CHAPTER I

INTRODUCTION

This chapter contains research background, problem formulation, research objectives, research scopes, and outline of the final project report.

1.1 Background

Technology and knowledge advancement have caused industry companies to compete in improving their business quality. Moreover, in terms of production, the existence of sophisticated tools and machines can create a more effective and efficient production flow. However, without proper safety supervision, the use of high-tech machines could cause potential hazards and end up harming the company's performance.

As a resource, human is one of the crucial assets in supporting the company's sustainability. Potential hazards that are not anticipated properly by the company could lead to work accidents experienced by workers. This condition could bring losses for the company in terms of cost, time, and energy. Therefore, it is necessary for companies to create a work environment that is healthy, safe, and comfortable so that workers are able to work productively and achieve optimal work results.

According to Badan Penyelenggara Jaminan Sosial (BPJS), the number of workplace accidents in Indonesia continues to increase every year. The number of work accidents from minor to fatal reaches an average of 130,000 cases each year. While the medical costs incurred for victims of work accidents reach 1.2 trillion per year (BPJSTK, 2019). This alarming number of work accidents shows that occupational safety and health is classified as aspects that need to be designed optimally in order to minimize the work accidents incidents and support workers to have good performance, health levels, and physical endurance.

Work accidents are events that are certainly avoided by the company. Prevention of work accidents could be done by monitoring the work of workers, ential accidents, and analyzing actions that can be taken to minimize the pos isting work accidents. Government regulation (PP) number 50 of 2012 and I 2003

articles 86 and 87 concerning manpower stated about the importance of Occupational Safety and Health (OSH) in order to create a productive and safe work environment. One of the company that realizes the importance of Occupational, Safety, and Health (OSH) is PT Indonesia Chemi-con.

PT. Indonesia Chemi-Con is a manufacturing company located in Cikarang that engaged in the production of electronics spare parts components. This company focuses on producing product in the form of aluminum electrolytic capacitors. PT. Indonesia Chemi-Con has a production system that is carried out with the help of machines to generate a more effective and efficient production process. Currently, PT Indonesia Chemi-Con has a total production department employee of 211 workers. In accordance with Government Regulation No. 50 of 2012 Article 5 which states that companies that employ at least 100 workers or have a high level of risk of work accidents are required to implement an Occupational Safety and Health Management System in the company, PT Indonesia Chemi-con has implemented Occupational Safety and Health Management System (OSH) in the company. However, work accidents are still likely to be found in the Capacitor Production Department.

The occupational safety and health management implementation in the Capacitor Production Department is still not optimal. Some forms of accidents that often occur are the operator's scratched finger by the cutter blade, skin irritation due to chemical liquid paste, and the operator's eye that exposed to material scrap and dust. There are also work accidents such as the bleeding head due to being hit by heavy material, highly injured hand for being stuck in the machine, and cut finger while using the slitting machine that causethe operator to lose workdays during medication.

