

Overview Of Knowledge And Near Miss Reporting By Employees At The Mine Office Pt Mifa Bersaudara

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ABSTRACT

When accidents and possible workplace hazards are reported, it helps to determine what went wrong and can be used as a basis for future safety measures. Instilling the need to report Near miss in employees is driven by this. Knowing how well the Mine Office of PT Mifa Bersaudara knows about Near miss and how often they are reported is the main objective of this study. The research strategy of this study is descriptive and quantitative. The research was conducted in December 2023 at the Mine Office of PT Mifa Bersaudara. The total population was 91, and 48 individuals were randomly selected using the slovin formula. The variables of this study are knowledge, near miss reporting and constraints in near miss reporting. The results showed that the majority of workers had good knowledge, namely 43 people (89.6%) with the majority of workers not reporting near miss events, namely 39 people (81.3%), and workers had obstacles in reporting near miss events, namely 34 people (70.8%). The conclusion of this study is that the near miss reporting system is still not optimal despite the fact that organizations use near miss reports for continuous improvement, near miss reporting procedures are very easy, easy to understand, and use basic and straightforward forms. In accordance with the criteria set by the Production Department of PT Mifa Bersaudara, the business should investigate the reasons for unmet near miss reporting components.

Keywords: *Obstacles Near Miss, Reporting, Application, Knowledge.*

ABSTRAK

Ketika kecelakaan dan kemungkinan bahaya di tempat kerja dilaporkan, akan membantu untuk menentukan apa yang salah dan dapat digunakan sebagai dasar untuk tindakan keselamatan di masa mendatang. Menanamkan perlunya melaporkan nyaris celaka pada karyawan didorong oleh hal ini. Mengetahui seberapa baik *Mine Office* PT Mifa Bersaudara mengetahui tentang nyaris celaka dan seberapa sering dilaporkan menjadi tujuan utama penelitian ini. Strategi penelitian penelitian ini bersifat deskriptif dan kuantitatif. Penelitian dilakukan pada bulan Desember 2023 di *Mine Office* PT Mifa Bersaudara. Total populasi adalah 91, dan 48 individu dipilih secara acak menggunakan rumus slovin. Variabel dari penelitian ini adalah pengetahuan, pelaporan *near miss* dan kendala dalam pelaporan *near miss*. Hasil penelitian menyebutkan bahwa mayoritas pekerja berpengetahuan baik yaitu sebanyak 43 orang (89,6%) dengan mayoritas pekerja tidak melaporkan kejadian *near miss* yaitu sebanyak 39 orang (81,3%), dan pekerja memiliki kendala dalam melaporkan kejadian *near miss* yaitu sebanyak 34 orang (70,8%). Simpulan dari penelitian ini adalah system pelaporan *near miss* masih belum optimal Terlepas dari kenyataan bahwa organisasi menggunakan laporan nyaris celaka untuk penyempurnaan (continuous improvement), prosedur pelaporan nyaris celaka sangat mudah, mudah dipahami, dan menggunakan bentuk dasar

dan lugas. Sesuai dengan kriteria yang ditetapkan oleh Departemen Produksi PT. Mifa Bersaudara, bisnis harus menyelidiki alasan komponen pelaporan nyaris gagal yang belum terpenuhi.

Kata Kunci: Kendala Near Miss, Pelaporan, Penerapan, Pengetahuan.

INTRODUCTION

There is significant potential for hazards and accidents in the coal mining industry. The coal mining industry has a very high risk of occupational accidents as it ranks among the top industries for fatal occupational accidents ⁽¹⁾. Work accident is an event experienced by one or all components in the workplace or company such as employees, employers, and management in the workplace or company that causes direct or indirect losses. This means that all parties involved in the company have the same opportunity to experience work accidents and occupational diseases ⁽²⁾.

Based on data from the Ministry of Energy and Mineral Resources (ESDM), there were 881 cases of mining accidents that occurred in Indonesia in 2013-2019. Of these, the most mining accidents occurred in 2019, namely 159 cases. Meanwhile, the majority of mining accidents that occurred in 2019 had a severe severity level. The number was recorded as many as 57 cases. Mining accidents with a mild category amounted to 36 cases. Meanwhile, there were 11 mining accidents that caused death in 2019 ⁽³⁾.

The number of accidents was 1:29: 300, with 1 accident resulting in serious injury, 29 injuries resulting in minor injuries, and 300 near-miss incidents. Just as some near-miss incidents lead to major disasters, Bird's case studies of accidents at various companies show this. Based on his research, Bird proposed a ratio of 1-10-30-600 for accidents, where 1 represents serious injury, 10 represents minor injury, 30 represents property damage, and 600 represents near-miss accidents ⁽⁴⁾.

