

ANALISIS STRATEGI PEMELIHARAAN KOMPONEN *OIL SEAL* PADA MESIN *WASH PRESS* FIBERLINE 1 PT. INDAH KIAT PULP & PAPER TBK PERAWANG MENGGUNAKAN METODE RELIABILITY CENTERED MAINTENANCE (RCM)

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ABSTRAK

Penelitian ini bertujuan menganalisis strategi pemeliharaan komponen *oil seal* pada mesin *Wash press* Fiberline 1 PT Indah Kiat Pulp & Paper Tbk menggunakan metode *Reliability Centered Maintenance* (RCM). Pengumpulan data dilakukan melalui observasi, wawancara, dokumentasi, dan *Condition Monitoring* menggunakan SKF QuickCollect. Analisis dilakukan melalui tahapan *function analysis*, *functional failure*, *failure mode and failure effect analysis*, *Logic Tree Analysis* (LTA), serta *maintenance task selection*. Hasil penelitian menunjukkan bahwa temperatur dan vibrasi keenam unit *Wash press* masih berada dalam batas normal berdasarkan standar ISO 20816. Analisis RCM mengidentifikasi beberapa potensi kegagalan pada komponen *oil seal*, yaitu keausan bibir *oil seal*, pengerasan material, kerusakan fisik, kesalahan pemasangan, dan kebocoran pelumas. Strategi pemeliharaan yang direkomendasikan meliputi *Scheduled Replacement*, *Scheduled Inspection*, dan *Condition Monitoring* untuk meningkatkan keandalan komponen serta meminimalkan potensi *downtime*.

Kata Kunci: *Reliability Centered Maintenance* (RCM), *Oil seal*, *Wash press*, *Logic Tree Analysis*, Strategi Pemeliharaan.

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for the oil seal component of the Wash press Fiberline 1 machine at PT Indah Kiat Pulp & Paper Tbk using the Reliability Centered Maintenance (RCM) method. Data were collected through field observations, interviews, documentation, and Condition Monitoring using SKF QuickCollect. The analysis included function analysis, functional failure, failure mode and failure effect analysis, Logic Tree Analysis (LTA), and maintenance task selection. The results indicate that the temperature and vibration of all six Wash press units remain within normal operating limits based on ISO 20816. The RCM analysis identified several potential oil seal failure modes, including seal lip wear, material hardening, physical damage, improper installation, and lubricant leakage. The recommended maintenance strategies are Scheduled Replacement, Scheduled Inspection, and Condition Monitoring to improve component reliability and minimize machine downtime.

Keywords: *Reliability Centered Maintenance (RCM), Oil seal, Wash press, Logic Tree Analysis, Maintenance Strategy.*