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Abstrak

Penelitian ini bertujuan untuk menganalisis penerapan manajemen keselamatan pada kegiatan pembongkaran muatan pipa baja (*steel pipe*) di kapal MV. *Mauloa*, mengidentifikasi kendala yang dihadapi selama proses pembongkaran, serta merumuskan upaya optimalisasi manajemen keselamatan berdasarkan *International Safety Management (ISM) Code*. Penelitian dilaksanakan pada April–Mei 2026 di PT. Gerbantara Citra Perkasa Batam, dengan lokasi penelitian di Pelabuhan Sarana Citra Nusa (S.C.N.) Kabil, Kota Batam, Provinsi Kepulauan Riau, serta objek penelitian pada kegiatan pembongkaran muatan di atas kapal MV. *Mauloa*. Penelitian dibatasi pada penerapan *Safety Management System (SMS)*, identifikasi bahaya, penilaian risiko, pengawasan kerja, dan upaya pengendalian risiko selama proses pembongkaran muatan pipa baja. Penelitian menggunakan metode deskriptif kualitatif dengan pendekatan studi kasus. Data dikumpulkan melalui observasi, wawancara semi terstruktur dengan *Chief Officer* dan Manajer Operasional PT. Gerbantara Citra Perkasa, serta dokumentasi berupa *Safety Management Certificate (SMC)*, *Job Safety Analysis (JSA)*, *Cargo Manifest*, *Bill of Lading (B/L)*, *Stowage Plan*, dan dokumen pendukung lainnya. Analisis data dilakukan melalui reduksi data, identifikasi bahaya, penilaian risiko menggunakan metode *Hazard Identification and Risk Assessment (HIRA)*, evaluasi penerapan SMS berdasarkan *ISM Code*, dan penarikan kesimpulan. Hasil penelitian menunjukkan bahwa penerapan manajemen keselamatan pada kegiatan pembongkaran muatan pipa baja telah mengacu pada ketentuan *ISM Code* melalui pelaksanaan *toolbox meeting*, penggunaan APD, pemeriksaan peralatan bongkar muat, penerapan JSA, koordinasi kerja, dan pengawasan oleh *Chief Officer*. Namun, masih ditemukan kendala berupa ketidakdisiplinan penggunaan APD, kurang optimalnya komunikasi dan koordinasi, serta belum konsistennya pengawasan terhadap kepatuhan prosedur keselamatan. Berdasarkan analisis HIRA, beberapa tahapan pekerjaan memiliki tingkat risiko sedang hingga tinggi sehingga diperlukan peningkatan kepatuhan terhadap prosedur keselamatan, pemeriksaan peralatan secara berkala, pelatihan keselamatan, pengawasan operasional, dan evaluasi rutin terhadap implementasi SMS guna meminimalkan risiko kecelakaan kerja.

Kata kunci: Manajemen Keselamatan, Pembongkaran Muatan Pipa Baja, *Safety Management System (SMS)*, *Hazard Identification and Risk Assessment (HIRA)*, *ISM Code*.

**OPTIMIZATION OF SAFETY MANAGEMENT IN STEEL PIPE CARGO
UNLOADING ON BOARD MV. MAULOA BASED ON THE
INTERNATIONAL SAFETY MANAGEMENT (ISM) CODE**

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Abstract

This study aims to analyze the implementation of safety management during the steel pipe cargo unloading operation on board MV. Mauloa, identify the obstacles encountered throughout the unloading process, and formulate efforts to optimize safety management based on the International Safety Management (ISM) Code. The research was conducted from April to May 2026 at PT. Gerbantara Citra Perkasa Batam, with the research site located at Sarana Citra Nusa (S.C.N.) Port, Kabil, Batam City, Riau Islands Province, while the object of the study was the steel pipe cargo unloading operation on board MV. Mauloa. The scope of this research was limited to the implementation of the Safety Management System (SMS), hazard identification, risk assessment, work supervision, and risk control measures during the unloading process. This research employed a descriptive qualitative method with a case study approach. Data were collected through direct observation, semi-structured interviews with the Chief Officer and the Operational Manager of PT. Gerbantara Citra Perkasa, as well as documentation, including the Safety Management Certificate (SMC), Job Safety Analysis (JSA), Cargo Manifest, Bill of Lading (B/L), Stowage Plan, and other supporting documents. The data were analyzed through data reduction, hazard identification, risk assessment using the Hazard Identification and Risk Assessment (HIRA) method, evaluation of SMS implementation based on the ISM Code, and conclusion drawing. The results indicate that the implementation of safety management during the steel pipe cargo unloading operation has generally complied with the requirements of the ISM Code through toolbox meetings, the use of personal protective equipment (PPE), inspection of cargo handling equipment, implementation of JSA, effective work coordination, and supervision by the Chief Officer. However, several obstacles were identified, including workers' non-compliance with PPE requirements, ineffective communication and coordination among personnel, and inconsistent supervision of safety procedure compliance. Based on the HIRA analysis, several stages of the unloading process were classified as having moderate to high risk levels. Therefore, improvements are required through stricter compliance with safety procedures, regular inspection of cargo handling equipment, continuous safety training, enhanced operational supervision, and periodic evaluation of SMS implementation to minimize occupational accidents and improve the effectiveness of steel pipe cargo unloading operations.

Keywords: *Safety Management, Steel Pipe Cargo Unloading, Safety Management System (SMS), Hazard Identification and Risk Assessment (HIRA), ISM Code.*