Analysis Of Unsafe Action And Unsafe Condition Based On Occupational Health And Safety Card reporting programs

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ARTICLE INFO	ABSTRACT
	Background: Accident in the workplace can result in injury or serious damage. This is due to the awareness of the safety of our workers is still very low, so the need for Occupational Health and safety programs in the company is based on existing activities in a company. The level of Occupational Health and safety program activities is determined based on the level of risk and danger in the situation. The greater the risk, the more control is needed on the work done to prevent and control the number of accidents. The Occupational Health and safety Department of PT XYZ has implemented several programs related to work accident prevention, including near miss report and Card Reporting. This program is an Occupational Health and safety program in the form of a reporting system and recording of unsafe conditions and behavior that are at work by involving all employees. **Objective:** This study aims to determine how effective the Card Card reporting program is in reducing accidents. **Method:** This research is an descpriptive qualitative study. The Information obtained from primary and secondary data which conducted by observation and interview technique. Research Subjects are workers, supervisors and managers there. The Number of accident rate and we care card repoting will be analyze by researcher with the observation data obtained. **Result:** The comparison before the implementation of the Card reporting program and after the Card reporting program there is a reduction in the number of work accidents by 20%. With this reduction in accidents the Card reporting program cannot be said to be effective. A program classified to the effective in carrying out its functions must obtain a value of at least 60%. But in its routine as a program that has the aim of civilizing workers in Occupational Health and safety culture, this program shows a very high level of participation from workers. **Conclusion**: Card reporting program be able to reduce the accident number, the ammount is only 20%.

I. Introduction

In Law No. 1 of 1970 about work safety stated the danger of every worker has the right to get protection for his safety in doing work and efforts need to be made to foster norms of work protection. Various efforts were made by the company as a workplace to protect workers from the

dangers of work accidents. Unsafe behavior is one of the factors causing occupational accidents, this becomes important to avoid the occurrence of death and losses caused.

A company that has high quality will prioritize the safety of its workers. One way for companies to prevent accidents is to design a good Occuational Health and Safety (OHS) program before starting a job. level of OHS program activities is determined by various situations related to the hazard and the level of risk in the situation. The greater the risk, the more control is needed for the work done [1].

Occupational Safety and Health is a program to prevent accidents in the work place and occupational disease. The aim of the occupational safety and halth program is to create a comfortable, healthy workplace, so that it can reduce the risk of accidents and occupational diseases as low as possible [2]. Work-related accidents and illnesses that involve human, machine, and material factors that go through the process stages have different levels of hazard risk that allows workplace accidents and occupational diseases. Labor is a company asset that is very important in the production process. Therefore, it needs collateral of the degree of safety and health of the workforce is always in optimal condition [3].

The National Safety Council Year 2013 states that incidents that occur every day in the work place, that it can cause an injury or serious damage of the assets and property. One of factor accidents in the work place is human factor. This is due to the awareness of our community's equality is still very low. The level of OHS program activities is determined based on the level of risk and hazard in the work place. In the study conducted by Nurani Fitri (2016) on the Overview of Near Miss, Unsaafe Action, and Unsafe Condition Reporting Systems at the Tokyu-WIKA Jakarta Joint Mass Rapid Transit (MRTJ) Project 2016, it was indeed needed in the company to facilitate employees in submit unsafe conditions and unsafe actions found at work. With this program it is also expected to reduce accidents[4].

Efforts to evaluate the course of an organization can be done through the concept of effectiveness. This concept is one of the factors to determine whether significant changes need to be made to the shape and management of the organization or not. In this case effectiveness is the achievement of organizational goals through the utilization of resources owned efficiently, in terms of input, process, and output. In this case the definition of resources includes the availability of personnel, facilities and infrastructure as well as the methods and models used. An activity is said to be efficient if it is done correctly and in accordance with procedures while it is said to be effective if the activity is carried out correctly and gives useful results.

Unsafe conditions and unsafe actions are things that cause work accidents. Some things that look unimportant can in fact cause enormous harm if ignored constantly. The Occupational Health and Safety Department of PT XYZ has implemented several programs related to work accident prevention, there are a near miss report and Card reporting program [2]. Based on work accident data recorded at the Occupational Health and Safety Department of PT XYZ from year 2014 until 2016, there were 16 recorded work accidents. In 2014 and 2015 there were 5 accidents for each. Whereas for 2016 there were 6 work accidents. In the reporting of unsafe actions and unsafe conditions on the Card reporting program in 2016, there were 300 reports for unsafe actions and 19 for unsafe actions.

