

Minimizing Ship'S Breakdown Maintenance Due to Rope Entangled In Propeller With "Si Kuman" On Mooring Boat PSC I in Surabaya

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Abstract : PT. Pertamina Trans Kontinental managed a fleet of 364 ships in 2018 - 2020. In that period, there were 8 incidents of ship damage, causing breakdown maintenance on 6 ships belonging to PT Pertamina Trans Kontinental throughout Indonesia's operational areas due to ropes entangled in propellers. The company's losses that were caused by the fouled propellers amounted to 306.35 Million Rupiah. Of the 8 incidents, Mooring Boat PSC I was taken as a pilot project for further analysis considering the location of the ship which is in Surabaya and Mooring Boat PSC I has experienced 2 incidents of rope entanglement that caused the company's losses due to the largest Breakdown Maintenance amounted to 200.99 Million Rupiah. After analyzing the rope entanglement in the ship's propeller based on the data of Mooring Boat PSC I related to the location of propellers that are often fouled in the conventional propulsion system, it was found that there is a suitable location for the implementation of SI KUMAN tool that serves to cut ropes to prevent the occurrence of rope entangled in ship propellers. The determination of SI KUMAN tool is based on the strength of the ship's material to be installed and a suitable design to prevent the occurrence of ropes being entangled in propellers. After the installation of the "SI KUMAN" tool and monitoring carried out for 1 year period (August 2020 - August 2021), it was found that SI KUMAN tool can eliminate the risk of fouled propeller incidents which previously occurred twice in one year so that the company's loss amounted to 200.99 Million Rupiah can be eliminated and SI KUMAN tool can still operate optimally.

Keywords : breakdown maintenance, mooring boat, fleet, fouled propeller, rope entangled, cut

Conference Title : ICMTA 2022 : International Conference on Marine Technology and Applications

Conference Location : Rome, Italy

Conference Dates : January 14-15, 2022