



ANALYSIS OF THE IMPLEMENTATION OF THE WORK ACCIDENT REPORTING SYSTEM FOR DT OPERATORS (*DUMP TRUCK*) AT PT. BUKIT ASAM TBK. TANJUNG ENIM, SOUTH SUMATRA

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ABSTRACT

PT. Bukit AsamTbk. is a company engaged in the national mining sector, especially in coal mining. One of the performance targets of PT. Bukit Asam is zero accident rate (zero Accident) as an effort to prevent work accidents. Even though it has implemented a zero accident rate (Zero Accident) as an effort to prevent work accidents, but there are still cases of work accidents that occur in the mining environment, especially for DT operators (Dump Truck). Therefore, this study aims to analyze the implementation of the work accident reporting system for DT operators (Dump Truck) at PT. Bukit AsamTbk. TanjungEnim, South Sumatra. This research is a type of qualitative research with a descriptive approach, with a total of 7 informants and data collection for this research is through in-depth interviews, field observations, and document review. The results of interviews and direct observations in the field, it was found that both PT. Bukit AsamTbk. and work partners always report every incident or accident that occurs in the work environment, then for reporting themselves they do it via airplane, such as radio, telephone, even using an applicationWhatsapp, to report the incident. Then for, the investigation itself is carried out using different methods and analysis for each work unit, but has one goal, namely to find the root cause of the incident or accident. Then for the sanctions themselves, it has been stated in golden rules, which consists of sanctions SP1 to SP3, as well as financial fines. For supervision, such as carrying out inspections of the work environment itself, it is carried out according to a predetermined schedule, then for self-maintenance it is carried out based on HM (Hour Meter) per 250 hours, while for daily maintenance there is a P2H form filled out by each operator. Based on this, PT. Bukit AsamTbk. has implemented a reporting system that is in accordance with the SOP and the rules that apply, but needs to be developed as wellupdating of the accident reporting system so that in the future it can be even better.

Keywords : Work Accident Reporting System, DT Operators, Coal Mining

Introduction

Mining is an industry that has a very high risk of Occupational Safety and Health (OHS) for workers in the work environment. The risks of hazards that could occur in the mining environment include physical hazards, chemical hazards, ergonomics biological factors, to psychosocial hazards. Traffic accidents, explosions, fires, and landslides around the excavation area are also among the risks that often occur in the mining work environment. The high risk of hazards in the mining environment is one of the causes of work accidents in the mining

environment. According to *Minerba One Data Indonesia* (MODI) the Ministry of Energy and Mineral Resources regarding the Frequency Rate and Mining Accidents in 2021 said that until April there had been reports of data on accident cases in the mining environment, consisting of 5 cases of minor accidents, then 10 cases of serious accidents, and 4 cases of death due to work accidents¹.

As for other factors, the high number of work accidents in the mining environment cannot be separated from the existence of unsafe conditions and actions when working. The unsafe conditions include incomplete safety equipment, to the safety equipment that is not functioning properly, as well as unsafe working conditions. Whereas for unsafe actions include inappropriate work positions, and not complying with SOP (*Standard Operational Procedure*) in force¹.

Therefore it is necessary to implement a culture of Occupational Safety and Health (K3) for every worker in the mining environment². To improve the application of Occupational Safety and Health (OHS) culture in the mining environment, it is also necessary to carry out planned, directed and integrated activities through the Occupational Safety and Health System (SMK3) in order to create a safe, comfortable and efficient work environment and avoid risks. hazards that can cause work accidents and occupational diseases³.

A company is required to implement an Occupational Safety and Health System (SMK3). This is because safety at work is an important aspect for every country that has agencies in the industrial sector, especially the mining industry⁵. In its implementation, companies must refer to the precautionary principle and emphasize the importance of occupational safety and health by conducting outreach to employees, conducting K3 briefings, and providing training to employees to increase their awareness of the importance of prioritizing occupational safety and health while on the job. are in the work environment. And do not forget that the company is also obliged to carry out reporting and investigation of incidents of work accidents with the aim of finding out the causes of these accidents so that repairs and controls can be carried out immediately to prevent similar incidents from happening in the future.