II. Method

The research used a qualitative study to obtain data and explore information from workers as an informant. Observation and interview technique conducted in the research to analyze deeply about unsafe actions and unsafe conditions based on the Card reporting program at PT XYZ.

Qualitative research intends to understand the phenomena experienced by research subjects. This qualitative approach was chosen with the intention of obtaining data and exploring information needed by researchers related to the research carried out namely on the analysis of unsafe actions and unsafe conditions based on the occupational safety and health program, Card reporting program at PT XYZ.
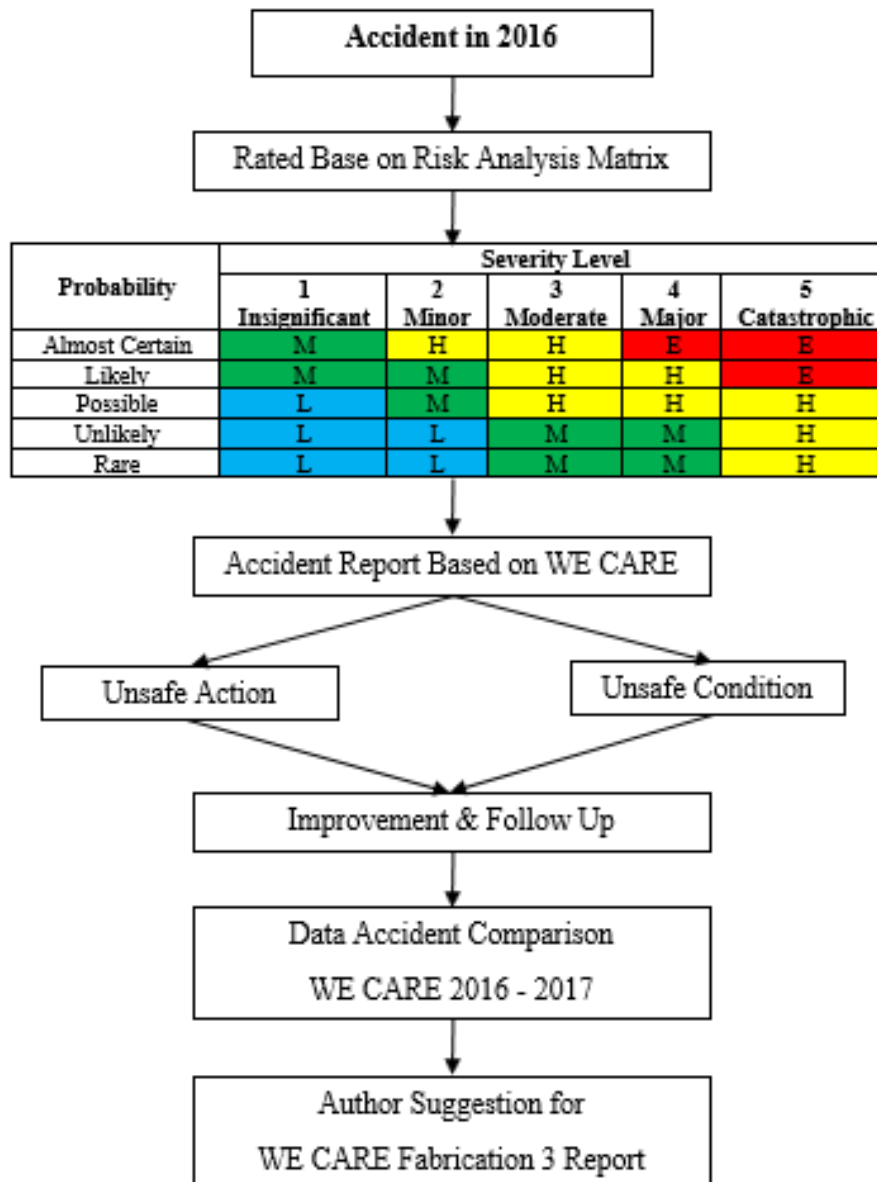
Data collection method as an important part in a study. The method used for data collection in this study are:

A. Primary Data

Primary data collection methods are carried out by direct observation to the PT XYZ factory to observe existing activities, interviews with operators, SHE officers, Ammonia Factory-3 supervisors, Factory-3 Utility supervisors, SHE Managers, and documentation.

