

## CHAPTER I

### INTRODUCTION

#### 1.1 Background of the Problem

Workplace accidents can happen at any time. In the workplace there are raw materials and capital. One of the key factors in the production process is the worker. Doing work involves various responsibilities, one of which is the safety aspect. Safety is a company's responsibility to make its employees safe in their daily work and prevent work accidents.<sup>1</sup>

According to the International Labour Organisation (ILO) in the Global Fatality Estimation In 2023, many reports show that occupational accidents are still high, with 2.73 million workers dying each year due to occupational incidents or work-related illnesses, and approximately 374 million people are injured or injured due to occupational accidents.<sup>2</sup> In 2023, BPJS Employment recorded as many as 370,747 cases of work incidents. This figure comes from several factors, including traffic accidents involving workers commuting to and from work.<sup>3</sup>

Herbert William Heinrich Ratmanis states that work accidents are often caused by certain workplace practices and conditions caused by people who carry out tasks on the job and in the process of equipment and materials. According to H.W. Heinrich, 88% of work accidents are caused by unsafe actions or human error (Unsafe Action), 10% by bad habits and 2% due to things that cannot be prevented.<sup>4</sup> Lack of vigilance in overcoming the risks faced in the workplace can greatly affect the risky behavior carried out by workers.

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<sup>1</sup> Suma'mur, "Occupational Safety and Accident Prevention" (Jakarta, 2009).

<sup>2</sup> Desti Purnama Saari, Yulia Hariani, and Noer Muhammad, "The Impact of Knowledge, Attitude, and Work Period with the Incidence of Work Accidents at PT X Palembang in 2024," *JOURNAL OF APPLIED HEALTH* 11, no. 2 (July 24, 2024): 148–55, <https://doi.org/10.54816/jk.v11i2.798>.

<sup>3</sup> Ministry of Manpower, "Work Accidents in 2023," <https://satudata.kemnaker.go.id/data/kumpulan-data/1728>, February 26, 2024.

<sup>4</sup> PT Produksin X et al., "Environmental Occupational Health and Safety Journal," *Environmental Occupational Health and Safety Journal* • 2, no. 2 (2022): 133.

This risky behavior increases the risk of accidents for employees. Therefore, the Company's Operational Standards are work instructions that must be followed and implemented in an orderly and correct manner according to the guidelines that have been determined.<sup>5</sup> Unsuitable handlers can cause problems in the production department, damage to facilities, accidents and others problems. This is the main factor in the occurrence of work accidents due to labor behavior, namely pressure and workload. Inappropriate workload at work accounts for 60% of work-related accidents.<sup>6</sup>

In doing a person's work, workers must know the position of the job they must do. Includes the duties, responsibilities and obligations of workers to the company. This is in accordance with QS. Al-An'aam verse 135 which reads:

فَلْيَقُومُوا عَلَىٰ مَكَانَتِكُمْ إِنِّي عَامِلٌ ۖ فَسَوْفَ تَعْلَمُونَ ۚ مَنْ تَكُونُ لَهُ عَاقِبَةُ الدَّارِ ۚ إِنَّهُ لَا يُفْلِحُ الظَّالِمُونَ

"Say (Prophet Muhammad), "O my people, do according to your position, and I will do it. Later you will know who will get the (best) place in the hereafter (later). Indeed, the unjust will not be lucky." QS: Al-An'aam: 135).

PT INKA (Persero) is the first State-Owned Enterprise (BUMN) integrated railway manufacturing in Southeast Asia located in Jl Yos Sudarso 71 Madiun, East Java. PT INKA has two divisions in the production process, namely Fabrication and Finishing. In the Fabrication Division there are Welding, plate unification, west and east assembly. In the Finishing Division, there is a process of installing train components, painting process, interior installation, feasibility test (*Quality Control*), and Quality Assurance (*Quality Assurance*).

In PT INKA's work report, workers carry out a number of unsafe actions during the production process. Some examples of unsafe actions carried out by workers include lack of caution and not following the company's operational