PT. Bukit Asam Tbk is a company engaged in the national mining sector, especially in coal mining. As one of the largest mining companies in Indonesia, PT. Bukit Asam has implemented an Occupational Safety and Health System (SMK3) or often referred to as the Mining Safety Management System (SMKP). One of the performance targets of PT. Bukit Asam is zero accident rate (*zero Accident*) as an effort to prevent work accidents. Even though it has implemented a zero accident rate (*Zero Accident*) as an effort to prevent work accidents, but there are still cases of work accidents that occur in the mining environment, especially for DT operators (*Dump Truck*). Therefore, based on this background, an analysis is needed regarding the implementation of the work accident reporting system for DT operators (*Dump Truck*) at PT. Bukit Asam Tbk. Tanjung Enim, South Sumatra.

Methods

In conducting research on the implementation of work accident reporting to DT operators (*Dump Truck*) at PT. Bukit AsamTbk, researchers used a qualitative research design with a descriptive approach. This qualitative research aims to better understand and obtain an objective and systematic description from various informants regarding the facts of the implementation of work accident reporting to DT operators (*Dump Truck*) at PT. Bukit AsamTbk. TanjungEnim, South Sumatra.

The type of data used in this research is primary data and secondary data. The primary data used in this study can be obtained directly through the original source or from the first party and collected by researchers specifically in answering research or research questions through in-depth interviews with informants and also direct observation. In-depth interviews were carried out in accordance with the interview guidelines that had been prepared previously. As for the secondary data used in this study, it can be obtained through previous research, journals, and documents owned by companies related to this research.

Results

Characteristics of Informants

A. Characteristics of Key Informants

There were 2 key informants used in this study, namely KP and K3L Managers and K3P Supervisors.

Table 1.Characteristics of Key Informants

Name	Sex	Education	Position	Age
Fr	Male	S1	KP & K3L Managers	51
Aj	Male	S1	Supervisor K3P	40

Source: Primary Data

B. Characteristics of Supporting Informants

The supporting informants used in this study amounted to 5 people, namely 3 DT Operators (*Dump Truck*), 1 Field Supervisor, and Witness.

Table 2.Characteristics of Supporting Informants

Name	Sex	Education	Position	Age
He	Male	High School	DT Operator	25
Sa	Male	High School	DT Operator	31
St	Male	High School	DT Operator	37
Yl	Male	S1	Field Supervisor	30
Ek	Male	S1	Witness	43

Source: Primary Data

Work Accident Reporting Procedures

Based on research conducted at PT. Bukit Asam Tbk. TanjungEnim, every worker who experiences an incident or accident in the work environment has complied with the procedure or is obliged to report it either to the supervisor, or to the relevant superior, according to the results of interviews conducted with key informants and supporting informants, namely:

"Always report it, the mechanism is that if there is an accident, yes, equipment damage, for example, it is investigated by the relevant partner, then invites K3 Bukit Asam, both of them will carry out an investigation and report it to Mr. KTT, but if the fatality reaches the head of Inspector Mining includes the incidents just now reportedAlso"(Fr).

"Certainly, we definitely report it, we submit it per level, starting from SPV, then to Asmen, to VP, AVP, up to the Summit, then to GM, it is passed on to the highest management level, up to the director, and we also report it to the department. -relevant services and what is certain is to the mine inspector"(AJ).

"Yes, it was reported, like when it happened yesterday I immediately called the supervisor because I had an incident"(In).

"It's important, because incident data must be reported, because it's for future reference so that there are no more work accidents, so we can deal with it again, if for example there is an incident, we can reduce the incident or we can avoid it"(YI).

"Yes, we always report it, we have a form for that report, but it's still in the form of a primary report or just a report"(Ek).

The flow of reporting incidents and work accidents is carried out per position level, starting from the operator to the field supervisor, then from the field supervisor it is forwarded to the K3 team, from the K3 team it is processed and forwarded to the supervisor and assistant manager, then forwarded again until it reaches the Head of Mining Engineering (KTT), as the results of interviews with research informants, namely:

"Same as before, we are per level, per position level, so in this case K3P is apart from the supervisor, there are also partner friends who manage and work in the Bukit Asam mining area, so whatever happens in the field they will held talks via plane, that at what point, at what time, what day, and what date reported to us and the team from K3P immediately drove to the scene of the incident "(AJ).