B. Secondary Data

Secondary data obtained by literature and journal studies as well as accident data obtained by the Occupationl Health and Safety department, as well as unsafe act and unsafe condition data obtained from findings in the field through Card reporting program.

Accident in 2016

Rated Base on Risk Analysis Matrix

Probability	Severity Level				
	1 Insignificant	**2** Minor	**3** Moderate	**4** Major	**5** Catastrophic
Almost Certain	M	H	H	E	E
Likely	M	M	H	H	E
Possible	L	M	H	H	H
Unlikely	L	L	M	M	H
Rare	L	L	M	M	H

Accident Report Based on WE CARE

Unsafe Action

Unsafe Condition

Improvement & Follow Up

Data Accident Comparison WE CARE 2016 - 2017

Author Suggestion for WE CARE Fabrication 3 Report

The data source used in this study is primary data by observing, interviewing the employee and secondary data in the form of Card reporting program files and accident data obtained in the Heath and safety department.

III. Results and Discussion

PT XYZ has a Card reporting program card reporting program aimed at controlling unsafe actions and unsafe conditions to prevent f accidents. Based on graph 1 and graph 2 with low Card reporting program figures the number of accidents increases, and at the time of Card reporting program the number of reported accidents decreases.
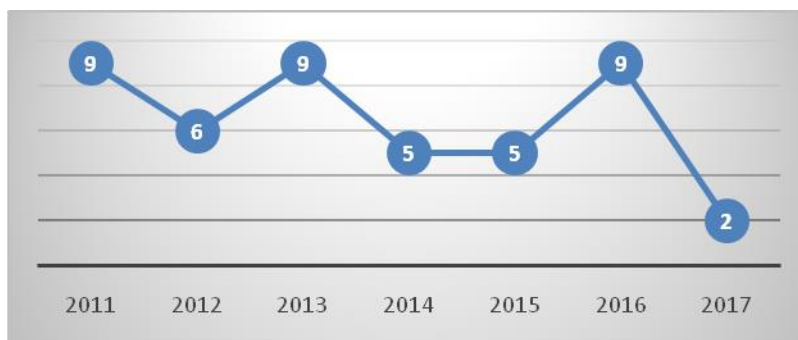

Chart 1. Number of Accident reporting Year 2014-2017

Chart 2. Number of Card reporting program Year 2014-2017

The Card reporting program card reporting program conducted from 2014 until now. So far,The program goes well. From Chart 1,In year 2014, The Highest of accident number in year 2011, 2013, and 2016. The lowest of accident umber in year 2017. Before the Card reporting program was implemented the number of accidents in PT XYZ was quite high. From 2011 to 2013, if the average is taken annually, the accident rate is 8. Meanwhile, after the Card reporting program program was implemented, the average number of accidents per year was decreased, it showed from tne number of accidents from year 2014 until 2017, the accident rates are 5.25. The interpretation of the accident rates, the program of Card reporting program can be reduction in work accident number decrease, it is about 20% from before the Card reporting program and after the program was implemented.

Whereas in Chart 2 showed the reporting of the Card reporting program has been increased every year. In Year 2014 has 416 reporting of unsafe action and condition, in Year 2015 has 170 reorting, In year 2016 has 323 reporting, and in year 2017 has a highest reporting the ammount is 792 cases.

Every Occupational Health and Safety policy owned by the company aims to support the implementation of its work activities. Workers who are company assets must be given protection against OSH aspects, considering the potential hazards associated with work. One of the company's efforts in carrying out management of work safety is by implementing the Occupational Health and Safety program.

Identification hazards and risk in the workplace must be carried out in a planned, comprehensive, and with accurate techniques. The method that can be done is to conduct

inspections, observations of workers, surveys and technical assessments, and supervision. Companies are increasingly looking for ways to increase employee involvement in safety by developing innovative programs for safety [5]. Reporting all unwanted events such as unsafe act and unsafe condition is an important aspect of every safety program. The more incidents that are reported, the more opportunities to investigate, identify and correct the root cause of the accident before the loss [6].

