

***PREVENTIVE MAINTENANCE ON SCREW RECLAIMER USING FAILURE
MODE AND EFFECT ANALYSIS (FMEA) METHOD WP 8 PT. INDAH KIAT
PULP AND PAPER PERAWANG MILLS***

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ABSTRACT

This study aims to develop preventive maintenance recommendations to improve the reliability of the Travel Screw Reclaimer unit in Wood Preparation 8 of PT Indah Kiat Pulp and Paper Perawang Mills using the Failure Mode and Effect Analysis (FMEA) method approach. The study was conducted by identifying failure modes in critical components, then an assessment was conducted through a questionnaire based on the parameters of Severity (S), Occurrence (O), and Detection (D) to determine the Risk Priority Number (RPN) value. The results of the analysis showed that the Drive End (DE) and Non Drive End (NDE) Main Bearings were the components with the highest risk level with an RPN value of 324, followed by the Boogie Bearing with an RPN value of 320. Fishbone diagram analysis showed that the main causes of failure included contamination in the lubrication system, high operating loads, and suboptimal inspection implementation. Based on these results, preventive maintenance recommendations were prepared to reduce the occurrence value in the form of periodic lubrication, providing nipple caps and installing bearing covers on components, to increase the detection value, component condition inspections were carried out through temperature and vibration measurements, as well as periodic inspections on critical components. The implementation of these recommendations is expected to reduce the risk of failure, avoid unplanned breakdowns and increase the Mean Time Between Failures (MTBF) value, as well as improve the reliability of the Travel Screw Reclaimer unit.

Keywords : Travel Screw Reclaimer, FMEA, RPN, Preventive Maintenance, Unplanned Breakdown