

**ANALISIS PERANCANGAN PERAWATAN MESIN FIL-
2321 UNTUK MENINGKATKAN KEANDALAN DENGAN
METODE RCM II DAN MVSM (STUDI KASUS PT.
PETROKIMIA GRESIK)**

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ABSTRAK

Keandalan mesin merupakan salah satu aspek yang sangat penting karena dapat mempengaruhi efektifitas dan juga efisiensi pada proses produksi yang akan dijalankan. Maka, perlu adanya perencanaan *maintenance* yang baik guna meningkatkan keandalan mesin, menurunkan *downtime* pada mesin produksi, dan penghematan biaya perbaikan kerusakan. PT. Petrokimia Gresik merupakan perusahaan *manufacture* yang bergerak di bidang industri *agriculture* dan memproduksi pupuk, salah satu mesin yang mengalami jumlah *downtime* terbanyak adalah mesin FIL-2321. Menggunakan metode *Reliability Centered Maintenance* II (RCM II) dan juga *Maintenance Value Stream Mapping* (MVSM) dapat meningkatkan *reliability* mesin sesudah dilakukannya *Preventive Maintenance*, penghematan biaya perawatan, dan juga mempersingkat waktu operasi perawatan yang dilakukan. Pada penelitian ini membuktikan peningkatan *Reliability* pada 4 *part* kritis, yaitu *part Filter Cloth* sebesar 44%, *part Prewash Water Outlet* sebesar 45%, *part Lubrication Tank* sebesar 62%, dan *part Hoist Crane* sebesar 60%. Dengan penghematan biaya sesudah *Preventive Maintenance* menjadi Rp 18.132.154 untuk *part Filter Cloth*, *part Prewash Water Outlet* menjadi Rp 14.472.524, *part Lubrication Tank* menjadi Rp 10.269.018, dan *part Hoist Crane* menjadi Rp 10.292.638.

Kata Kunci : *Downtime, Reliability, Preventive Maintenance, Reliability Centered Maintenance* II (RCM II), MVSM.

**MAINTENANCE DESIGN ANALYSIS OF FIL-2321
MACHINERY TO INCREASE RELIABILITY WITH RCM II
AND MVSM METHODS (STUDY CASE OF PT. PETROKIMIA
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ABSTRACT

Machine reliability is important aspect because it can affect the effectiveness and efficiency of the production process to be run. So, it is necessary to have a good maintenance to increase machine reliability, reduce downtime on production machines, and save damage repair costs. PT. Petrokimia Gresik is a manufacturing company engaged in the agriculture industry and producing fertilizers, one of the machines that experienced the highest amount of downtime was the FIL-2321 engine. Using the Reliability Centered Maintenance II (RCM II) method and also Maintenance Value Stream Mapping (MVSM) can improve machine reliability after Preventive Maintenance is carried out, save maintenance costs, and also shorten the maintenance operation time. This study proved the increase in Reliability in 4 critical parts, namely the Filter Cloth part by 44%, Prewash Water Outlet part by 45%, Lubrication Tank part by 62%, and Hoist Crane part by 60%. With cost savings after Preventive Maintenance to Rp 18.132.154 for Filter Cloth parts, Prewash Water outlet parts to Rp 14.472.524, Lubrication Tank parts to Rp 10.269.018, and Hoist Crane parts to Rp 10.292.638.

Keywords : Downtime, Reliability, Preventive Maintenance, Reliability Centered Maintenance II (RCM II), MV