Card reporting program reporting is one of part Behavior based safety (BBS) in work place. Card reporting program stands for "Workplace & Environmental Care and Risk Elimination" in order to eliminate the risk of hazards. Card reporting program is a Occupational Health and Safety program in the form of a reporting system and recording unsafe conditions and behaviors that are in the workplace by involving all employees who are in the area of PT XYZ.

BBS is a systematic application of psychological research on human behavior in safety issues in the workplace that incorporates direct and indirect feedback processes. BBS places more emphasis on aspects of human behavior towards workplace accidents. According to Geller (2001), BBS is a process approach to improve occupational health and environmental safety by helping a group of workers to Identifying behavior related to work safety and health; collect work group data; Provide two-way feedback regarding Occupational Health and Safety and Reducing or removing system obstacles for further development [7].

The purpose of the Card reporting program card reporting program are:

1. Building a culture of Occupational Health and Safety, especially behavior or Behavior Based Safety (BBS) and strong awareness of workplace hygiene in the company.

2. Give rewards to work units that are very concerned with Occupational Health and Safety and workplace cleanliness

3. Give punishment to work units that don't care about Occupational Health and Safety and workplace hygiene.
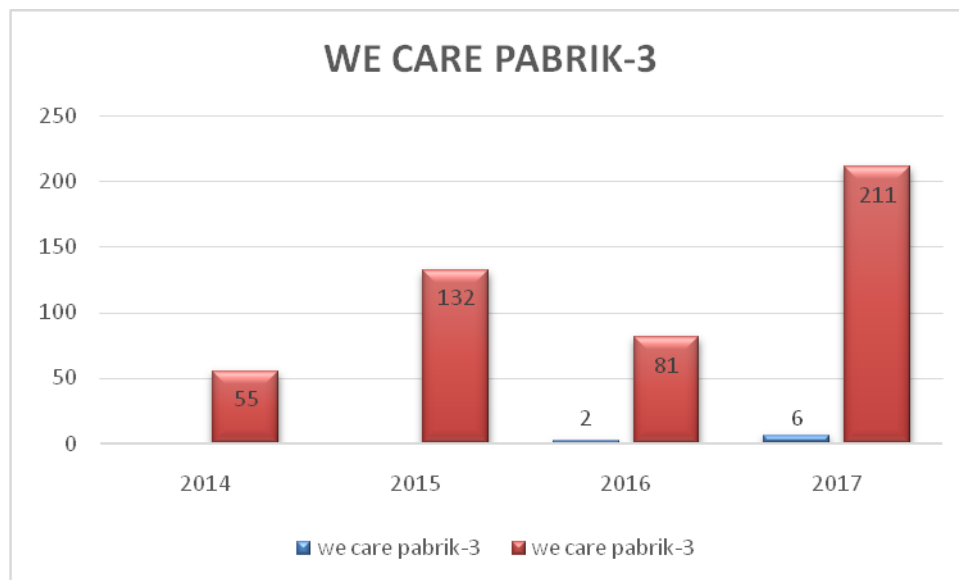

Chart 3. Rate of the Card reporting program Factory-3

The reporting rate of the Card reporting program in factory 3, one on factory in PT XYZ Company. In the beginning of the program, was 55 reporting for a full year. Then for 2017 the value of reporting for the year is 517 reporting. This shows an increase in workers' awareness in reporting findings related to unsafe conditions and unsafe conditions. This means there is an increase in reporting by 462 in the initial Card reporting program and Card reporting program in 2017. Factory-3 is a factory that has the highest level of reporting among other work units. Based on the

graph 4.3 Factory-3 has the highest number of reports every year since the Card reporting program was implemented. From the many reporting figures from each year, Factory-3 is also a factory with no accident rates from 2011 to 2017.

With the large number of reports at Factory-3 and the absence of accidents, it shows that the Card reporting program card reporting program has been implemented well by the work unit. The form of worker awareness on the importance of safety is also an important key in this program, where to avoid the repetition of unsafe actions and unsafe conditions there needs to be commitment from all workers in the work unit to create a safe environment and awareness of the importance of safety at work.

