Analisis Human Reliability Assessment (HRA) Pada Prosedur Keadaan Darurat: Meninggalkan Kapal di PT. X dengan Menggunakan Metode Human Error Assessment and Reduction Technique (HEART)

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Abstrak

PT. X merupakan perusahaan penyebrangan dan pelabuhan besar yang melayani lebih dari 300 lintasan di Indonesia. Meskipun PT. X telah mengembangkan prosedur keselamatan evakuasi keadaan darurat di kapal, risiko terjadinya human error masih belum dapat sepenuhnya dicegah dan dikendalikan. Penelitian ini membahas mengenai Human Reliability Assessment dengan tujuan untuk mengetahui, menganalisis, dan mengkuantifikasikan kemungkinan human error pada Prosedur Penanganan Keadaan Darurat: Meninggalkan Kapal di PT. X dengan menggunakan model Human Error Assessment and Reduction Technique (HEART) dan didukung teori Generic Error Modelling System (GEMS). Hasil penelitian menunjukkan bahwa sub tugas 4.5 “terapung dengan posisi telentang” merukapan tugas dengan nilai HEP tertinggi dengan nilai sebesar 2,2E-01. Selain itu, Sub tugas 3.1 “menurunkan life boat” (1,27E-02), 3.3 “menyiapkan life raft yang terapung ke sisi lambung kapal” (1,75E-02) dan 5.2 “mendayung life raft menjauh dari sisi kapal” ditemukan sebagai 3 tugas yang sepenuhnya dikerjakan oleh ABK dengan nilai HEP tertinggi. Beberapa jenis kesalahan manusia yang mungkin terjadi ditemukan pada pelaksanaan Prosedur Penanganan Keadaan Darurat: Meninggalkan Kapal di PT. X yaitu lapse (32%), slip (29%), knowledge-based mistake (20%), ruled-based mistake (10%), situational violation (5%), routine violation (2%), dan optimising violation (2%). Pencegahan dan pengendalian kesalahan manusia disarankan untuk dilakukan dengan memerhatikan nominal HEP tertinggi serta jenis-jenis human error yang ditemukan dalam penelitian ini <hr /> PT. X is a large ferry and port company that serves more than 300 routes in Indonesia. Although PT. X has developed emergency evacuation safety procedures on board, the risk of human error still cannot be completely eliminated and controlled. This study discusses Human Reliability Assessment with the aim of knowing, analyzing, and quantifying the possibility of human error in the Emergency Handling Procedure: Abandoning Ship at PT. X using the Human Error Assessment and Reduction Technique (HEART) model and supported by the Generic Error Modeling System (GEMS) theory. The results of the study indicate that sub-task 4.5 "floating in a supine position" is the task with the highest HEP value of 2.2E-01. In addition, Sub-task 3.1 "lowering the life boat" (1.27E-02), 3.3 "preparing the floating life raft to the side of the ship's hull" (1.75E-02), and 5.2 “rowing the life raft away from the side of the ship” are 3 tasks that are completely carried out by the crew with the highest HEP value. Several types of human errors were found that may occur in the implementation of Emergency Handling Procedures: Abandoning Ship at PT. X are lapse (32%), slip (29%), knowledge-based mistake (20%), ruled-based mistake (10%), situational violation (5%), routine violation (2%), and optimizing violation (2%). Prevention and control of human errors are recommended to be carried out with careful attention to the highest HEP nominal and the types of human errors found in this study.