"So when there is an incident at the location, so the victim contacts the supervisor, so the supervisor will come to us later, but there are also victims to the supervisor. those who sent wa to us stating that an incident had occurred, let's say he fell down at that time, at that time, at that location, on behalf of that, at that age. So, that's what we consider a prime-early report sent via wa, so it will come to us as soon as we get the info, we form a

team, while we go to the location, so usually we will first ask what the victim is like, if it's serious, immediately rush to the nearest hospital or clinic, so before we got to the location where the evidence was not allowed to be evacuated, until our team actually arrived, safety arrived, took the evidence, all the evidence we asked for was complete, only then could this unit be evacuated."(I).

As for the K3 Team itself, it also reports work incidents and accidents to the Depnaker (Department of Manpower) within 2x24 hours of the incident or accident, but here PT Bukit AsamTbk. also report to ESDM Minerba (Energy and Mineral and Coal Resources) first and then proceed to the Ministry of Manpower (Department of Manpower), as the results of interviews conducted with research informants, namely:

"Informed, the information is written, but if we do it more to ESDM Minerba, so we will report early to Minerba, the Depnaker will come later"(Fr).

"Definitely, always, when there is an accident, whatever the form of the accident, we will definitely report it to the Department of Manpower within 2x24 hours, because the Department of Manpower really needs to know and needs to know"(AJ).

Work Accident Investigation

Work accident investigation conducted by PT. Bukit AsamTbk. TanjungEnim was carried out after the initial report regarding incidents or accidents that occurred in the work environment, as the results of interviews conducted with key informants and supporting informants, namely:

"Yes, analysis, domino theory, yes, there are basic causes, weak control, management, there are direct and indirect causes"(Fr).

"Sure, it always uses methods and analysis, so every time a report is made, it must use the analysis and methods that have been agreed upon"(AJ).

"We are clear about the analysis, so before and after the accident occurred, the analysis before the incident was done, we are biased, so why did this happen, what was the cause, were the conditions unsafe or the actions unsafe, at least that's what we started first"(YI).

"If we have a why tree system, the name we usually use, but for internally, we use... why three is like this, for example, one of the questions he chases, for example, he falls down because of fatigue, then we ask why you fall down, he answer sleepy, why are you sleepy, ooh last night you didn't get enough sleep, then asked why you didn't sleep well last night, he answered watching football, then we asked why you watch football, what is your hobby, sir, then we asked why you like football?, so we'll look for recommendations later, so if we don't meet, we'll return to the previous question."(Ek).

As for the process flow of work accident inspections, it is carried out in stages starting from the initial report to the final report, as the results of interviews conducted with key informants and supporting informants, namely:

"Look, we get reports of initial incidents from the field, either from the disposal or the front, and depending on the location of the incident, or in the workshops we get reports from the foreman or SPV from the work unit or partner.... They will, report to their highest supervisor then they via plane while going along the way will contact safety friends at us then we will go to the scene of the incident, after that we will make a report via whatsapp, after the data is collected, documentation is collected, the results of the P4 IW interview we got it, then we got a temporary picture, we immediately made it on the computer via word and pdf after that we conveyed it to the superiors, for example in this case to the K3P Asmen, then to the whatsapp groups we will read it and continue again with the higher-ups the top officials in this Corporate K3L, then followed by the Summit and the Summit has the right to convey this information to the Department of Manpower or to the mining inspector and officials authorized to obtain it..... for the simulation results, after the data is available, even if there is a fatality we get recommendations from IT, we will head back to the location, we will conduct interviews, and will return to the TKP, and we will meet lots of people to interview people who were involved in an incident so that it could cause fatality, as for the duration of time we cannot know yes it depends on speed, depending on data sources, sources of information obtained, meaning that the more they prepare the documents needed, the more they are interviewed with sentences presenting the correct answers, it will be completed quickly and conclusions will be obtained soon, but if they are still uncooperative, so our team will dig and ask for more detailed information, now in the case of this accident we also formed an investigation team..... which is definitely coordinated by K3P and the information is just one door so it can't spread to other work units or to the media who do not have the right to obtain information, we don't cover it up, but we maintain the confidentiality of these personnel more"(AJ).