The number of reported that have been collected, showed the reporting number of unsafe conditions is more higher than unsafe actions. Based on observation result, the number of unsafe condition is often reporting by workers. It is related with work environment, like damaged equipment, poor housekeeping, and animals found entering the factory. The condition of it becomes a recurring event that is continuously reported.

Interviews conducted at PT XYZ produced answers regarding why reporting on Card reporting program had the most number of reports in unsafe conditions. The informant mentioned that in the normal operating condition of the factory, workers run their workers in accordance with the jobdesk they usually do on a daily basis. This causes a little unsafe reporting of actions, because workers already understand what things have to be done, both at work and safety while working.

Although it is difficult to control behavior, almost 80% to 95% of all accidents are triggered from unsafe behavior. Unsafe behavior is an action that can cause an accident or an incident (near miss). Consequently, it can make a company spend a lot of money if that happens [8].

Unsafe Condition is an unsafe or dangerous condition that can cause accident or near miss while understanding unsafe condition is the opposite. Unsafe Conditions (unsafe conditions) are poor workplace conditions where there are mechanical and physical hazards [9].

Evaluation is one of the important stages in management that is useful for providing feedback on the implementation of an activity that has been planned so that the implementation remains on a predetermined path. Because it is necessary to conduct evaluations on a regular, ongoing, and decisive basis.

Table 1. Observation Item Related Unsafe Condition at PT XYZ

No	Observation Item	Yes	No
1	Damaged equipment or material	✓	
2	Inappropriate protective or barrier material		✓
3	Inappropriate personal protective equipment		✓
4	Dangerous warning system not functioning		✓
5	Cleanliness and layout of the workplace is not feasible	✓	
6	Working environment conditions contain dust, gas, smoke, or vapor that exceeds the NAV	✓	
7	Noise intensity that exceeds NAV	✓	
8	Radiation exposure		✓
9	Workspace temperature is too high or low		✓
10	Low or excessive lighting		✓
11	Poor ventilation		✓
12	Fire and explosion hazard	✓	
	Total	41.67%	58.33%

Based on results of observations, obtain the data from 12 item which has been observed. Result of observation showed 5 from 12 item is a unstandard condition according to the work environment. There are have been found 5 item, include damaged equipment or materials, improper cleanliness and spatial layout of the workplace, conditions of work environment containing dust, gas, smoke or steam that exceed the Threshold value, and the danger of fire or detonation. On the finding of damaged equipment or material, lines or pipes dripping with liquid were found, which spilled and soaked the surrounding area. On the findings of cleanliness and spatial layout of the workplace is not feasible to find a hose that is not neatly arranged and puddles that wet the road area. The findings of working environment conditions containing dust, gas, smoke, or vapor that exceeds the Threshold value found areas that have high noise levels in the factory area. And for the danger of fire and detonation, the discovery of pipes and production equipment containing flammable and pressurized substances.

Table 2. Observation Item Related Unsafe Action at PT XYZ

No	Observation Item	Yes		No	
		F	%	F	%
1	Workers operate equipment without authority	0	0	4	100%
2	Workers operate machinery / equipment / vehicles with improper speed	0	0	4	100%
3	Workers are under the influence of illegal drugs and alcohol	0	0	4	100%
4	Workers fail to follow work procedures	1	25%	3	75%
5	Workers take off safety equipment	0	0	4	100%
6	Workers make safety devices malfunctioning	0	0	4	100%
7	Workers do not use personal protective equipment	2	50%	2	50%
8	Workers use equipment that is damaged	0	0	4	100%
9	Workers carry improper transportation	0	0	4	100%
10	Workers joke around during work hours	0	0	4	100%
11	Workers fail to warn	2	50%	2	50%

Observations result related to unsafe actions taken by workers, obtained the data 3 items which included to unsafe action classification.They are Workers fail to follow work procedures, Workers do not use personal protective equipment, and Workers fail to warn.

Workers fail to follow work procedures with a value of 25%. Then, workers not using personal protective equipment, wrong work positions, and workers fail to warn with a value of 50% each.

