Can Less Than DP2 Class Vessels Be Accepted For More Work Close To Platforms?

Author: Odd Fagerjord, *Det Norske Veritas Consulting*

Abstract

Vessel operations close to live offshore platforms are usually restricted. The restrictions will depend on the documented reliability of the maneuvering and station keeping capability of the vessel, and the risks involved for the particular operation. Typically IMO equipment class DP2 or higher may be requested. Many supply vessels have some built-in positioning redundancy, but the positioning is carried out manually for example by use of a joystick. This will not give the same positioning accuracy as with DP, but may give about the same position keeping reliability. A standard for documentation of technical redundancy has been issued in Norway. Vessels complying with this standard should technically not lose position due to any single failure comparable to what is required by DP2 vessels, but do not need a dynamic system for the positioning. For operations where position accuracy is not very important such vessels may easier be accepted by e.g. platform operator for upwind operations of platform or other special operations within the safety zone. Vessels with some built in propulsion redundancy as well as redundancy in the maneuvering systems may comply with the technical redundancy standard directly or may do by introducing only moderate modifications. The purpose of this paper is to demonstrate what is required to obtain a “letter of compliance” and how this shall be documented. The main focus is put on the documentation, which is principally a “Failure Mode and Effect Analysis” (FMEA). The structure and technical depth of the FMEA is discussed and illustrated by practical examples. The aim is to show how an efficient and sufficient FMEA can be structured. This includes requirements for thrusters, piping arrangement for machinery, electrical distribution and control systems. In order to obtain the letter of compliance a test program has to be approved and verified at a sea trial. An outline of a typical test program is presented. This paper should give owners of supply vessels e.g. of IMO DP1 class or less, a better basis to evaluate if it is feasible to upgrade a vessel and what will be required to obtain “letter of compliance”.

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