A near miss is an event that does not directly result in loss or harm, but has the potential to occur in the future ⁽⁶⁾. There must be immediate action to correct or intervene in a near-miss case because it is not an accident. Therefore, serious consequences, such as workplace accidents, can result from near-miss incidents that are not investigated. These near-misses form the basis of the accident pyramid when comparing the accident ratios of Heirinch, Frank Bird, and Dupont. Workers face several direct and indirect risks to their health and safety due to the physical state of the work environment in which they perform their daily tasks. It is possible to detect potential workplace hazards before they cause more significant incidents if all near miss are reported ⁽⁵⁾.

Frank E. Bird (1992) proposed the ILCI Loss Causation Model, which states that Near miss can be explained by three factors: (1) lack of control, (2) underlying reasons, and (3) direct causes. When standards are not high enough and employees are not prepared, the result is a lack of control, or low control. There are two categories of fundamental elements, or basic causes: elements inherent to the individual (such as physical and mental abilities, stress levels, knowledge, skills, and motivation) and elements that are outside the workplace (such as management, purchasing, maintenance, inadequate tools, routine use, breakdowns, and misuse). Direct causes, or immediate variables, can be categorized into two groups: inadequate actions and inadequate circumstances ⁽⁴⁾.

When operational processes are reviewed for Near miss, deficiencies such as rare but potentially significant deviations from good practice can be identified. Because it reveals elements that contribute to and ultimately cause workplace accidents, near miss reporting is a critique of accident prevention programs ⁽⁵⁾.

The number of Near miss is often greater than the number of accidents, as chance factors are not always present. Due to the large number and similar causal factors, learning from Near miss is a proactive way to prevent accidents from happening and improve safety performance for construction projects ⁽⁷⁾.

PT Mifa Bersaudara is one of the coal mining companies operating in Aceh Province, West Aceh Regency. Based on preliminary research, it was found that near miss incidents in 2022 amounted to 49 incidents and in 2023 decreased to 19 near miss events. Near miss events that often occur are crashing, which is 52% of the others are pinched, falling and slipping.

The lack of an ideally executed near miss reporting system is PT Mifa Bersaudara's worst issue, as the value of such reporting is not well understood by the company's employees. Since a near miss essentially indicates the potential for an accident to occur and is the initial process before an accident occurs, near miss incident reporting is essential to the company's near miss reporting system to reduce the number of accidents that may occur. The likelihood of an accident and its potential effect on the smooth operation of the company increases as the frequency of near miss reports decreases.

The company accident reporting system is an initiative that brings together employees, employers and government officials in an effort to reduce the occurrence of workplace accidents. Any incident involving an accident on the job under the supervision of a manager or employer must be reported. Workers also have an obligation to report any incidents or hazards they encounter in the workplace. To take quick and effective action to prevent accidents, it is important to record them. This will help identify high-risk areas and personnel ⁽⁸⁾.

There are several government initiatives to reduce the hazards and risks of workplace accidents in the coal mining industry due to the high number of casualties suffered in such incidents. Accidents in the workplace sometimes happen, although the Chinese government is doing more to promote safe practices in coal mines, which has a great influence in lowering fatalities. An OHS management system (SMK3) that involves management, workers, and/or labor unions to limit the occurrence of workplace accidents has also been required by the Indonesian government in a policy ⁽²⁾.

To determine what caused the accident and to help avoid similar incidents in the future, it is imperative that employees report any risks they may face at work. It is imperative to emphasize the need to report Near miss to personnel. Penalties should be imposed for those who choose not to report near-miss incidents they witness or experience. Near-miss incident reporting is a control strategy that helps prevent workplace accidents and contributes to the company's goal of reducing accidents ⁽⁸⁾.

The author will evaluate the problem statement, gather relevant information, and provide findings and recommendations to address the problem at hand **“Overview of Knowledge and Near Miss Reporting by Employees at PT Mifa Bersaudara's Mine Office”**.

METHOD

The research method is quantitative with a descriptive research design to explain employee knowledge, the near miss reporting system and the obstacles faced by employees in reporting Near miss at the Mine Office of PT Mifa Bersaudara. The research was conducted in December 2023 at the Mine Office of PT Mifa Bersaudara. Mine Office PT Mifa Bersaudara became the location of this research which involved 91 participants. The Slovin formula was used to determine the sample size, which could be up to 48 individuals. To draw the sample, one uses a random sampling procedure. A Google Form with a questionnaire data collection tool was used for data collection. This study aims to examine three factors namely employee knowledge, near miss reporting system, and restrictions experienced by employees in reporting Near miss. These variables will be evaluated using the calculation of the percentage of employee replies and given in the form of narratives and tables.

