatory requirements have been updated periodically. This paper presents the development work of ABS Guide for the DP system focusing on two new optional class notations: enhanced DP system (EHS) notation and station keeping performance (SKP) notation.

Driven largely by the industry, many innovations and advanced technologies have been developed to improve equipment reliability. The most noteworthy are equipment protection, quick blackout recovery and a more robust redundancy concept. The enhanced system notation reflects the application of these technologies in DP systems. It also recognizes the enhancement of the position references and fire and flood tolerance.

The station keeping performance notation reflects the application of established procedures for assessing station keeping performance. The Guide provides procedures that form a common ground for carrying out the analysis and reviewing and approving the results for station keeping performance. The procedures consider for environmental conditions, load calculation, available thrust calculation and acceptable criteria.

ABS recently has published a classification guide for Integrated Software Quality Management (ISQM) and a guide for System Verification (SV). ISQM facilitates validation of the integrated control system by clearly defining the requirements, verification testing, responsibilities and software risk mitigation. The system verification provides detailed requirements and methods for carrying out system testing. The application of ISQM and SV for DP systems also is presented in this paper.

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