

**ANALISIS DAN USULAN IMPLEMENTASI *TOTAL PRODUCTIVE MAINTENANCE* UNTUK MENINGKATKAN EFEKTIVITAS MESIN  
*BOILER* DI PABRIK KELAPA SAWIT SEI GALUH  
(PT. PERKEBUNAN NUSANTARA V)**

**INTISARI**

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Kelapa sawit telah menjadi komoditas hasil perkebunan yang mempunyai peranan penting dalam perekonomian Indonesia dan selalu mengalami pertumbuhan signifikan. Namun, industri pengolahan kelapa sawit cenderung dihadapkan dengan produktivitas yang rendah dan tidak sejalan dengan pertumbuhan jumlah industrinya. Salah satunya disebabkan oleh rendahnya efektivitas mesin akibat perawatan yang tidak optimal. Penelitian ini dilakukan untuk meningkatkan efektivitas mesin boiler melalui implementasi *Total Productive Maintenance* (TPM).

Penelitian ini melakukan pengukuran kinerja *Boiler* menggunakan metode *Overall Equipment Effectiveness* (OEE). Identifikasi masalah dilakukan menggunakan *Six Big Losses* yang dilanjutkan dengan analisis menggunakan Diagram Pareto dan Diagram Sebab Akibat (*Fishbone Diagram*). Pada penelitian ini penulis menggunakan data produksi dan operasi mesin yang dicatat pada jurnal harian mesin Stasiun *Boiler*.

Nilai OEE *Boiler* yang didapat dari hasil penelitian ini masih belum optimal yaitu sebesar 71,98%. Faktor penyebab kerugian terbesar adalah *Idling and Minor Stoppage* dan *Reduced Speed Losses* yang masing-masing berkontribusi sebesar 49,59% dan 38,48% terhadap total *losses*. Hal ini terjadi akibat kurangnya pengawasan dan pemeliharaan mesin yang tepat, sehingga menyebabkan mesin bekerja dibawah kapasitas optimal. Peningkatan kinerja mesin melalui implementasi TPM di PKS Sei Galuh diyakini dapat mengurangi pemborosan dari penyebab utama ini sehingga kinerja mesin bisa ditingkatkan dan mencapai produktivitas yang optimal.

Kata kunci: Efektivitas, boiler, overall equipment effectiveness, total productive maintenance.

**ANALYSIS AND PROPOSAL FOR THE IMPLEMENTATION OF  
TOTAL PRODUCTIVE MAINTENANCE TO IMPROVE  
EFFECTIVENESS OF BOILER MACHINE  
AT SEI GALUH PALM OIL MILL  
(PT. PERKEBUNAN NUSANTARA V)**

**ABSTRACT**

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Palm oil has become a plantation commodity that plays an important role in the Indonesian economy and has always experienced significant growth. However, the palm oil processing industry tends to be faced with low productivity and is not in line with the growth in the number of industries. One of them is caused by the low effectiveness of the machine due to non-optimal maintenance. This research was conducted to improve the effectiveness of boiler machines through the implementation of Total Productive Maintenance (TPM).

This research measures Boiler performance using the Overall Equipment Effectiveness (OEE) method. Problem identification is carried out using the Six Big Losses followed by analysis using Pareto Diagrams and Fishbone Diagrams. In this study the authors used production and machine operation data recorded in the daily machine journal at the Boiler Station.

The Boiler OEE value obtained from the results of this study is still not optimal, which is 71.98%. The factors causing the biggest losses are Idling and Minor Stoppage and Reduced Speed Losses which contribute 49.59% and 38.48% respectively to the total losses. This occurs due to the lack of proper supervision and maintenance of the machine, causing the machine to work below optimal capacity. Improving machine performance through the implementation of TPM at Sei Galuh PKS is believed to reduce waste from these main causes so that machine performance can be improved and achieve optimal productivity.

**Keywords:** Effectivity, boiler, overall equipment effectiveness, total productive maintenance.