RESULTS

1. Employee Demographic Data at PT.Mifa Bersaudara

Table 1. Distribution of Respondents Based on Age in Employees of PT.Mifa Bersaudara

No.	Demographic Data	Frequency (f)	Percentage (%)
Age :			
1.	21-29 Year	15	31,2
2.	30-39 Year	28	58,3
3.	40-49 Year	5	10,4
Total		48	100.0
Gender:			
1.	Male	34	70.8
2.	Female	14	29.2
Total		48	100.0

Source : PT.Mifa Bersaudara

Based on table 1, it can be seen that the age of the respondents is mostly in the range of 30-39 years as many as 28 people (58.3%), then followed by the age range of 21-29 years as many as 15 people (31.2%) and the lowest age range is in 40-49 years as many as 5 people (10.4%). Based on table 1, it can be seen that the majority of PT.Mifa Bersaudara employees in the Mine Office are men as many as 34 people (70.8%) and women as many as 14 people (29.2%).

The following is an overview of the near miss reporting system in terms of worker knowledge, the near miss reporting system and the obstacles faced by workers in reporting Near miss.

2. Near miss reporting

Table 2. Overview of Workers in Conducting Near miss Reporting

No.	Reporting	Frequency (f)	Percentage (%)
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1.	Not Reporting	39	81.3
2.	Report	9	18.8
Total		48	100.0

Source : PT.Mifa Bersaudara

From the table above, it is known that the majority of workers did not report near miss events, namely 39 people (81.3%), and workers who reported near miss events were 9 people (18.8%).

3. Knowledge

Table 3. Overview of Workers' Knowledge in Near miss Reporting

No.	Knowledge	Frequency (f)	Percentage (%)
1.	Well-Knowledgeable	43	89.6
2.	Less Knowledgeable	5	10.4
Total		48	100.0

Source : PT.Mifa Bersaudara

From the table above, it is known that the majority of workers have good knowledge, namely 43 people (89.6%), and workers who have less knowledge are 5 people (10.4%).

4. Obstacles in the Near miss Reporting System

Table 4. Overview of Worker Constraints in Conducting Near miss Reporting

No.	Reporting	Frequency (f)	Percentage (%)
1.	There are obstacles	34	70.8
2.	No obstacles	14	29.2
Total		48	100.0

Source: PT.Mifa Bersaudara

From the table above, it is known that the majority of workers have obstacles in reporting near miss events, namely 34 people (70.8%), and workers who do not have obstacles in reporting near miss events are 14 people (29.2%).

DISCUSSION

1. Overview of Workers' Knowledge in Near miss Reporting

The success of the near miss report program depends on accurate information and understanding of Near miss. The near miss report program requires that all employees understand and adhere to the same meaning of terms. To ensure that workers can determine Near miss and that incidents involving such incidents can be more easily reported ⁽⁵⁾.

The results showed that 43 respondents (89%) had poor knowledge and 5 respondents (10.4%) had good knowledge. From the results of this study it is known that employees who work in the Office Mine of PT Mifa Bersaudara do not have good enough knowledge about reporting dangerous events and work accidents.

Evidently, there is no system for employees to record near-miss incidents at this workplace. This is contrary to article 14A of the Occupational Safety Act No. 1 of 1970, which states that managers shall post all mandatory safety requirements, including this law and any applicable implementing regulations, in a clearly visible area of the workplace under their supervision or as directed by an occupational safety expert. Without established protocols, workers will not be sure what to do in the event of a near-miss and how to properly report it.

One aspect of human behavior that contributes to this element is the lack of safety education and training in general and the nature of the work itself⁽⁹⁾.

Educating employees on the importance of near miss reporting is a necessity as employees play a vital role in creating zero accidents in the workplace ⁽⁶⁾.

2. Near miss reporting system

The results showed that the majority of workers did not report near miss events, namely 39 people (81.3%), and workers who reported near miss events were 9 people (18.8%). While there is no mandate to

disclose near-miss incidents, it shows that the company has excellent safety management practices. When operational processes are reviewed for Near miss, deficiencies such as rare but potentially significant deviations from good practice can be identified. Because it reveals elements that contribute to and ultimately cause workplace accidents, near miss reporting is a critique of accident prevention programs ⁽⁵⁾.

As near miss reports are a means of early prevention or early detection of defective work processes, they can be used as a tool for continuous development within the company. This allows management to take proactive measures to avoid more serious incidents. The near-miss report is one of PT Mifa Bersaudara's key indicators. The business updates its financial, production, quality, maintenance, sales, marketing, customer, and environment, health and safety (EHS) reports monthly. Near-miss reporting is one of the metrics in the EHS report. Management can identify patterns and errors in their work processes through near-miss reporting, which enables more effective control measures. For businesses to utilize near miss reports as a tool for improvement in terms of sustainability.

3. Obstacles in the Near miss Reporting System

The results showed that the majority of workers did not report near miss events, namely 39 people (81.3%), and workers who reported near miss events were 9 people (18.8%). Near-miss reporting methods are a tool for communicating program objectives and a means of gaining employee permission when implemented in businesses. Unfortunately, there is no near-miss reporting mechanism in the work area, according to observations. Without an established protocol, workers will not be sure what to do in the event of a near miss and how to report it properly.

