

Abstract 032 – DNVGL

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Presentation Title: Properties of evidences and evidence generation

Abstract:

There has been some debate about the capability of FMEA and FMEA proving trials in providing useful evidence about important aspects of a DP system relevant for safety. In 2006, HIL testing were introduced in the maritime industry by Marine Cybernetics (now part of DNV GL), filling a evidence gap not covered by traditional FMEA. Both approaches generate a body of evidence that aims to prove claims (safety/reliability) about the DP system. This paper steps back, and discusses properties and quality characteristic about evidences, and evidence generation. It is time to develop a framework for which the quality of the body of evidence can be assessed against. What are the capability of certain type of evidence? E.g. a FMEA is not capable of proving the consequences of interactions important for safety in a software intensive complex system. Are the body of evidence trustworthy? These are some questions to be asked in a time when increasing level of vessel autonomy is planned. How to prove the safe operation of an autonomous vessel? Stepping back, and ask questions about evidences and evidence generation, we become capable of developing a more optimal assurance methodology when new technology challenges the current verification practise.