

## **ABSTRACT**

Awareness of the need for risk management for a company is becoming increasingly important, one of which is PT IPC TPK. With the increasing operations of PT IPC TPK making it one of the busiest ports in the world, and as the first port in Indonesia that serves international transshipment, regardless of the busy port operations or loading and unloading, the number of reports regarding accidents and near misses at PT IPC TPK is still high, making it vulnerable to risk of loss to the company. There are 5 types of hazards in port loading and unloading operational process activities, namely; Collision (collision); leakage (leakage); facilities, equipment and containers (facility, equipment, and container); environment (Environment); and poor container handling (bad cargo handling); where the highest Risk Level value is facility, equipment and container and bad cargo handling. This study aims to identify and formulate risk mitigation strategies that occur in the company. The method used in this study is FMEA which functions as a tool to measure priority risks that have been identified and the use of AHP as a tool to determine the weight of supply chain risk mitigation strategies. The results of risk identification carried out in the field and interviews with experts contained 30 risk events and 28 causes of risk which were divided into each process of plan, make, source, and delivery. For the mitigation strategy, there are 9 alternatives which are divided in each process

**Keywords:** Supply Chain Risk, Risk Mitigation, FMEA (failure mode and effect analysis), Analytical Hierarchy Process (AHP)