Transparent procedures for reporting Near miss are in place. The most important thing in a near-miss reporting program is the near-miss reporting process. There does not appear to be a near-miss reporting flow chart posted at designated workplace locations. Article 14b of the Occupational Safety Act No. 1 of 1970 states that management is obliged to post all necessary safety drawings and guidance materials in the workplaces under its supervision in a visible and easily readable location, as directed by supervisory employees or occupational safety experts. To ensure that employees report Near miss in the correct order and prevent the data from being biased, it is important to post a near miss reporting flow chart in each work area.

Employees have no difficulty following the near-miss reporting procedure. To increase the likelihood that employees will report near miss situations, the reporting system should be designed to be as easy to understand as possible. Near miss training is conducted weekly at PT Mifa Bersaudara which has informed the reporting procedures. Having a clear and straightforward method for reporting Near miss increases the likelihood that employees will follow it. This, in turn, increases the likelihood that the relevant parties will deal with the incident promptly, ultimately leading to the achievement of zero accidents.

Employees may hesitate to report Near miss due to the cumbersome program reporting process, which is one of the program's challenges. At PT Mifa Bersaudara, reporting Near miss is easy. For the simple reason that every structure relies on a box that holds the form and an area to store the completed form. In this way, workers can report near-miss incidents without having to visit the EHS department. If an incident involving a near miss is reported, the relevant management will conduct an investigation and implement measures to prevent a recurrence or worsening of the situation.

If the forms are too complicated, workers are less likely to report dangerous or near-miss situations. A straightforward form is therefore an important part of the near miss reporting procedure. Short and simple, with no unnecessary words or extraneous items, is the near miss report form used by PT Mifa Bersaudara.

Employees will be more likely to report a near miss incident if they use an easy-to-use near miss report form. The near miss report form at PT Mifa Bersaudara is easy to use and straightforward; almost all employees who have received near miss training have completed the form correctly and according to procedure. For the easy-to-use near miss report form to be useful to the business, namely in identifying potentially dangerous situations. That management can investigate Near miss and implement preventive measures to ensure that similar incidents do not recur or worsen, and that the goal of zero accidents is achieved.

CONCLUSION

The study findings show that the company's near-miss report serves as a tool for continuous improvement; that employees have no trouble understanding and using the report; and that the form is straightforward and easy to fill out. Points that have been addressed but have not yet met the standards: for example, there is a near-disaster reporting procedure, but it has not been installed in the work area. In addition, this procedure outlines a clear process for reporting a near accident, but there is no flow chart for reporting a near accident in the work area. In accordance with the criteria set by the Production Department of PT Mifa Bersaudara, businesses must investigate

the reasons for the near-failure reporting component that has not been met. Evaluate near miss reporting on a daily, monthly and quarterly basis to provide feedback on the implementation of an activity that has been planned so that the implementation remains on the set path.

REFERENCE

1. Khamidullina EA, Timofeeva SS, Smirnov GI. Accidents in Coal Mining from Perspective of Risk Theory. IOP Conf Ser Mater Sci Eng. 2017;262(1).
2. Sultan M, Putra ER, Farjam H. 493542-None-Ec99a954-1. 2021;16(1):18–28.
3. Direktorat Jendral Mineral dan Batubara. Minerba Dalam Angka 2017 - 2019. Kementerian Energi dan Sumber Daya Miner. 2019;
4. Erlena, Kharisma FR. Gambaran Pengetahuan Dan Sikap Pegawai Stikes Horizon Karawang Dalam Penerapan Sistem Manajemen Keselamatan Dan Kesehatan Kerja.
5. Risma J, Koesyanto H. Penerapan near miss card sebagai upaya penurunan angka kecelakaan kerja. J Public Heal Res Dev [Internet]. 2017;1(2):119–30. Available from: <http://journal.unnes.ac.id/sju/index.php/higeia>
6. Schools T, Trust A. HEALTH AND SAFETY MANAGEMENT SYSTEM THINKING SCHOOLS ACADEMY. 2024;1–385.
7. Zhou Z, Li C, Mi C, Qian L. Exploring the potential use of near-miss information to improve construction safety performance. Sustain. 2019;11(5).
8. Peter M Smith, Saunders R, Lifshen M, Black O, Lay M, Breslin FC, et al. The development of a conceptual model and self-reported measure of occupational health and safety vulnerability. Pubmed. 2015;2(3):43.
9. Rycomatsu, Abdullah R. Analisis Property Damage di Area Tambang Pt. Pamapersada Nusantara Site Air Laya Provinsi Sumatera Selatan. J Bina Tambang. 2019;4(3):134–42.