"For those who were checked at the time of the incident, SIM DLT, P2H, and the condition of the unit, whether there is any damage or irregularities"(He).

"From our side, if for example there is an accident report, we will report it to HSE, so we go back to HSE and follow us to the field, so we also go to the field, so HSE is the one who evaluates everything, at most HSE asks us why it can If something like this happens, it's HSE interrogation"(YI).

"We will do the investigation internally and then externally, so at least we will do it internally, when we are invited by an external user, we already have data, so don't let us be invited there, we don't have any data at all, because we are each partner has safety, so we

used to handle cases, but indeed there were several cases SBS friends were immediately involved, K3 from PT BA also came, so usually when we have met everyone in the field, we have done it internally it together, so we both unite perceptions, we will finalize it, we have finally sent it”(Ek).

For the results of reports regarding incidents or accidents in the work environment, there is also delivery or communication to all personnel as a reminder for all workers, as well as the results of interviews with key informants and supporting informants, namely:

“Should, as a result of the recommendation from the results of the Mine Inspector's investigation along with the recommendation, Pak KTT made a derivative in the form of a distribution so that all parties involved in the IUP of PT. This BA must be like this, according to directions and recommendations from the Mining Inspector, later the partners will make another circular to everyone under them, that noit can be like this, it has to be like this, so it will be conveyed to all lines. All recommendations, all circulars were conveyed to all relevant parties down to the lowest level”(Fr).

“Certainly, all employees from all levels who work at our TanjungEnim mining unit will convey from all levels, from all levels, from the bottom up to the management level, why is that conveyed, this is solely to remind that the importance of safety in work and never ignore safety.....we are both good through the media we convey, via email we convey, through safety talks, through P5M through our respective work units, later we will be invited to become the speaker or we send a work unit or management level or subsidiary or contractor related to Bukit Asam, we will explain and have the right for them to convey, there is no need to add or subtract anything that is already in the sentence above, please convey it to all levels of employees and employees who are involved in a work unit, so that they understand the importance of hazards and how to control the hazards and risks that occur in the unit and work environment”(Aj).

“Yes, everyone was immediately informed, via P5M when they did the shift, so they were immediately collected and then informed”(Sa).

“Mandatory, mandatory for example, we go to 5M at most, we have to go to the operator for 5M, safety talk, right, so we give action, so that this doesn't happen, let's tell the operators again that this is an incident here, this is what happened”(YI).

“Oh yeah, so like this, after the results of the investigation have been completed and approved by all parties, usually we will have a stand on meeting/P5M name, so we collect all employees, we share, yesterday there was this incident, this and this caused it, so the recommendation is also there, about things to do”(Ek).

Work Accident Penalty

Penalty are given as a warning to be more careful when doing work, especially in high-risk areas (*high risk*) and also the imposition of Penalty can form discipline and habits for workers to always comply with the regulations set by the company, as the results of interviews conducted with key informants and supporting informants, namely:

"There must be, if there is a fatality, maybe the penalty is yes, we will replace the PJO, the others may be considerations from the respective management, yes, related to the damage or loss caused, for example equipment damage or loss of life. There are golden rules, golden rules are rules that are made to form an OHS culture, starting from the trivial things of using PPE then behavior in the vehicle later everything is regulated, only if it is regulated without penalty it doesn't work, so there are rewards and punishments" (Fr).

"Definitely, definitely that, starting from SP 1 to SP 3 depending on the level, yes, depending on the level of the accident that occurred, even if a fatality means it has stopped, it has returned to those in power, we have no right to give sanctions anymore, even if it can still be controlled it means we will give SP 1 and SP 2 first, if they cannot be fostered or discussed in detail then the toughest penalty is leaving and for one year they cannot work at PTE, that is a form of commitment in OHS management" (AJ).

"There's penalty, that's SP2 and financial" (He).

"For that penalty, you will get SP1, and then you will be given instructions" (Sa).

"The penalty must be there, so we are an SP for sure, if for example there is a fee we will also give punishment to the operator, if for example a fatality stop SP3..... If there is finance, for example this, it's light right, if it's true operator error from this, so we see how much the loss is, we have financial" (YI).

