INTEGRASI *RELIABILITY CENTERED MAINTENANCE, RELIABILITY CENTERED SPARES*, DAN *SPARE PARTS INVENTORY CONTROL* PADA *CONVEYOR* 7BA-CNVR-200 (STUDI KASUS : PT POMI)

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ABSTRAK

Penelitian ini bertujuan untuk mengoptimalkan pengelolaan *inventory spare part* dengan mempertimbangkan tingkat kerusakan komponen. Untuk memenuhi tujuan tersebut, digunakan metode *Reliability Centered Maintenance* (RCM), *Reliability Centered Spares* (RCS), *MUSIC-3D Analysis,* dan *Economic Order Quantity* (EOQ). Berdasarkan hasil penelitian, ditemukan interval perawatan untuk masing-masing komponen yang dihitung menggunakan metode RCM, dan jumlah *spares* yang dibutuhkan untuk satu periode perbaikan yang dihitung menggunakan metode RCS. Selain itu, analisis *MUSIC-3D* juga dapat membantu perusahaan menentukan kebijakan pengelolaan *spare part* berdasarkan kategori ABC, SDE, dan FSN. Penelitian juga melakukan perhitungan EOQ untuk menentukan *reorder point*, *safety stock, optimal order quantity*, dan *total cost* untuk masing-masing komponen. Hasil perhitungan EOQ dibandingkan dengan *total cost* sebelum dilakukan perhitungan dan ditemukan bahwa dengan menggunakan integrasi RCM, RCS, dan EOQ, perusahaan dapat meminimalisir biaya sebesar Rp. 2.390.119,- untuk 5 komponen yang dianalisa. Oleh karena itu, dapat disimpulkan bahwa penggunaan metode RCM, RCS, dan EOQ dapat membantu perusahaan dalam mengoptimalkan pengelolaan *inventory spare part*.

Kata Kunci : RCM, RCS, EOQ, *Spare Part Inventory Control*

INTEGRATION OF RELIABILITY CENTERED MAINTENANCE, RELIABILITY CENTERED SPARES, AND SPARE PARTS INVENTORY CONTROL ON CONVEYOR 7BA-CNVR-200 (CASE STUDY: PT POMI)

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ABSTRACT

This research aims to optimize the management of spare parts inventory by considering the level of component damage. To achieve this goal, Reliability Centered Maintenance (RCM), Reliability Centered Spares (RCS), MUSIC-3D Analysis, and Economic Order Quantity (EOQ) methods are used. Based on the research results, maintenance intervals were found for each component calculated using the RCM method, and the required amount of spares for one repair period was calculated using the RCS method. In addition, MUSIC-3D analysis can also help companies determine spare part management policies based on ABC, SDE, and FSN categories. The research also calculated the EOQ to determine the reorder point, safety stock, optimal order quantity, and total cost for each component. The EOQ calculation results were compared with the total cost before the calculation, and it was found that by using the integration of RCM, RCS, and EOQ, the company can minimize costs of Rp. 2,390,119,- for the 5 analyzed components. Therefore, it can be concluded that the use of RCM, RCS, and EOQ methods can help companies optimize spare part inventory management.

Keywords : RCM, RCS, EOQ, Spare Part Inventory Control