

Aplikasi Model Formal Safety Assessment dan Fuzzy Logic dengan Fungsi Keanggotaan Gauss untuk Penilaian Risiko Keselamatan Pelayanan Terminal Peti Kemas = Application of Formal Safety Assessment (FSA) and Fuzzy Logic Model with Gaussian Membership Function for Safety Risk Assessment of Container Handling Terminal

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Abstrak

Meningkatnya operasional PT IPC TPK menjadikan sebagai salah satu pelabuhan tesibuk di dunia, dan sebagai pelabuhan pertama di indonesia yang melayani transshipment internasional di mana pada tahun 2017 jumlah throughput yang dicapai adalah 6.9 juta TEUS, lalu tahun 2018 dan 2019 masing-masing menjadi 7.6 Juta TEUS. Sedangkan di PT IPC TPK cabang Tanjung Priok, berdasarkan data yang didapat, jumlah throughput yang dicapai pada tahun 2017 adalah 1.6 Juta TEUS. Terlepas dari sibuknya operasional pelabuhan, atau bongkar muat, jumlah laporan mengenai kecelakaan dan nearmiss di PT IPC TPK masih tergolong tinggi. Berangkat dari hal ini, dilakukan model Formal Safety Assessment (FSA) dan Fuzzy Logic dengan fungsi keanggotaan gaussian untuk dalam melakukan penilaian risiko serta meminimalisir maupun risiko bahaya pada pelayanan peti kemas PT IPC TPK. Didapat 5 jenis bahaya di operasional pelabuhan yaitu; Tabrakan (collision); kebocoran (leakage); fasilitas, peralatan dan kontainer (facility, equipment, and container); lingkungan (Environment); dan pengendalian kontainer yang buruk (bad cargo handling); di mana nilai Risk Level tertinggi yaitu facility, equipment and container (19) dan bad cargo handling (5.47). Melalui penerapan total 20 RCO, sebagian besar pengendalian risiko yang dirancang bersifat meningkatkan safety awareness pada operator yang bekerja di area pelabuhan, seperti mewajibkan penggunaan APD, peningkatan jaringan komunikasi, perbaikan fasilitas baik itu pengguna jasa, pihak pelabuhan dan stakeholder, hingga himbauan atau audit bagi pihak pengguna jasa, pelabuhan maupun stakeholder untuk mengikuti training berkala.

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The increasing operational of PT IPC TPK makes it one of the busiest port in the world, and as the first port in Indonesia to serve international transshipment, which is in 2017 the amount of throughput has reached 6.9 million TEUs, then in 2018 and 2019 each became 7.6 million TEUs. Whereas at PT IPC TPK Tanjung Priok, based on the data obtained, the amount of throughput achieved in 2017 was 1.6 Million TEUs. Apart from busyness port operations, or loading and unloading, the number of reports on accidents and nearmiss at PT IPC TPK is still relatively high. Departing from this, the Formal Safety Assessment (FSA) and Fuzzy Logic was carried out with a gaussian membership function to carry out risk assessments as well as minimize or risk hazards in PT IPC TPK's container service. There are 5 types of hazards in port operations namely; Collision; leakage; facilities, equipment and containers; environment and bad cargo handling, where the highest Risk Level values are facility, equipment and container (19) and bad cargo handling (5.47). Through the application of a total of 20 RCOs, most risk controls designed are designed to increase safety awareness for operators working in the port area, such as requiring the use of PPE, improving communication networks, improving facilities for both service users, the port and stakeholders, to appeals or audits for service users, ports and stakeholders to attend regular training.</i>