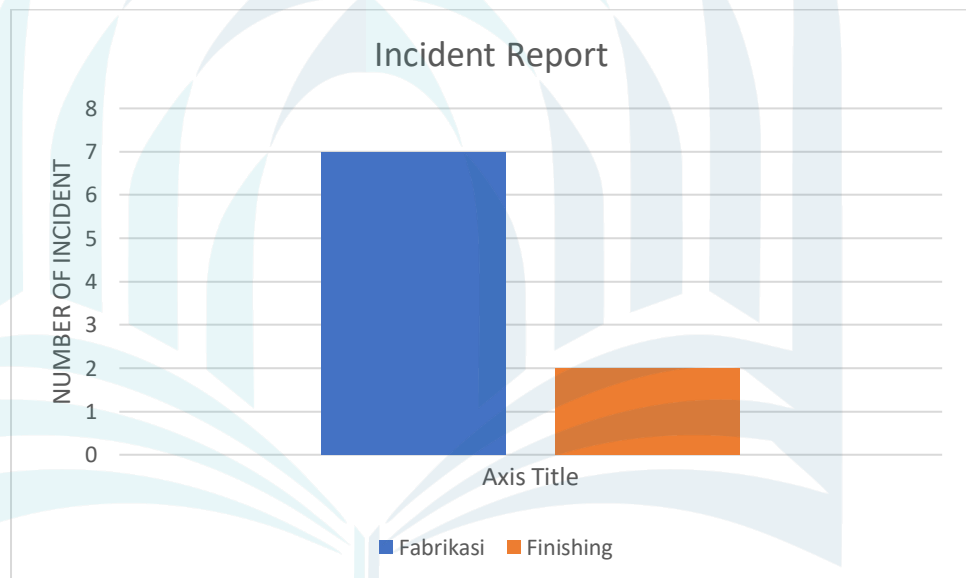
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<sup>5</sup> Research article et al., "Factors Associated with Unsafe Action in Workers at PT. X Jambi," vol. 1, 2022.

<sup>6</sup> S Ayu, "The Relationship between the Implementation of Standard Operating Procedures and Training," 2019.

standards before doing work, one of which is the use of Personal Protective Equipment that is suitable for the work environment. PT INKA's production process consists of producing trains, providing railway maintenance services and trading railways.

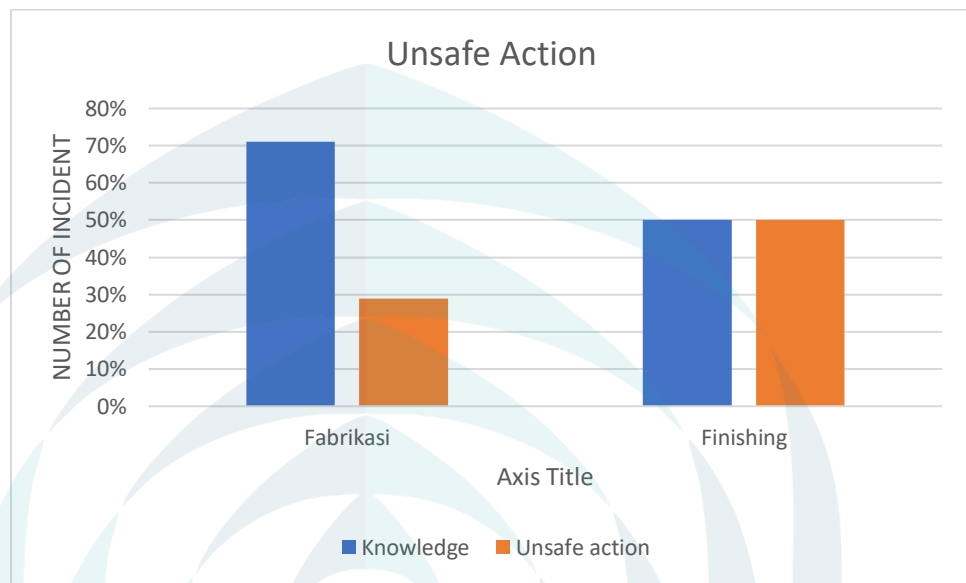
The production activity process processes raw material inputs into railway output by providing added value. The Fabrication Division is the division of manufacturing train bodies in the area with the highest number of work accidents at PT INKA. The types of activities are plate cutting, grinding, welding, and forming.



**Picture 1** Work Incidents

Source: PT INKA Work Incident Report, 2024

From the explanation of the number of work incidents, the fabrication division has the highest number of work incidents. The number of work incidents in picture 1 shows in the Fabrication Division in 2024 as many as 7 cases with explanations: crushed (14.29%), grams in the eye (14.29%), cut (14.29%), scratched (42.86%), and minor burns (14.29%). The number of work incidents in the Finishing Division was 2 cases with scratched explanations (100%).



Source: PT INKA Work Incident Report, 2024

**Picture 2** Causes of Unsafe Actions

The causes of unsafe actions in the fabrication division in 2024 are 7 cases with explanations: background with knowledge (71%), inappropriate attitude (29%). As for the causes of unsafe actions in the finishing division, there were 2 cases with explanations: background with knowledge (50%), and inappropriate attitude (50%). This is in line with previous research, which states that knowledge is related to *unsafe action* of workers.<sup>7</sup>

Based on the results of observations, it is still seen that there are workers who do unsafe work (*unsafe action*). Unsafe action can result in accidents due to work that can result in injuries, loss of materials and even loss of working time for employees, Therefore, the researcher wants to use the title "The Relationship between Knowledge about Occupational Safety and Health and *Unsafe Action* of Workers in the Fabrication Division of the Welding Section of PT INKA (Persero)".

