

ABSTRAK

Nicko Fernando (03320130008)

ANALISIS KESELAMATAN DAN KESEHATAN KERJA PADA PT. ANUGRAHA MACHINERY INDONESIA DENGAN MENGGUNAKAN METODE *HAZARD IDENTIFICATION, RISK ASSESSMENT, AND RISK CONTROL (HIRARC), FAILURE MODE AND EFFECT ANALYSIS (FMEA), DAN FAULT TREE ANALYSIS (FTA)* (xiv + 199 halaman ; 35 gambar; 39 tabel)

Penelitian ini dilakukan pada PT. Anugraha Machinery Indonesia (AMI). Perusahaan ini bergerak di bidang pen-jual belian mesin kayu berkualitas *premium*. Peneliti akan meneliti aspek Keselamatan dan Kesehatan Kerja (K3) dimana di perusahaan AMI belum pernah dilakukan analisis terkait keselamatan dan Kesehatan Kerja (K3) dan prosedur penggunaan alat pelindung diri yang kurang jelas. Tujuan dari penelitian ini adalah melakukan analisis K3 pada 6 pekerjaan di perusahaan dengan menggunakan metode HIRARC, FMEA dan FTA.

Penelitian ini dilakukan pada 6 pekerjaan yang ada pada bagian manufaktur dengan menggunakan metode JHA. Setelah didapat bahaya pada masing-masing pekerjaan, penelitian dilanjutkan dengan penentuan tingkat risiko *risk assessment* pada metode HIRARC dan perhitungan RPN pada FMEA. Kemudian dilakukan perbandingan hasil antara metode HIRARC dan FMEA. Berdasarkan hasil perbandingan yang dilakukan kemudian dicari akar penyebabnya dengan menggunakan metode FTA dan akan diakhiri dengan pengendalian HMP.

Berdasarkan analisis penentuan risiko *risk assessment* pada HIRARC dan perhitungan RPN pada FMEA masing-masing didapat 10 bahaya yang memiliki risiko terbesar dan harus diprioritaskan. Risiko bahaya yang paling besar pada penentuan *risk assessment* terdapat pada bahaya luka bakar saat proses penyambungan *part* (5C) sedangkan pada perhitungan RPN adalah mata yang rusak saat proses pengelasan (252 RPN).

Referensi : 15 (1993-2015)

Kata kunci : Keselamatan dan kesehatan kerja, FMEA, HIRARC, RPN, FTA.

ABSTRACT

Nicko Fernando (03320130008)

OCCUPATIONAL HEALTH AND SAFETY ANALYSIS IN PT. ANUGRAHA MACHINERY INDONESIA USING HAZARD IDENTIFICATION, RISK ASSESSMENT, AND RISK CONTROL METHOD (HIRARC), FAILURE MODE AND EFFECT ANALYSIS METHOD (FMEA), DAN FAULT TREE METHOD (FTA) (xiv + 199 page ; 35 picture; 39 table)

This research is performed on PT. Anugraha Machinery Indonesia (AMI). AMI Company is engaged in the sale and purchase of wood machines with premium quality. In this research, researchers will investigate the Occupational Health and Safety aspect which the company has never been analyzed related aspect before and the procedure for using personal protective equipment is not clear enough. The main purpose of this study is analyze occupational health and safety that focus on six job using HIRARC, FMEA, and FTA method.

This research is focus on six job that considered has the highest risk in companies. The hazards will be identified by using JHA method. After all the hazards on each jobs its identified, the next step is to determine risk level with risk assessment on HIRARC method and measure RPN on FMEA method. The result of each methods will be compared. Based on the comparison result, researchers will find out the root cause of each failure mode with FTA method and ends with HMP risk control.

Based on the result of risk assessment on HIRARC method and RPN on FMEA method, each method acquired 10 hazards with the highest risk and should be prioritized. Affected by burns during the welding process (5C) had the highest risk that obtained by using risk assessment (HIRARC) method and eyes damaged during the welding process had the highest risk on FMEA method with 252 risk priority numbers.

References : 15 (1993-2015)

Keywords : Occupational health and safety, FMEA, HIRARC, FTA