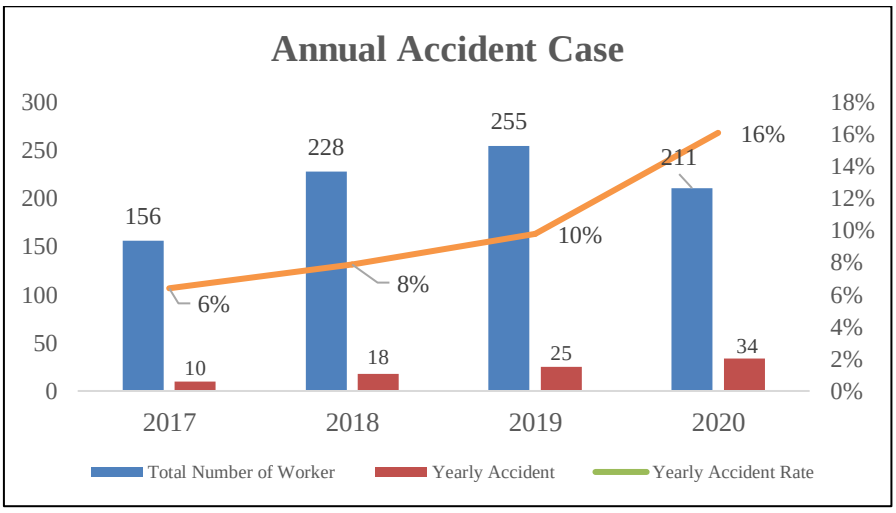

Figure 1.1 Annual Accident Report at Capacitor Production Department The number of work accidents at the PT Indonesia Chemi-con Capacitor Production Department has increased every year. Based on **Figure 1.1**,the ratio of the frequency of work accidents to the number of company workers has increased the highest by 60% from 2019 to 2020. Work accidents that occur at PT Indonesia Chemi-con could cause losses such as expenses for employee recovery, and loss of work days for workers who have to take medication, and disruption of the production process.

According to the direct discussion on Thursday, 15 October 2020 at the PT Indonesia Chemi-con Office Building with Mr. Ahmad Sobari as Head of the Occupational Health and Safety Division of PT Indonesia Chemi-Con, it is known that the company has not done a profound risk assessment in Capacitor Production Department where the level of severity and possibility of each hazard has not yetidentified. For instance, a fire accident is classified as a severe hazard with low number of occurrences, while mechanical hazard such as scratched fingers are less harmful but often occur. This could make the mitigations undertaken by the company to prevent the hazard occurrence become less exact.

An effort done to manage Health and Safety risk is by carrying out risk management which aims to prevent unwanted accidents in a comprehensive, planned, and structured manner (Ramli, 2010). Therefore, it is necessary to conduct a research of complete risk assessment in Capacitor Production Department of PT Indonesia Chemi-Con. According to (Rahman, 2017) risk management activities begin with the identification of potential hazards. Then, the potential hazards that have been obtained are given a risk assessment and risk control. This is done with the aim of order to overcome and prevent work accidents in the company and creating a healthful, secure, and comfortable working environment.

1.2 Problem Formulation

Based on the background that has been described, the problem formulation of this study are:

1. How to identify potential hazards in Capacitor Production Department of PT Indonesia Chemi-con?
2. How to assess the health and safety riskin the Capacitor Production Department of PT Indonesia Chemi-con?

3. How to determine the risk controlto prevent risks occurrence in Capacitor Production Department of PT Indonesia Chemi-con?

1.3 Research Objectives

The objectives of this research are:

1. Identify the types of occupational safety and health risks in Capacitor Production Department of PT Indonesia Chemi-con
2. Conduct an assessment of the occupational safety and health risks of the work environment in Capacitor Production Department of PT Indonesia Chemi-con
3. Determine therisk controls that could be implemented by the Capacitor Production Department of PT Indonesia Chemi-con

1.4 Research Scope

The research scope of this study is there are no changes or improvements in working methods in all of production process.

1.5 Outline of Final Project Report

The outline of the report that used in this final project are as follows:

CHAPTER I INTRODUCTION

This chapter contains background, problems formulation, research objectives, research scopes, and outline of the final project report

CHAPTER II LITERATURE REVIEW

This chapter contains the theories related to the completion of the Final Project.These theories include the definition and types of hazard, definition of risk, definition of work accidents, definition of risk management, hazard identification, Hazard and Operability Study (HAZOP) Method, Root Cause Analysis, Fault Tree Analysis (FTA) Method.

CHAPTER III RESEARCH METHODOLOGY

This chapter consists of preliminary study, literature study, method selection, problem solving methodology, and flowchart of research methodology

CHAPTER IV DATA PROCESSING

This chapter contains of data processing regarding hazards inusing obtained data.The data processing carried out by identifying potential hazards and risks, risk assessment, determination of the root causes of risk, and risk control in the Capacitor Production Department.

CHAPTER V RESULT & DISCUSSION

This chapter contains of analysis of hazard according to the Risk Rating Number (RRN). Result and discussion also consists of risk control analysis referring to the hierarchy of control.

CHAPTER V CONCLUSIONS

This chapter contains the conclusions of the Final Project research and suggestions for further research


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