

## ABSTRACT

PT XYZ is one of the leading companies in the automotive industry, supported by various divisions, including the Spare Parts Logistic Division (SPLD). This division is responsible for managing and distributing XYZ vehicle parts across Indonesia. Given the complexity of its operations, SPLD faces several safety risks, such as muscle injuries, falls, being struck by objects, and near-miss incidents. These incidents not only pose a threat to the health and safety of workers but also have the potential to cause financial losses for the company. Among all the departments within SPLD, the Production & Administration Support (PAS) department records the highest number of incidents, with 9 identified hazards carrying Medium risk across 13 key activities.

This situation highlights the need for a more comprehensive and focused risk management approach. This study utilizes the HIRARC (Hazard Identification, Risk Assessment, & Risk Control) and Bowtie methods to identify, assess, and control potential hazards in the PAS department. HIRARC is used to systematically identify potential hazards and assess their risk levels. Additionally, the Bowtie method is applied to visualize the relationships between threats, main events, and consequences, as well as to develop appropriate preventive and mitigation control measures.

The results of the study reveal that certain work behaviors in the PAS department present significant risks and require immediate control. Nine potential hazards with Medium risk levels necessitate mitigation actions across the observed activities. To address this, a revision of the HIRARC procedures, making them more detailed and tailored to the specific conditions in PAS, is proposed. Furthermore, increasing worker awareness through regular training, providing relevant safety information, and enhancing the supervision system are also prioritized.

The implementation of more advanced safety technologies is recommended

to strengthen control measures. With the updated risk assessment and more effective risk control measures in place, it is expected that worker safety awareness in the PAS department will improve, supporting the company in achieving its goal of zero accidents in the workplace.

***Keywords — HIRARC, Bowtie, Hazard, Risk, Risk Control***