

ANALYSIS OF HEALTH AND SAFETY RISK IN CAPACITOR PRODUCTION OF PT INDONESIA CHEMI-CON

FINAL PROJECT REPORT

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ABSTRACT

Occupational Safety and Health (OSH) is a crucial factor that needs to be considered by the company. The implementation of OSH is done in order to avoid accident that leads to disadvantage for company. PT Indonesia Chemi-con is a manufacturing company engaged in the production of electrical components in the form of capacitors. Currently, the company has implemented an Occupational Health and Safety Management System (SMK3) but its implementation is still not optimal. This can be seen from the work accident rate in the Capacitor Production Department which continues to increase by 60% from 2019 to 2020.

An occupational health and safety (K3) analysis was carried out at PT Indonesia Chemi-Con to identify potential hazards, analyze the root causes of hazards, and determine appropriate mitigation. The hazard identification stage is carried out using the Hazard and Operability Study (HAZOP) method. Then, the types of hazards obtained will be analyzed for their root causes using Fault Tree Analysis (FTA). Thus, results can be obtained in the form of appropriate risk mitigation to create a safe work environment and productive work activities.

Based on the results of hazard identification using HAZOP method, 37 total risks that could potentially occur in the Capacitor Production Department of PT Indonesia Chemi-con were obtained. Risk is analyzed by calculating the Risk Rating Number (RRN), where risk is assessed based on the severity and probability. The risk level assessment is carried out by company employees who have General K3 Expert certification (AK3U). Based on the results of the risk assessment, there are five extreme risks, 18 high risks, 12 moderate risks, and two low risks.

Keywords: Occupational Health and Safety (OSH), Hazard and Operability Study (HAZOP), Fault Tree Analysis (FTA)

ABSTRAK

Keselamatan dan Kesehatan Kerja (K3) merupakan hal krusial yang perlu diperhatikan oleh perusahaan. Penerapan K3 dilakukan agar perusahaan dapat terhindar dari kecelakaan yang dapat merugikan perusahaan. PT Indonesia Chemi-con merupakan perusahaan manufaktur yang bergerak dibidang produksi komponen listrik berupa kapasitor. Saat ini, perusahaan sudah menerapkan Sistem Manajemen Keselamatan dan Kesehatan Kerja (SMK3) namun penerapannya masih dirasa belum optimal. Hal ini dapat diketahui dari tingkat kecelakaan kerja di Departemen Produksi Kapasitor yang terus mengalami peningkatan hingga 60% dari tahun 2019 ke 2020.

Analisis kesehatan dan keselamatan kerja (K3) dilakukan pada PT Indonesia Chemi-Con untuk mengidentifikasi potensi bahaya, menganalisis akar penyebab bahaya, serta menentukan mitigasi yang sesuai. Tahap identifikasi bahaya dilakukan dengan metode Hazard and Operability Study (HAZOP). Kemudian, jenis-jenis bahaya yang diperoleh akan dianalisis akar penyebabnya menggunakan Fault Tree Analysis (FTA). Sehingga, dapat diperoleh hasil berupa mitigasi risiko yang sesuai untuk menciptakan lingkungan kerja yang aman serta kegiatan kerja yang produktif.

Berdasarkan hasil identifikasi bahaya menggunakan metode Hazard and Operability Study (HAZOP), diperoleh 37 total risiko yang berpotensi terjadi di Departemen Produksi Kapasitor PT Indonesia Chemi-con. Risiko dianalisis dengan menghitung Risk Rating Number (RRN), dimana risiko dinilai berdasarkan tingkat keparahan dan peluangnya. Penilaian tingkat risiko dilakukan oleh karyawan perusahaan yang memiliki sertifikasi Ahli K3 Umum (AK3U). Berdasarkan hasil penilaian risiko, terdapat lima risiko ekstrem, 18 risiko tinggi, 12 risiko sedang, dan dua risiko rendah.

Kata Kunci: *Keselamatan dan Kesehatan Kerja (K3)), Hazard and Operability Study (HAZOP), Fault Tree Analysis (FTA)*