

## Health Safety and Environment Analysis in Food Manufacturing Installation Company to Eliminate Work Accidents

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### ABSTRACT

The manufacturing industry involving humans in carrying out the production process can involve a risk of work accidents, a combination of the possibility of a hazardous event, or the severity of an injury caused by the incident. PT. XYZ already has Figure 1. Research Flowchart HSE standards in carrying out this work, but work accidents can still occur due to various factors. According to statistics obtained, the non-compliance of employees with the rules of HSE (unsafe acts) and condition in the work area (hazardous condition) according to statistics received a value of 80% is caused by dangerous acts and 20% is caused by unsafe conditions. The research method used is descriptive analysis with data collection through observation and in-depth interviews with the HSE Site Officers and HSE Manager. Data retrieval is also added with specific data, which will then be concluded into general data. Data validity is done by collecting data from observations or interviews with various sources. Overall the implementation of HSE at PT. XYZ has been very good with fulfilling all aspects needed to help minimize the number of work accidents in the workplace.

*Keywords: Health safety and environment, installation manufacture, work accidents*

### Introduction

The manufacturing industry involving humans in carrying out the production process can involve a risk of work accidents, a combination of the possibility of a hazardous event, or the severity of an injury caused by the incident (OHSAS 18001, 2007). Production activities at PT. XYZ covers machining, welding, grinding, polishing to sandblasting work. PT. XYZ already has HSE standards in carrying out this work, but work accidents can still occur due to various factors. The non-compliance of employees with the rules of HSE (unsafe acts) and condition in the work area (hazardous condition) according to statistics obtained unsafe acts cause a value of 80%, and 20% is caused by dangerous conditions (Silalahi, 1995). The company must consider this to create a safe and comfortable working atmosphere by implementing obedient behavior towards work safety. Behavioral safety can reduce accidents by 40% to 70% within 12-16 months (Wignjosoebroto, 2012).

In the production process, employees from PT. XYZ can still be found not using personal protective equipment following his work which can minimize the number of work accidents. Personal protective equipment is a set of tools used by workers to protect all or parts of the body against possible hazards in the workplace or the occurrence of work accidents. Personal protective equipment is used after engineering efforts and safe working methods, provided that they are comfortable to wear and provide effective protection against hazards (Kurniawati, 2013).

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At the same time, the definition of work accidents is an unwanted and unexpected event that can cause human and property casualties (Suma'mur, 2009).

One of the things that support HSE is the work environment. The work environment is divided into physical and physical work environments. The Physical conditions around the workplace can affect employees either directly or indirectly. In contrast, the non-physical work environment is all conditions related to work relationships, both with superiors and subordinates (Sedarmayanti, 2001). A comfortable and safe work environment can reduce the number of work accidents and improve the performance of employees. Performance is the result of work in quality and quantity achieved by an employee in carrying out tasks by the responsibilities given to him (Mangkunegara, 2004)

A work accident is an event that is unwanted and often unexpected at first which can cause loss of time or property and loss of life that occurs in an industrial or related work process (Tarwaka, 2008). Based on data from the ministry of human resources in 2020, work accident cases that occurred in the 2<sup>nd</sup> quarter of 2020 were recorded as 3.174 cases where the number of work accident cases decreased by around 59.46% compared to the 2<sup>nd</sup> quarter of 2019 with a work accident rate of 7.829 cases (Kemnaker, 2020). The risk of a work accident is the possibility of an accident or loss occurring over a certain period. Factors that influence the risk of work accidents are occupational, human factors, and work environment factors where work accidents are related to activities and activities at work (Budiono, 2003)

At the beginning of 2021, there were reports of non-conformity in the workshop area and plant site caused by the negligence of workers in operating work tools so that they had to receive medical treatment, so it was necessary to study the implementation of HSE. The research method that will be used is the descriptive analysis method is a statistical method used to analyze data by describing or describing the data that has been collected as it is without intending to make conclusions that apply to the public or generalizations (Sugiyono, 2014). From the explanation above, the researcher aims to analyze the implementation of HSE in minimizing work accidents at the food manufacturing installation company PT. XYZ

