

ABSTRAK

Maharani, Berliana. 2026. Analisis dan Manajemen Risiko Kecelakaan Kerja pada PT XYZ dengan Metode *Hazard Identification, Risk Assessment, and Risk Control* (HIRARC). Dibimbing oleh Ir. Eko Prayetno, S.T., M.Eng dan Firman Apriansyah, S.Si., M.T.

Penelitian ini bertujuan mengidentifikasi potensi bahaya, menilai tingkat risiko kecelakaan kerja, serta menyusun usulan pengendalian risiko pada proses fabrikasi kapal di PT XYZ. Penelitian menggunakan metode *Hazard Identification, Risk Assessment, and Risk Control* (HIRARC) dengan mengacu pada AS/NZS 4360:2004. Data diperoleh dari catatan insiden/laporan kecelakaan kerja QHSE PT XYZ periode 2021–2025 dan observasi lapangan. Proses fabrikasi yang dianalisis meliputi *marking, cutting, grinding, forming/bending, fit up/fitting, welding, assembly, dan erection*. Hasil penelitian menunjukkan bahwa sumber bahaya berasal dari alat ukur, alat potong, percikan panas, pinggiran tajam, serpihan gram, mesin gerinda, *pinch point*, material besi, sambungan tidak kuat, permukaan panas, tabung gas CO₂, material jatuh, dan permukaan kerja tidak aman. Tingkat risiko terdiri atas 62% *low risk*, 23% *moderate risk*, 15% *high risk*, dan 0% *extreme risk*. Risiko *high risk* terdapat pada penggunaan mesin gerinda, *pinch point*, sambungan tidak kuat, posisi kerja tidak aman, permukaan kerja licin, dan material terpelantak. Pengendalian yang diusulkan meliputi rekayasa teknik, penerapan SOP, pelatihan, pengawasan kerja, pemasangan tanda bahaya, serta penggunaan APD sesuai standar K3.

Kata kunci: fabrikasi, HIRARC, kecelakaan kerja, manajemen risiko, pengendalian risiko.

ABSTRACT

Maharani, Berliana. 2026. *Analysis and Management of Occupational Accident Risks at PT XYZ Using the Hazard Identification, Risk Assessment, and Risk Control (HIRARC) Method*. Supervised by Ir. Eko Prayetno, S.T., M.Eng dan Firman Apriansyah, S.Si., M.T.

This study aims to identify hazards, assess the level of occupational accident risk, and formulate Risk Control recommendations for the ship fabrication process at PT XYZ. The study applied the Hazard Identification, Risk Assessment, and Risk Control (HIRARC) method based on AS/NZS 4360:2004. Data were obtained from QHSE incident and accident reports of PT XYZ for the 2021–2025 period and field observations. The fabrication process analyzed included marking, cutting, grinding, forming/bending, fit up/fitting, welding, assembly, and erection. The results show that hazards originated from measuring tools, cutting tools, hot sparks, sharp edges, metal chips, grinding machines, pinch points, steel materials, weak joints, hot surfaces, CO₂ cylinders, falling materials, and unsafe working surfaces. The risk levels consisted of 62% low risk, 23% moderate risk, 15% high risk, and 0% extreme risk. High-risk hazards were found in grinding machine operation, pinch points, weak joints, unsafe working positions, slippery working surfaces, and thrown materials. The proposed controls include engineering control, implementation of SOP, training, work supervision, installation of safety signs, and use of APD according to occupational safety standards.

Keywords: fabrication, HIRARC, occupational accident, risk control, risk management.