

ANALISIS KINERJA MESIN PLUCKER MENGUNAKAN METODE OVERALL EQUIPMENT EFFECTIVENESS DAN FAILURE MODE AND EFFECT ANALYSIS

Studi Kasus Pada PT WIDODO MAKMUR UNGGAS UNIT RPA
GIRITONTRO

Aribawa Santoso¹, Widya Setiafindari²

Aribawa995@gmail.com , widyasetia@uty.ac.id

Program Studi Teknik Industri, Fakultas Sains & Teknologi
Universitas Teknologi Yogyakarta

ABSTRAK

PT Widodo Makmur Unggas Unit RPA Giritontro merupakan perusahaan yang bergerak dibidang pemotongan ayam. Perusahaan ini dapat memproduksi sebesar 506,765 ekor setiap minggu dengan Rata-rata setiap hari memproduksi 25,523 ekor. PT Widodo Makmur Unggas Unit RPA Giritontro dalam melakukan produksisering mengalami permasalahan pada mesin plucker sehingga mengakibatkan terjadinya *downtime* sebesar 145,1 jam dan *breakdown* selama 71,75 jam dalam waktu 6 bulan, yang menyebabkan terjadinya waktu produksi tidak berjalan efektif. Tujuan dari penelitian ini adalah untuk mengetahui efektivitas kinerja mesin plucker menggunakan alat ukur *Overall Equipment Effectiveness* (OEE) dan *failure Mode And Effect Analysis* (FMEA). Penentuan nilai OEE dilakukan dengan menghitung *Availability rate*, *Performance Efficiency*, dan *Quality Rate*. Kemudian untuk Metode FMEA di hitung nilai RPN nya dengan menentukan nilai *Severity* (S), *Occurrence* (O), dan *Detection* (D) dengan klasifikasi berdasarkan tingkat keparahan. Berdasarkan metode yang digunakan diketahui bahwa pada proses produksi yang belum memenuhi standar JIPM (*Japan Institute of Plan Maintenance*) yaitu nilai OEE 64,43%, dengan rata-rata nilai *availability* 81,45%, rata-rata nilai *performance efficiency* 79,27%, rata-rata nilai *rate of quality product* 99,81% dan faktor presentase terbesar dari *six big losses* pada mesin Plucker adalah *reduce speed losess* dengan nilai sebesar 16,89 %, usulan perbaikan menambahkan alat bantu agar bisa sampai ke shackle atau menambakan karyawan, Penggantian karet setiap hari sekitar 20 karet, Karyawan menghidupkan Genset sebelum waktu 5 menit selesai, dan Melakukan pelatihan terhadap karyawan atau operator.

Kata Kunci: Mesin Plucker, *Overall Equipment Effectiveness*, *Failure Mode And Effect Analysis*, *Six Big Losses*

**PERFORMANCE ANALYSIS OF PLUCKER MACHINE USING OVERALL
EQUIPMENT EFFECTIVENESS AND FAILURE MODE AND EFFECT
ANALYSIS METHODS**

Case Study at PT WIDODO MAKMUR POULTRY UNIT RPA GIRITONTRO

ABSTRACT

PT Widodo Makmur Poultry Unit RPA Giritontro is a company that slaughtered chickens. This company can produce 506,765 heads per week with an average daily production of 25,523. During production, PT Widodo Makmur Unggas Giritontro RPA Unit often experienced problems with the plucker machine resulting in a downtime of 145.1 hours and a breakdown of 71.75 hours within six months, which resulted in production time not running effectively. This study aimed to determine the performance effectiveness of the plucker machine using the Overall Equipment Effectiveness (OEE) and Failure Mode And Effect Analysis (FMEA) measuring tools. The OEE value is determined by calculating the Availability rate, Performance Efficiency, and Quality Rate. Then for the FMEA method, the RPN value is calculated by determining the Severity (S), Occurrence (O), and Detection (D) values with classification based on severity. Based on the method used, it is known that the production process does not meet JIPM (Japan Institute of Plan Maintenance) standards, the OEE value is 64.43%, with an average availability value of 81.45%, an average performance efficiency value of 79.27%. The average rate of quality product is 99.81%, and the most significant factor of the six significant losses on the Plucker machine is reduced speed loss with a value of 16.89%. The proposed improvement is adding tools to get to the shackles or adding more employees, Changing rubber every day to about 20 rubber, employees turning on the generator before the time is 5 minutes, and conducting training for employees or operators.

Keywords: Plucker Machine, Overall Equipment Effectiveness, Failure Mode And Effect Analysis, Six Big Losses

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