

ANALISIS EFEKTIVITAS MESIN KALIBRASI PADA METERAN LISTRIK DENGAN METODE *OVERAL EQUIPMENT EFFECTIVENESS (OEE)*

Amelia Dheany

ABSTRAK

Penelitian ini bertujuan untuk mengevaluasi efektivitas mesin kalibrasi pada proses produksi meteran listrik di PT EDM I Manufacturing menggunakan metode Overall Equipment Effectiveness (OEE). Pengukuran dilakukan berdasarkan tiga indikator utama: availability, performance, dan quality. Untuk mengidentifikasi penyebab utama penurunan efektivitas, digunakan analisis Six Big Losses dan Diagram Pareto. Dua kategori kerugian terbesar kemudian dianalisis lebih lanjut menggunakan Fault Tree Analysis (FTA) untuk menemukan akar penyebab masalah. Berdasarkan hasil FTA, disusun usulan perbaikan berupa penyusunan jadwal preventive maintenance dan checklist harian berdasarkan perhitungan MTTR dan MTBF. Evaluasi dilakukan dengan membandingkan nilai OEE sebelum dan setelah simulasi perbaikan. Hasil penelitian menunjukkan bahwa penerapan usulan perbaikan berpotensi meningkatkan efektivitas mesin dan mendukung efisiensi produksi.

Kata Kunci: *Overall Equipment Effectiveness, Six Big Losses, Pareto, Fault Tree Analysis, FTA, MTTR, MTBF, Preventive.*

ANALYSIS OF CALIBRATION MACHINE EFFECTIVENESS IN ELECTRIC METER PRODUCTION USING THE OVERALL EQUIPMENT EFFECTIVENESS (OEE) METHOD

Amelia Dheany

ABSTRACT

This research aims to evaluate the effectiveness of a calibration machine used in electric meter production at PT EDM I Manufacturing using the Overall Equipment Effectiveness (OEE) method. Effectiveness is measured through three key components: availability, performance, and quality. To identify the primary causes of inefficiency, Six Big Losses and Pareto Diagram analyses were applied. The two most significant loss categories were further analyzed using Fault Tree Analysis (FTA) to determine their root causes. Based on the FTA results, improvement proposals were developed, including a preventive maintenance schedule and daily machine checksheet, guided by MTTR and MTBF calculations. Evaluation was conducted by comparing OEE values before and after simulated improvements. The results indicate that these proposed actions have the potential to enhance machine effectiveness and support production efficiency.

Keywords: Overall Equipment Effectiveness, Six Big Losses, Pareto Diagram, FTA, MTTR, MTBF, Preventive.