

# Implementation Analysis of Occupational Safety and Health Management System (OSHMS) Employee in Food and Beverage Company

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**Abstract.** Occupational Safety and health is one of the public health or public health applications in a working society and the environment community. Refer to Government Regulation No. 50 of 2012 on the application of OSHMS, therefore, it is necessary to analyze the Occupational Safety and health management system that will be applied to protect workers during working hours and minimize the risk of accidents that occur in the company. XYZ is a newly established food and beverage processing manufacturing company. Therefore, OSHMS implementation research is one of the company's concerns in creating a comfortable working atmosphere for employees. With qualitative data collection methods from employees that aim to determine the types of hazards in each area and determine the availability of Personal Protective Equipment (PPE) that is feasible to ensure the safety of employees while working. After taking and analyzing the data still found issues of 19.3% of 100%. Using the PDCA method which is a continuous improvement action that emphasizes profit and is expected to closing the problem of 19.3% with a great commitment and thorough in its implementation.

**Keywords:** food and beverage, manufacture, oshms, pdca

## 1. Introduction

Occupational Safety and health this is an important issue in every operational processes outlined in Occupational Safety and Health Management System. OSHMS as a cause the main occurrence of accidents basically finding and revealing weaknesses operations that allow mistake [1]. To handle and reduce an accident in workplace then according to Government Regulations No. 50 year 2012 about occupational safety and health management system, because the accidents in the workplace have increased by 5-10% each year [2].

Using advanced equipment can facilitate and speed up in the production process to meet consumer demand. These conditions encourage use machine, tools, many installation and hazardous materials. So that will provide convenience, but these conditions can have negative impacts in addition to positive impacts. Therefore, application of Occupational Safety and Health Management System (OSHMS) must be considered carefully to protect the employees and produce good products [3].

Occupational safety and health are an area related to the health, safety and welfare of people working in a company. Occupational safety and health have a philosophy as a thought and effort to guarantee the integrity and perfection of both physical and spiritual workforce and humans in general, their work and culture towards a prosperous and prosperous society [4].

Work safety according to Redjeki (2016) [5], is a safety relating to machines, aircraft, work tools and their processing, the foundation of the workplace and the environment and ways of doing work. Work safety has properties.

- Technical
- The goal is the work environmental

Occupational health is always described as a physical, mental and social condition of a person who is not only free from disease or health problems, but also shows the ability to interact with the environment and work [5]. There are two main objectives of implementing of occupational safety and health [5]. First, create a safe work environment by conducting qualitative and quantitative assessments. Second, creating healthy conditions for employees, their families and their surrounding community through promotive, preventive, curative and rehabilitative efforts. The industrial revolution led to changes in the labor market with machines replacing human labor [6]. Occupational safety and health must be considered in the companies that produce food and beverage. This attention also focuses on the quality of the products produced by the company. If the company has a good image of the customer, then the wider community also trust the company's products.

XYZ is a company that produces food and beverage products, but current conditions the company is in transition from the project construction to production mode. So, to support the production process later it is necessary to identify factors and training to equip employees to maintain safety during the production process. Research and development of Occupational Safety and Health Management Systems in the workplace should be done through a logical process and continuous improvements. This can be done through the establishment of politics, evaluation, audit, and improvement actions [7]. Using PDCA method is highly recommended because it can be applied to the entire process and matches the basic management of Occupational Safety and health [8].

*International Labor Organization* (ILO) argue accidents are basically caused by two factors including human factors, workplace environmental factors and other factors. In the study conducted by Heinrich it was found that 88% off accidents caused by *unsafe action*, 10% caused by *unsafe condition* and 2% by *other factors* like God destiny. There are three factors that can cause work accident:

- Human factors (unsafe action)  
Unsafe action is the behavior of someone who does not pay attention to safety of himself and the environment.
- Workplace environmental factors (unsafe conditions)  
Unsafe condition is an unsafe or dangerous conditions for someone.

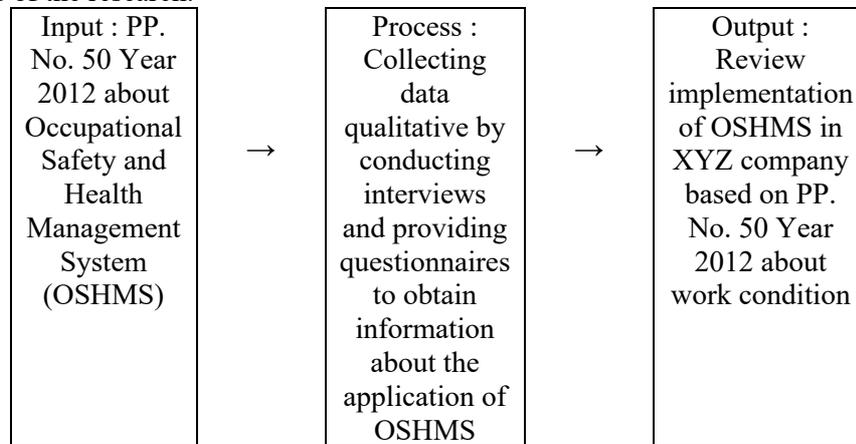
Good practices in the field of health and safety at work are powerful tools to stimulate productivity. Healthy workers can influence company performance: fewer absences from work due to illness, minimizing downtime in the production cycle, higher productivity and quality of work. As well as equipment and a working environment appropriately adapted to the needs of the work process, whose maintenance is ensured, improve quality and reduce health and safety risks by increasing productivity [9].

