

# Analisis Risiko Kecelakaan Kerja pada Pengoperasian Crawler Crane di Galangan Reparasi Kapal Menggunakan Metode Failure Mode and Effect Analysis = Risk Analysis of Work Accidents in the Operation of Crawler Cranes at a Ship Repair Yard Using the Failure Mode and Effect Analysis Method

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## Abstrak

Dalam dunia industri maritim saat ini, galangan reparasi kapal berperan penting dalam menjaga efisiensi dan keamanan operasional kapal. Dalam proses reparasi, berbagai jenis alat berat seperti crawler crane kerap digunakan untuk memfasilitasi pemindahan komponen besar serta material. Tujuan dari penelitian ini yaitu mengidentifikasi potensi risiko kecelakaan kerja tinggi dan tindakan preventifnya dari kegiatan pengoperasian crawler crane di galangan reparasi kapal. Failure Mode and Effect Analysis (FMEA) adalah metode efektif yang dapat digunakan untuk mengidentifikasi dan memitigasi potensi kegagalan dalam sistem atau proses. Pada analisis penelitian ini terdapat 6 kegiatan pengoperasian crawler crane yang berpotensi risiko kecelakaan kerja. Selanjutnya didapat potensi risiko bahaya yang tinggi pada kegiatan pengangkatan sistem kemudi dan sistem propulsi yang memiliki mode kegagalan yaitu tertabrak as yang memiliki risiko terhadap keselamatan pekerja di galangan. Selanjutnya ditentukan tindakan preventifnya untuk mengurangi risiko kecelakaannya.

.....In today's maritime industry, ship repair yards play a crucial role in maintaining the efficiency and safety of ship operations. In the repair process, various types of heavy equipment such as crawler cranes are often used to facilitate the movement of large components and materials. The purpose of this research is to identify potential high-risk occupational hazards and preventive measures in the operation of crawler cranes in ship repair yards. Failure Mode and Effect Analysis (FMEA) is an effective methods that can be used to identify and mitigated possibility of failure mode in a system or process. In the analysis of this study, there are six crawler crane operations that pose a risk of occupational accidents. Further, it identifies high potential hazard risks in the activities of lifting the steering system and propulsion system, which have failure modes collision with the shaft, both of which pose risks to worker safety in the yard. Subsequently, preventive measures are determined to reduce the risk of occupational accidents.