<sup>7</sup> Sri Aji Cakraningrum, Seviaana Rinawati, and Tyas Lilia Wardani, "The Relationship between OSH Knowledge and Attitudes with Unsafe Action in Workshop Mechanics in Pulogebang, East Jakarta," *Journal of Applied Agriculture, Health, and Technology* 2, no. 2 (December 31, 2023): 30–40, <https://doi.org/10.20961/jaht.v2i2.941>.

## 1.2 Research Problems

Based on the explanation above, the problem in this study is: What is the relationship between workers' knowledge about occupational safety and health and *unsafe action* at PT INKA MADIUN (Persero)?

## 1.3 Research Objectives

This study has the following objectives:

### 1. General Purpose

Analyze the relationship between workers' knowledge about occupational safety and health and *unsafe action* in workers at PT INKA.

### 2. Special Purpose

- a. To know the knowledge of the workforce at PT INKA on occupational safety and health.
- b. Identifying *unsafe actions* in the workforce at PT INKA.
- c. To test the relationship between occupational safety and health knowledge and *unsafe action* in workers at PT INKA.

## 1.4 Research Benefits

### 1. For PT INKA

The results of this study are expected to be used as evaluation materials for efforts to prevent *unsafe action* by providing input and information to reduce *unsafe action accidents*.

### 2. For University of Darussalam Gontor

The results of this study are expected to be an additional reference for further research on *unsafe action* and worker knowledge about occupational safety and health for students of the Occupational Safety and Health Study Program, University of Darussalam Gontor.

### 3. For the Author

This research can be used as a reference material or complementary material for the application of science on Occupational Safety and Health

(OSH) regarding Occupational Safety and Health Knowledge and *unsafe action* on workers in the workplace so as to increase the researcher's knowledge.



### 1.5 Originality of Research

**Table 1** Research Originality Table

No	Research Title	Name and Year	Research Methods	Variable	Result	Difference
1	The Relationship between OSH Knowledge and Attitude with <i>Unsafe Action</i> in Mechanics of the Pulogebang Workshop East Jakarta	(Sri Aji Ningrum., 2023)	Quantitative	<ul style="list-style-type: none"> <li>- Dependent variable : <i>Unsafe Action</i></li> <li>- Independent Variables: OSH Knowledge and Attitude</li> </ul>	The result of <i>the chi-square test</i> was 0.582, which means that the variables of knowledge and attitude were able to explain 58.2% of the variables of unsafe action. So, there is a relationship between OSH knowledge and Attitude with Unsafe action in Workshop Mechanics in Pulogebang, East Jakarta	Differences in research sites at PT INKA, respondents to the <i>welding department</i> of PT INKA as well as variable <i>unsafe actions</i> and occupational safety and health knowledge
2	The Relationship between <i>Unsafe Action</i> and <i>Unsafe Condition</i>	(Irkas et al., 2020)	Quantitative, cross sectional	<ul style="list-style-type: none"> <li>- Dependent variable: Work Accidents</li> </ul>	The results of <i>the chi-square test</i> for <i>the unsafe action variable</i> showed a	Differences in the research site at PT INKA, respondents in the welding section

and Work Accidents in Workers in the Furniture Industry		- Independent Variables: <i>Unsafe action</i> and <i>Unsafe Condition</i>	p-value = 0.025 (<0.05), which indicates a relationship between unsafe action and work accidents. On the contrary, the results of the chi-square test for the unsafe condition variable produced a p-value = 0.074, which is greater than 0.05, so $H_0$ was accepted and did not show a relationship between unsafe condition and work accidents	of PT INKA as well as variable <i>unsafe actions</i> and knowledge of occupational safety and health
3 Factors Causing Work Accidents in the Limestone Mining Area of the Heavy Equipment Unit of PT. Semen Padang	(Kristiawan and Abdullah R, 2020) Descriptive	- Dependent variable: Work Accidents - Independent Variables: <i>Unsafe action</i> and <i>Unsafe Condition</i>	In 2018, the percentage of accidents due to unsafe actions reached 80%, while the percentage of accidents due to unsafe conditions	Differences in research sites at PT INKA, respondents to the welding department of PT INKA as well as variable <i>unsafe actions</i> and



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was 20%. Of the total 16 serious accidents, 7 of them were caused by unsafe actions such as slipping, being hit by objects, and slumping	occupational safety and health knowledge
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Based on the table above, shows that there is a difference between this study and existing research. The differences in research include the scope of research at PT INKA (Persero), the year of research in 2024, research variables of occupational safety and health knowledge, and *unsafe action*, and Data analysis in the study was carried out using univariate and bivariate analysis.