This research will help companies find unresolved problems to face the production process. With the discovery of these problems, it is expected that the company will immediately take remedial action to maintain the company's assets. Many people out there suffer losses in the form of property, objects to members of the body for underestimating safety. Danger can happen anytime and anywhere. Therefore, hazard identification should be done as early as possible to avoid accidents that can occur. Elimination of hazards is the right action to minimize the possibility of an accident. If there is a potential danger of avoided the next step of making standard operating procedures (SOP) and the provision of PPE adjust to the potential dangers that exist in the environment. Through the PDCA method will help companies to solve problems by performing continuous improvement actions. This will create a comfortable working atmosphere and increase productivity. Commitment of leaders is an important aspect in the sustainability of a company's management system, where the commitment of the leaders is can affect the progress of the company on the future.

## **2. Research Method**

In this study the main thing that is done is direct observation of the implementation of OSHMS that is running in XYZ company. Then perform data collection with qualitative data collection methods. Qualitative data analysis is an extensive and challenging activity to find more detailed information researchers with many problems. With this research, it is expected that the existing problems in the field

can soon be found a solution for provide a good impact on workers and companies. Here is **Figure 1**. Flow process of the research.



**Figure 1.** Flow process of the research

Data collection is doing by conducting interviews directly with parties related to the topic raised in this study. Interviews are conducted directly and questions are free and open. The selected respondents are Occupational Safety and health experts. In addition to interviews data collection also by conducting questionnaires to employees directly to determine the implementation directly. Observation is also carried out by conducting a direct review of the object of study. From the results of data collection, then analyzed and obtained the results of a thorough discussion. In making this report the analysis carried out is about the implementation of Occupational Safety and health management system.

### 3. Results and Discussion

According To Government Regulations No. 50 year 2012 on Occupational Safety and health management system where every company is obliged to implement Occupational Safety and health management system if it employs at least 100 people or the company's environment has a high level of potential danger.

With the government regulation, XYZ company has implemented an occupational safety and health management system in its company. The implementation has been done well but there are still some shortcomings that need to be improved. By applying the PDCA method will close the deficiencies found in the company. The implementation of this PDCA needs to be supported by all parties for the smoothness and security of doing work.

Here is **Table 1**. describe the review of the effectiveness of the implementation of OSHMS that is running in XYZ company. From the results of the review found 19.3% of 100% unresolved issues. While 80.7% of total security compliance has been implemented. This amount is considered feasible even though it is not optimal as a whole.

**Table 1.** Review of Implementation Occupational Safety and Health in PT. XYZ

Description	Availability		Evidence
	Yes	No	
<b>Weighing Area</b>			
1. There is a documented procedure regarding work operational standards		✓	On process
2. There is a procedure to identify hazards and control		✓	On process
3. The personal protective equipment is provided as needed and used properly			
a. Hairnet	✓		Available
b. Mask	✓		Available

c. Latex gloves	✓		Available
d. Apron		✓	Not Available
e. Safety shoes	✓		Available
4. The personal protective equipment used has been ensured to be appropriate and according to standards	✓		Checked by operator
5. Risk control efforts are evaluated periodically in the event of discrepancies and changes in work processes	✓		Checked by PIC

### Dumping Area

1. There is a document procedure regarding work operational standards		✓	On process
2. There is a procedure to identify hazards and control		✓	On process
3. The personal protective equipment is provided as needed and used properly			
a. Hairnet	✓		Available
b. Mask	✓		Available
c. Latex gloves	✓		Available
d. Earplugs	✓		Available
e. Safety shoes	✓		Available
4. The personal protective equipment used has been ensured to be appropriate and according to standards	✓		Checked by operator
5. Risk control efforts are evaluated periodically in the event of discrepancies and changes in work processes	✓		Checked by PIC

### Wet Process Area (Mixing)

1. There is a document procedure regarding work operational standards	✓		Available
2. There is a procedure to identify hazards and control		✓	On process
3. The personal protective equipment is provided as needed and used properly			
a. Hairnet	✓		Available
b. Goggles	✓		Available
c. Mask	✓		Available
d. Rubber gloves	✓		Available
e. Safety boots	✓		Available
4. The personal protective equipment used has been ensured to be appropriate and according to standards	✓		Checked by operator
5. Risk control efforts are evaluated periodically in the event of discrepancies and changes in work processes	✓		Checked by PIC

