

ABSTRAK

Crane goliath merupakan sebuah peralatan utama yang berperan penting dalam proses produksi kapal, khususnya pada kegiatan pengangkatan dan pemindahan blok kapal. Tingginya frekuensi kerusakan yang terjadi pada *crane goliath* dapat menyebabkan peningkatan *downtime* sehingga berdampak pada penurunan efektivitas proses produksi. Penelitian ini bertujuan untuk mengetahui tingkat efektivitas *crane goliath* menggunakan *Overall Equipment Effectiveness (OEE)*, mengidentifikasi faktor penyebab rendahnya efektivitas menggunakan analisis *six big losses*, dan menyusun usulan penjadwalan *preventive maintenance* berdasarkan pendekatan *preventive maintenance policy*. Penelitian ini dilakukan dengan menggunakan data operasional *crane goliath* pada periode April 2025 sampai Desember 2025. Hasil penelitian menunjukkan bahwa nilai rata-rata *availability* sebesar 61%, *performance rate* sebesar 81%, *quality rate* sebesar 100%, dan nilai OEE sebesar 50% yang masih dikategorikan berada dibawah standar ideal JIPM. Tahap pengolahan data menggunakan metode klasifikasi ABC, *breakdown* mesin, perhitungan *repair*, dan perhitungan *preventive maintenance*. Hasil penelitian diperoleh kelas A yang merupakan kelompok kelas paling mahal diperoleh biaya sebesar Rp 2.389.798 dengan waktu perawatan selama 9 bulan, kelas B merupakan kelompok kelas mahal setelah kelas memiliki biaya sebesar Rp 3.072.597 dengan waktu perawatan selama 7 bulan, dan kelas C kelompok kelas dengan biaya terendah memiliki biaya sebanyak Rp 3.224.202 dengan waktu perawatan selama 8 bulan. Penelitian ini mendukung pencapaian *Sustainable Development Goals (SDGs)*, khususnya SDGs 9 (*Industry, innovation, and infrastructure*) melalui peningkatan keandalan infrastruktur industri.

Kata kunci: *Preventive maintenance*, *Crane goliath*, *Overall Equipment Effectiveness (OEE)*, Klasifikasi ABC.

ABSTRACT

Goliath crane is a major equipment that plays an important role in the ship production process, especially in the lifting and moving of ship blocks. The high frequency of damage that occurs in goliath cranes can cause increased downtime, thus impacting the decline in the effectiveness of the production process. This study aims to determine the level of effectiveness of goliath cranes using Overall Equipment Effectiveness (OEE), identify the factors causing low effectiveness using the six big losses analysis, and develop preventive maintenance scheduling proposals based on the preventive maintenance policy approach. This study was conducted using goliath crane operational data for the period April 2025 to December 2025. The results showed that the average availability value was 61%, the performance rate was 81%, the quality rate was 100%, and the OEE value was 50% which was still categorized below the ideal JIPM standard. The data processing stage used the ABC classification method, machine breakdown, repair calculations, and preventive maintenance calculations. The results of the study showed that class A, the most expensive group, costs Rp 2,389,798 with a maintenance period of 9 months. Class B, the next most expensive group, costs Rp 3,072,597 with a maintenance period of 7 months. Class C, the lowest-cost group, costs Rp 3,224,202 with a maintenance period of 8 months. This research supports the achievement of the Sustainable Development Goals (SDGs), especially SDG 9 (Industry, Innovation, and Infrastructure) by increasing the reliability of industrial infrastructure.

Keywords: Preventive maintenance, Goliath crane, Overall Equipment Effectiveness (OEE), ABC classification.