

ABSTRAK

PT. Metal Hitech Engineering adalah perusahaan layanan konstruksi baja dalam pembuatan tangki. Penerapan K3 di PT. Metal Hitech Engineering (MH) belum diimplementasikan dengan baik serta terdapat permasalahan terkait tingginya angka kecelakaan kerja di departemen fabrikasi. Berdasarkan jangka waktu 5 tahun terakhir diketahui bahwa terdapat 18 kecelakaan kerja terparah yang memerlukan penanganan medis dan kerugian finansial. Penelitian yang dilakukan penulis bertujuan untuk mengetahui potensi bahaya dan risiko, mengevaluasi tingkat risiko serta memberikan rekomendasi mitigasi risiko pada sistem K3 di PT. Metal Hitech Engineering. Penelitian berfokus pada 8 aktivitas pengoperasian mesin di departemen fabrikasi. Pengumpulan data dilakukan dengan observasi, wawancara, dan menyebar kuesioner sedangkan pengolahan data menggunakan metode *Job Safety Analysis* (JSA) dan *Hazard Identification, Risk Assessment and Risk Control* (HIRARC). Metode JSA digunakan untuk *hazard identification* berdasarkan langkah langkah pekerjaan setiap aktivitas. Selanjutnya pada metode HIRARC dilakukan *risk assessment* dengan mempertimbangkan skala *probability* dan *severity* serta menentukan mitigasi risiko berdasarkan 5 tingkatan hirarki kontrol yaitu eliminasi, substitusi, rekayasa teknis, administrasi dan APD.

Hasil penelitian menunjukkan bahwa terdapat 84 potensi bahaya. Risiko dengan kategori *low* sebesar 16%, kategori *medium* sebesar 45%, kategori *high* sebesar 33%, dan kategori *very high* sebesar 6%. Contoh mitigasi risiko yang direkomendasikan peneliti yaitu menyusun jadwal tugas *cleaning*, membuat denah alokasi dalam pemasangan *safety line* dan rambu K3, menyusun agenda *monitoring briefing*, membuat *worksheet* inspeksi, melakukan *safety meeting*, melakukan kegiatan *crosscheck*, serta beberapa rekomendasi APD.

Kata kunci : *Potensi bahaya, JSA, HIRARC, K3, mitigasi risiko*

ABSTRACT

PT. Metal Hitech Engineering is a steel construction service company in tank manufacturing. Application of K3 at PT. Metal Hitech Engineering (MH) has not been implemented properly and there are problems related to the high number of work accidents in the fabrication department. Based on the last 5 years, it is known that there are 18 worst work accidents that require medical treatment and financial losses. The research conducted by the author aims to determine potential hazards and risks, evaluate the level of risk and provide risk mitigation recommendations in the K3 system at PT. Metal Hitech Engineering. The research focused on 8 machine operation activities in the fabrication department. Data collection is carried out by observation, interviews, and distributing questionnaires while data processing uses Job Safety Analysis (JSA) and Hazard Identification, Risk Assessment and Risk Control (HIRARC) methods. The JSA method is used for hazard identification based on the step step of each activity's work. Furthermore, in the HIRARC method, risk assessment is carried out by considering the scale of probability and severity and determining risk mitigation based on 5 levels of control hierarchy, namely elimination, substitution, technical engineering, administration and PPE.

The results showed that there were 84 potential hazards. Risk with low category of 16%, medium category of 45%, high category of 33%, and very high category of 6%. Examples of risk mitigation recommended by researchers are compiling cleaning task schedules, making allocation plans in the installation of safety lines and K3 signs, preparing monitoring briefing agendas, making inspection worksheets, conducting safety meetings, conducting crosscheck activities, and several PPE recommendations.

Keywords: *Potential hazard, JSA, HIRARC, K3, risk mitigation*