The first domino theory by Heirich on Ramli (2010) will fall due to the weakness of supervisors and management who do not plan and organize workers properly and do not direct their workers to be skilled in carrying out their work. Lack of control can be caused by factors [10]:

1) Inadequate Program (Inadequate Program)

This is because there are too few programs implemented at work or because there are too many program activities. Important program activities vary with the scope, nature, and type of company.

2) Inadequate Standard Program

In order to comply with the implementation of good occupational safety and health management activities the company must create an occupational safety and health program, set the standards used and monitor the implementation of the program.

Reporting that has been reported will be evaluated once a week during weekly meetings and monthly meetings by discussing the findings and results of improvements that have been made.

This evaluation process can be used to determine the successful implementation of management of occupational health and safety, identify corrective actions, arrange monitoring, and evaluate management of occupational health and safety performance.

The human approach is based on statistical results which state that 85% of accidents are caused by human factors with unsafe actions. To increase awareness and concern about Occupational Health and Safety (OHS), various OHS approaches and programs. One of program is Fostering safe behavior. Card reporting program reporting is one of efforts to foster and evaluate unsafe workers who are the cause of workplace accidents. If the program is carried out effectively and optimally, the objectives of the program will be achieved to the maximum and workers will avoid work accidents.

3) Inadequate to Standard

Factors that cause the lack of standards applied are not specific enough and not clear enough and the lack of high standards applied.

In this Card reporting program perogram the more workers who report are expected to reduce the number of accidents that can be caused. This is because the more unsafe conditions and unsafe actions are reported, the more Occupational Health and Safety will be given improvements so that these small things do not enlarge and pose a greater risk and lead to accidents.

According to Budiani (2009) effectiveness is the congruence between output and the objectives set. Effectiveness is a condition that occurs because it is desired. According to Richard Steer, effectiveness must be assessed on the basis of objectives that can be implemented, not on the basis of the concept of maximum objectives. Effectiveness is measured using standards in accordance with the Ministry of Home Affairs Research and Development reference as in the table below [11]:

Table 3. Measurement of Effectiviness

Effectiveness Ratio	Performance Level
Be;ow 40	Very ineffective
40 – 59,99	Ineffective
60 – 79,99	Enough Effective
Above 80	Very Effective

The accident rate before the Card reporting program was carried out in 2014 when taken on average in the past 3 years was 8. While the number of accidents after the Card reporting program was carried out if taken on average in 4 years was 5.25. So it can be seen that there is a decrease in the number of accidents before and after the Card reporting program runs by 2.75 accidents or if it is presented as much as 20%. From the results that have been obtained, there is a decrease in accidents at PT XYZ by 2.75 per year. The effectiveness of the Card reporting program in reducing accidents in the workplace is rated as 20%. With a rate of 20%, the program can be said to be ineffective in reducing accidents. Programs that can be said to be effective if they get the smallest value of 60%.

The main focus in the Card reporting program is to cultivate the Occupational Health and Safety culture in every employee. This program is expected to provide encouragement for workers to always monitor the environment in which they work so that unsafe actions and uncontrolled unsafe conditions occur, where in the pyramid of accidents more unsafe actions and uncontrolled unsafe conditions will lead to an accident. So the importance of monitoring this often trivial matter is emphasized in the Card reporting program

IV. Conclusion

a. Card reporting program card reporting program has been implemented since year 2013.,
Reporting on the Card reporting program at PT XYZ continues to increase every year.

b. The reporting number of unsafe conditions is more higher than unsafe actions, because a recurring event that is continuously reported.

c. In factory-3 is the factory with the highest number of reports compared to other factories. The number of Card reporting program in the 3 factories was 187 reports up to 2017 out of a total of 632 reports for all factories. Factory-3 which is the factory with the most reporting turned out to be a factory that did not have accident reporting from 2011 to 2017

d. The effectiveness of the Card reporting program in reducing accidents in the workplace is rated as 20%. Evaluation result for Card reporting program card reporting program, showed the average annual accident was 5.25. The program is be able to decrease an accident of 2.75 or 20% compared before implementation the Card reporting program care reporting.

The Card reporting program is said to be ineffective in reducing accidents. With an average reduction of 20% per year, it is still not effective enough for the development research can be depth analyze about the factor of the highly number of unsafe conditions reported. Beside that, i am expected to do some controls to resolve the condition that makes a problem in the factory, especially the caseswhich often reported by worker.

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