



SCRAPING DAMAGE HAZARD DUE TO TRAWLING INTERFERENCE ON SUBSEA PIPELINES

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Bottom trawling is one of the most probable hazards to the integrity of offshore pipelines, potentially causing impact events and compromising the pipeline mechanical integrity. It can be considered as an increasingly worrying phenomenon due to the interaction of modern trawl gears especially with unprotected or protected by new soft material coatings field joints. DNVGL-RP-F111 guidelines allow to perform a trawling interference assessment, defining acceptance criteria basing on trawling interaction frequencies and estimated dent depth. Nevertheless, if only the approach suggested by the DNVGL-RP-F111 is adopted, in several cases the dangerous scraping scenarios could be disregarded: minor defects, difficult to predict and detect, could change the mechanical properties of the pipe and result in high localized stresses and potential loss of containments overtime.

For this reason, a risk assessment approach is suggested in order to quantitatively assess the risk associated to the evolution of all defects, scrapes included, to lead to loss of containment scenarios, basing on statistical predictions of defect dimensions growth rates and uncertainties present in the pipeline inspection results.

Keywords: Submarine pipeline, trawl gears, fishing activities, risk assessment, leakage frequencies, pipeline inspections, impact, pull-over, hooking, scraping.

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