## Material and Methods

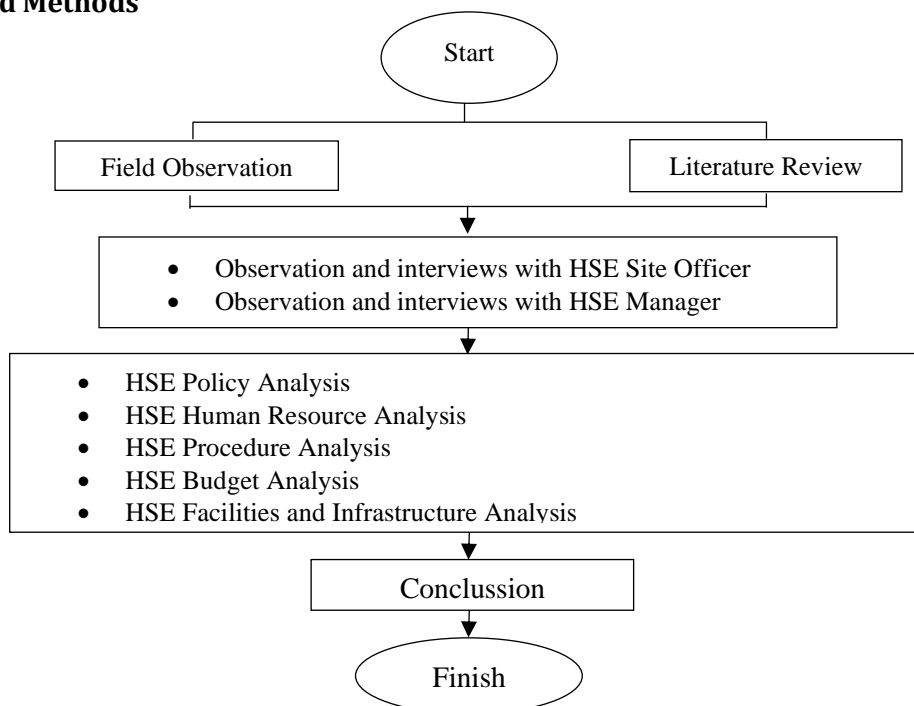


Figure 1. Research flowchart

The research method used is descriptive analysis with data collection through observation and in-depth interviews with the HSE Site Officers and HSE Manager. Validating data is done by collecting data from observations or interviews with various sources. Data retrieval is also added with specific data, which will then be concluded into general data.

## **Result and Discussion**

Based on the results of observations and interviews that have been carried out, the results of the analysis for the applied HSE policies, the HSE human resources involved, the HSE implementation procedures, the budget used by HSE, and the facilities and infrastructure that support HSE activities are obtained

### ***HSE policy analysis***

Based on the results of observation and interviews conducted with the HSE manager and site officer, it was known that the HSE policy had been compiled in the HSE policy document, which is issued based on the order of policymaking and approved by the HSE manager and known together with the executive officer as the supervisor in charge of HSE department.

The HSE policy's implementation and organization is given to the HSE department responsible for the implementation of HSE at the workshop and site plant where workers attend the working that requires supervision and implementation of HSE at work. The implementation of HSE policies includes policies on preventing work accidents due to various types of work, employee health checks, risk control, chemical storage, daily safety activities, emergency response preparedness, safety signs, safety banner, and covid-19 protocol.

The implementation and organization of HSE are supervised by the HSE manager at the head office, wherein in case of fatal non-conformity and requires improvement. The HSE manager can coordinate further with other divisions related to the follow-up of non-conformities that occur both in the workshop and at the plant site.

### ***HSE human resource analysis***

Based on the results of observations and interviews with the HSE manager and site officer, the results that related to human resources in the HSE division, it was known that the recruitment process is done with the coordination between HSE and HR division with recruitment criteria is proposed based on the needs of the HSE division. Human resources in the HSE division include site officers and administrative staff at the head office. The main consideration in recruiting site officers is the certificate of proficiency in HSE, as evidenced by the relevant HSE training certificate. The main concern for recruiting administrative staff is data processing by an ability assessment held directly in the head office tested by the HR and HSE divisions. In carrying out HSE implementation at the workshop or site plant, it is given to the HSE division to handle and appoint an HSE site officer where each site officer is placed in each workshop or site plant. Related to refreshing activities and improving knowledge of work safety, the site officer works together with the foreman to hold toolbox meetings every morning. Every week, the HSE officer site and foreman held safety meetings. The number of human resources for the HSE division is seven people for site officers placed in each workshop or site plant and one administrative staff placed with the manager at the head office.

### ***HSE procedure analysis***

Based on the results of observation and interviews with the HSE manager and site officer, which is related to the work implementation procedures that had previously been regulated by the HSE division and the HSE implementation procedure overall include procedures of personal protective equipment, procedures for working with heat, procedures for working at heights, procedures for identification of environmental aspect and impacts, permit method of receiving guests, transportation management procedures, incident reporting, and investigation procedures,

HSE monitoring and measurement procedures, employee inspection procedures, manual and mechanical equipment handling procedures, lockout and tag out control procedures, risk control procedures, chemical storage procedures, emergency response preparedness procedures, appointment procedures, risk and opportunity control procedures, safety briefing procedures, safety induction procedures, and safety meeting procedures.

All related procedures are the result of coordination from the HSE division written in the HSE policy document in the procedures section approved by the HSE manager and executive officer as the party in charge of the HSE division. All relevant parties must implement the HSE procedure that has been made without exception to minimize workplace accidents. The implementation of the procedures is supervised directly by the HSE site officer as the field supervisor at each workshop or site plant. The HSE officer is directly responsible to the HSE manager. If there is a non-conformity, it will be immediately coordinated by the HSE division for immediate action.

Violation of the established procedures will be subjected to gradual sanctions in the form of warning letters issued up to 3 times, with the heaviest sanction in the 3<sup>rd</sup> warning letter, namely termination of employment because it is considered dangerous to the work of oneself and others. HSE is also responsible for guests who are visiting for various purposes that can cause non-conformity by first conducting safety induction to guests who will visit the work area.

## Conclusion

Based on the analysis above, we can conclude that HSE of PT. XYZ related to policy has been compiled in the HSE policy document, which is issued based on the order of policymaking and approved by the HSE manager and known together with the executive officer as the supervisor in charge of the HSE department. In carrying out HSE implementation at the workshop or site plant, it is given to the HSE division to handle and appoint an HSE site officer where each site officer is placed in each workshop or site plant. HSE at PT. XYZ already has a fairly complete procedure that can be used to do a job or a reference for visiting guests. The budget for the HSE division includes various procurements such as the procurement of personal protective equipment, which includes safety helmets, earplugs, safety masks, safety coveralls, safety shoes, safety gloves, safety glasses, and procurement of safety signs and warning banners installed at each workshop and plant site. HSE at PT. XYZ already has supporting facilities and infrastructure to minimize the number of work accidents, as evidenced by the availability of adequate for workers and guests and material prepared for toolbox meetings and safety meetings, various safety signs, and warning banners. Overall the implementation of HSE at PT. XYZ has been very good with fulfilling all aspects needed to help minimize the number of work accidents in the workplace.

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