

**ANALISIS KINERJA MESIN BUBUT MENGGUNAKAN
PENERAPAN TOTAL *PRODUCTIVE MAINTENANCE*
DENGAN METODE *OVERALL EQUIPMENT
EFFECTIVENESS* DAN *FAILURE MODE, EFFECT AND
CRITICALY ANALYSIS* STUDI KASUS PADA CV PUTRA
ORTEGA**

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ABSTRAK

CV Putra Ortega merupakan perusahaan yang bergerak di bidang industri pengecoran logam dan vendor yang salah satu produksinya adalah Pintu Air. Permasalahan yang timbul adalah waktu delay terkait kinerja pada mesin bubut yang masih kurang efektif sehingga rata-rata produksinya masih dibawah target yang telah ditetapkan oleh perusahaan. Dari data bulan Januari 2023-Maret 2023 dengan jumlah produksi sebanyak 2351 unit terdapat *deffect amount* sebanyak 563 unit dan rata-rata total *delay* sebesar 12,67 jam. Maka dari itu, untuk meningkatkan produktivitas mesin bubut perlu didukung oleh manajemen pemeliharaan dan kesadaran para operator. Tujuan dari penelitian ini adalah untuk mengetahui presentase nilai *six big losses* yang terdapat pada mesin bubut dengan metode *Overall Equipment Effectiveness* (OEE) dan mencari faktor permasalahan yang terjadi dengan metode *Failure Mode And Efects Criticaly Analysis* (FMECA). Berdasarkan hasil perhitungan yang telah dilakukan pada mesin bubut selama periode Januari 2023-Maret 2023, belum memenuhi standar *Japan Institute of Plant Maintenance* (JPIM) yaitu nilai rata-rata OEE sebesar 39,56%. Dengan rata-rata *availability* sebesar 81,49%, rata-rata *performance rate* sebesar 68,93%, dan rata-rata *quality rate* sebesar 67,35%. Terdapat tiga faktor persentase terbesar dari *six big losses* pada mesin bubut yaitu *setup and adjustment losses*, *reduced losses*, dan *rework losses*, dengan faktor rata-rata paling tinggi yaitu *reduced losses* sebesar 25,3%. Dengan menggunakan metode *Failure Mode And Efects Criticaly Analysis* (FMECA). didapatkan usulan perbaikan untuk mengurangi nilai *setup and adjustment losses*, *reduced losses*, dan *rework losses* melakukan kegiatan *preventive maintenance* terhadap mesin dengan *down time* yang tinggi.

Kata Kunci :Pintu Air, Produktivitas, *Total Productive Maintenance*, *Overall Equipment Effectiveness*, *Failure Mode And Efects Criticaly Analysis*

**PERFORMANCE ANALYSIS OF LATHE MACHINE USING
TOTAL PRODUCTIVE MAINTENANCE WITH OVERALL
EQUIPMENT EFFECTIVENESS AND FAILURE MODE,
EFFECT AND CRITICALLY ANALYSIS CASE STUDY ON CV
PUTRA ORTEGA**

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ABSTRACT

CV Putra Ortega is a company engaged in the metal casting industry and a vendor whose production line is water gates. The problem that arises is the delay time related to the performance of the lathe which is still ineffective so that the average production is still below the target set by the company. From the data for January 2023-March 2023 with a total production of 2351 units, there was a defect amount of 563 units and an average total delay of 12.67 hours. Therefore, to increase the productivity of lathes, it is necessary to support maintenance management and operator awareness. The purpose of this research is to find out the percentage of six big losses found on a lathe using the Overall Equipment Effectiveness (OEE) method and to look for problem factors that occur using the Failure Mode And Effects Critical Analysis (FMECA) method. Based on the results of calculations that have been made on lathes during the period January 2023-March 2023, they have not met the Japan Institute of Plant Maintenance (JPIM) standards with an average OEE value of 39.56%. With an average availability of 81.49%, an average performance rate of 68.93%, and an average quality rate of 67.35%. There are three biggest percentage factors of the six big losses on lathes which are setup and adjustment losses, reduced losses, and rework losses, with the highest average factor being reduced losses of 25.3%. By using the Failure Mode And Effects Critical Analysis (FMECA) method, proposed improvements are obtained to reduce the value of setup and adjustment losses, reduced losses, and rework losses to carry out preventive maintenance activities on machines with high down time.

Keywords: *Watergate, Productivity, Total Productive Maintenance, Overall Equipment Effectiveness, Failure Mode And Effects Critical Analysis*

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