

ABSTRAK

Terminal Peti Kemas Semarang (TPKS) Terminal Peti Kemas Semarang (TPKS) is one of several terminals that serve loading and unloading services, to support loading and unloading activities, TPKS has lifting equipment in the form of an Automated Rubber Tyred Gantry (ARTG) which operates 24 hours. PT. Harbarindo Baharitama is entrusted with carrying out maintenance on the ARTG in the TPKS area, to ensure the performance of the ARTG works as it should. PT. Harbarindo Baharitama has implemented a preventive maintenance policy (preventive maintenance) but does not rule out the possibility of machine failure and can incur significant costs if carrying out preventive maintenance too often, to minimize maintenance costs and maintain ARTG maintenance, requiring a better maintenance schedule. Research using the Reliability and Risk Centered Maintenance (RRCM) method, obtained maintenance policies and total maintenance costs. Based on the data collection and data processing, a proposed maintenance task was obtained, namely a Scheduled On-Condition Task with intervals every 2 weeks for periodic checking, with a total proposed maintenance cost of Rp. 13,305,455 where the cost is IDR 13,306,481 less than the existing maintenance costs.

Keywords — *Preventive Maintenance, Reliability and Risk Centered Maintenance, Proposed Maintenance Task, Automated Rubber Tyred Gantry*