### Spray Drying and Filling Area

1. There is a document procedure regarding work operational standards		✓	On process
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2. There is a procedure to identify hazards and control	✓	On process
3. The personal protective equipment is provided as needed and used properly		
a. Hazmat suit	✓	Available
b. Mask	✓	Available
c. Latex Gloves	✓	Available
d. Safety shoes	✓	Available
e. Earmuff	✓	Not Available
4. The personal protective equipment used has been ensured to be appropriate and according to standards	✓	Checked by operator
5. Risk control efforts are evaluated periodically in the event of discrepancies and changes in work processes	✓	Checked by PIC

### Warehouse Area

1. There is a document procedure regarding work operational standards	✓	Available
2. There is a procedure to identify hazards and control	✓	Available
3. The personal protective equipment is provided as needed and used properly		
a. Helmet	✓	Available
b. Mask	✓	Available
c. Safety vest	✓	Not Available
d. Safety shoes	✓	Available
4. The personal protective equipment used has been ensured to be appropriate and according to standards	✓	Checked by operator
5. Risk control efforts are evaluated periodically in the event of discrepancies and changes in work processes	✓	Checked by PIC

### General

1. Scheduling inspection, maintenance of production facilities and equipment is well regulated	✓	On process by Engineering Dept.
2. Inspection, maintenance and repair doing by competent and authorized officers	✓	Doing by Engineering Dept.
3. Locking system (Lock Out Tag Out) is carried out so that it is not operated during the repair process	✓	Doing by Engineering Dept.
4. There is a procedure to protect the safety and health of employees and who are in the working area	✓	Available
5. Supervision is carried out to ensure that each job is carried out safely and according to procedures	✓	Doing by Engineering Dept.
6. There is a person in charge to verify that the production facilities are safe to use	✓	Doing by Engineering Dept.
7. There is a sign of safety installed as standard	✓	Available

8. Potential emergencies inside or outside the workplace have been identified and procedures documented	✓	Doing by HSE Section
9. There are facilities and procedures for emergencies based on identification results and periodically reviewed by authorized officers	✓	Doing by HSE Section
10. All employees get the training on emergency procedures according to the level of risk	✓	Doing by HSE Section
11. Equipment and hazard alert systems are provided and regularly tested and maintained	✓	Done routinely
12. Evaluate first aid kits and ensure first aid systems meet regulatory standards and technical guidelines	✓	Doing by each Department
13. There are first aid officers who have been trained in accordance with statutory regulations	✓	Doing by each Department
Total	80,7%	19,3%

From the results of the review, there are an incomplete PPE in several areas then the company must immediately meet the needs of PPE in the area. Next, the PDCA method is a solution to be used as a continuous improvement that increases on profits and can close the 19.3% problem with a comprehensive commitment.

- Plan  
Plan the things you want to achieve, understand how to do the work and focus on the issues and find the root of the problem. Create creative solutions then plan a structured implementation.
- Do  
Schedule a special training to employees in each area on activity management and PPE. To provide provisions to employees to avoid accidents.
- Check  
Checking the results and comparing them with the planning at the beginning. Whether the results of the planning in accordance with the desired. If it is not appropriate and bad then it takes immediate process control to handle it.
- Action  
Take further action on the results during the checking process. Another meaning is to standardize the process or learn from experience and then start over at the right conditions to achieve the goal.

#### 4. Conclusion

The Occupational Safety and Health Management System (OSHMS) at XYZ company has been implemented properly and in accordance with the government regulation of the Republic of Indonesia No. 50 year 2012 on the application of Occupational Safety and health management system in which the Company shall apply the Occupational Safety and health management system. Under the engineering department, the HSE section is expected to always provide improvements regarding improving work efficiency and employee safety supervision.

Hazard level measurements in each work area have been carried out. Thus, PPE has also been determined in accordance with the level of danger and does not interfere with job mobility. In order to protect the employees and assets of the company the HSE section is assigned on a regular basis to evaluate the implementation of the Occupational Safety and Health Management System within a certain period of time. In addition, the company is also obliged to provide facilities in the form of health

insurance in accordance with applicable regulations. With health insurance is a form of concern for the safety of employees in the event of a work accident. Expectations of the company, although it has been given the assurance that employees always comply with OSH regulations and implement it seriously.

After this research is done that must be considered by the company, namely the company's care guarantee regarding occupational diseases. Because some occupational diseases cannot be felt directly by employees. Some occupational diseases can be felt more than 5 years of service, due to exposure that occurs every day. Because of the work activities can trigger a decrease in sensory sensitivity function.

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