ANALISIS KECELAKAAN KERJA UNTUK POTENSI BAHAYA DENGAN MENGGUNAKAN METODE 5S DAN *ACTIVITY RELATIONSHIP CHART* (ARC)

(STUDI KASUS : PT ANEKA ADHILOGAM KARYA)

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Abstrak

Kecelakaan kerja merupakan salah satu masalah penting yang perlu mendapatkan perhatian serius dalam industri manufaktur, terutama disektor pengecoran logam yang memiliki tingkat risiko tinggi. Penelitian ini bertujuan untuk menganalisis potensi bahaya kecelakaan kerja serta merancang perbaikan tata letak fasilitas produksi PT. Aneka Adhilogam Karya dengan menggunakan pendekatan metode 5S dan *Activity Relationsh ip Chart* (ARC) Metode 5S digunakan untuk mengidentifikasi dan mengeliminasi kondisi kerja yang tidak tertata yang dapat memicu kecelakaan, sedangkan metode ARC digunakan untuk mengevaluasi efisiensi dan kedekatan hubungan antar aktivitas produksi. Penelitian ini dilakukan melalui observasi langsung, wawancara dengan karyawan, dan dokumentasi visual di area produksi. Hasil analisis menunjukkan bahwa penerapan 5S di perusahaan masih kurang optimal, terutama pada aspek Seiri dan Seiton, dimana banyak alat kerja dan material tidak tertata dengan baik. Selain itu, hasil pemetaan ARC menunjukkan bahwa terdapat aktivitas penting dengan tingkat kedekatan tinggi yang masih diposisikan berjauhan, sehingga mengganggu alur produksi dan meningkatkan risiko kecelakaan. Layout final yang dirancang berhasil memperpendek alur material handling, menata ulang posisi stasiun baru ini juga menciptakan ruang kerja yang lebih ergonomis dan aman bagi pekerja. Penelitian ini memberikan rekomendasi yang aplikatif bagi perusahaan dalam upaya menciptakan lingkungan kerja yang lebih efisiensi, produktif, dan berorientasi pada keselamatan kerja.

Kata kunci: 5S, *Activity Relationship Chart* (ARC), tata letak fasilitas, kecelakaan kerja**.**

WORKPLACE ACCIDENT ANALYSIS FOR POTENTIAL HAZARDS USING THE 5S METHOD AND ACTIVITY RELATIONSHIP CHART (ARC)

(CASE STUDY: PT ANEKA ADHILOGAM KARYA)

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Abstract

Workplace accidents are one of the important issues that need serious attention in the manufacturing industry, especially in the metal casting sector which has a high level of risk. This study aims to analyze the potential hazards of workplace accidents and design improvements to the layout of PT. Aneka Adhilogam Karya's production facilities using the 5S method and Activity Relationship Chart (ARC) approach. The 5S method is used to identify and eliminate unorganized work conditions that can trigger accidents, while the ARC method is used to evaluate the efficiency and closeness of relationships between production activities. This study was conducted through direct observation, interviews with employees, and visual documentation in the production area. The results of the analysis show that the implementation of 5S in the company is still less than optimal, especially in the Seiri and Seiton aspects, where many work tools and materials are not well organized. In addition, the results of the ARC mapping show that there are important activities with a high level of closeness that are still positioned far apart, thus disrupting the production flow and increasing the risk of accidents. The final layout designed successfully shortened the material handling flow, rearranged the position of the new station and also created a more ergonomic and safe workspace for workers. This research provides practical recommendations for companies in their efforts to create a more efficient, productive, and safety-oriented work environment.

Keywords*: 5S, Activity Relationship Chart (ARC), facility layout, workplace accidents.*

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