

Title: **Template for FMEA Quality Improvement**

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Abstract

A well prepared and comprehensive Dynamic Positioning (DP) Failure Mode and Effect Analysis (FMEA) is fundamental to proving DP redundancy and ensuring safe operation. The DP FMEA is generally the only document on board a ship that provides a general overview of the critical installed equipment and their interaction. As such, it provides a valuable resource for understanding vessel operation and safe position keeping. However, the thoroughness, accuracy and readability of most FMEAs leads them to be largely ignored by operational staff.

The first DP FMEAs began to appear in the late 1980's although it was not until the 1990's that industry requirements began to make them mandatory. Since that time these documents have become increasingly sophisticated yet quality and formats vary considerably. Class Societies and industry bodies, such as IMCA and MTS, have responded to this by further detailing basic requirements but no defined standard exists that provides a reliable guide for vessel comparison for risk analysis purposes.

This paper will discuss these concerns and proposes to bridge the gaps by creating a tool in the form of a generalized template integrated with Jan 2012 DP requirements. This tool will help FMEA creators to cover important subjects and functions and compare findings with applicable standards. It will also allow users to evaluate an FMEA's completeness. This generic FMEA template will provide an example of how existing applicable standards may be harmonized to increase FMEA analysis quality in the general DP industry. Use and features of the template will be explained and the paper will include a copy of the template for MTS use or adoption.

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