"Yes, we adjust the penalty according to the golden rules, in the golden rules it is clear what violations are violated, say hitting a stop sign is clear how come it is SP 3, so what is the purpose, so that we don't violate the rules, so actually there is a process for us, if he commits a minor violation, friends usually don't give him SP, so in the end we give pressure to our friends to make a commitment, we convey what our rules are like, those who play with safety rules we give consequences, until the worst is layoffs" (Ek).

For the penalty given themselves are in accordance with the policies and rules that have been set by each company, as the results of interviews conducted with research informants, namely:

"Very appropriate, and based on the provisions of the Golden Rules, yes version 4 which is currently published, not all levels, both organic and partners, and power experts working at PTE who do not meet the requirements or do not have PPE and so on, so

without hesitation - reluctantly we will impose sanctions "(AJ).

"Yes, actually it's for a deterrent effect for operators anyway"(YI).

"Yes, what is clear is that we follow the rules, we don't just throw them out arbitrarily"(Ek).

Table 3.Types of Violations and Sanctions Based on Golden Rules

Provision	Type of Violation	Penalty
Must do P2H(Examination and MaintenanceDaily) at the beginning of each shift	Do not carry out P2H at the beginning of each shift and P2H is not signed by the Supervisor and Operator concerned	SP 1 (Fine 250.000)
Required to lowerVesselin conveyance condition(DT, ADT, HD) stops	LowerVesselin the condition of the conveyance (DT, ADT, HD) stillmove	SP 1 (Fine 500.000)
Must use SafetyBelt when operating the unitheavy vehicles/equipment	Do not useSafety Belt when operating the unitheavy vehicles/equipment	SP 2 (Fine 2.000.000)
Prohibited to carrypassengers in the vehiclewhich exceeds the amountSafetyBelt available (Overcapacity)	Carrying passengers in vehicles that exceed the numberSafety Belt available (Overcapacity)	SP 2 (Fine 2.000.000)
Do not operate the unitvehicles/heavy equipmenttired condition, or deepinfluence of alcohol ordrugs	Operating a vehicle/heavy equipment unit in a tired condition, or under the influence of alcohol or drugs	SP 3 (Dismissed)
Mandatory to observe a safe distancewhen doingDumpingor altitude when doDumping in accordance with the conditions that have been enforced	Violating a safe distance when performingDumping oraltitude when doingDumpingin accordance with the provisions that have been enforced	SP 3 (Dismissed)

Source: Secondary Data

Monitoring Work Accidents

Monitoring is carried out to monitor the condition of the unit and work environment with the aim that the same or repaired incident does not recur which has the potential to cause the same incident or accident. For this reason, inspection and maintenance of each work environment and equipment are carried out when they are to be used or operated, as the results of interviews conducted with research informants, namely:

"Yes, it's done, it's scheduled, some are monthly, some are every 3 months, all kinds of things. Later there will be inspections of partner workshops, PT BA workshops as well, then there will be unit speed sweeps, there will be sweeping golden rules to check the completeness of Id cards, PPE and others"(Fr).

"That's been scheduled, that means every 6 months for a year there are 2 times in session 1 and in 2 session we carry out commissioning and this commissioning is also carried out depending onunit to be commissioned, if earlier DT started from the

management level of the company concerned after they have checked, then we will re-check the feasibility again”(AJ).

"Maintenance is on a schedule, usually it depends on HM every 250 hours for servicing the unit, and for the greasing schedule every week, Monday to Friday”(He).

"As for the checking, I am the one who does the P2H check every day, and the company sometimes does spot checks to check the units”(Sa).

"Yes, P2H is most inspected... yes, for P2H, you have to sign a safety signature every day”(St).

"Yes, we have maintenance, there is maintenance, there is service, for yo, there is more or less. 2 months 3 times, depending on HM, so HM per 250 is service, but if for example it's daily maintenance, we have a P2H form, so the operator creates the P2H form and then he reports it to the foreman, let the foreman report it to the mechanic”(YI).

"Yes, always, so if the unit has the name P2H, now here it is done every day by fellow drivers. Usually we collect too, we save. So, then we have a SO (Safety Officer) friend on site, so I gave him a report, every week he has to send me a report, so there are checking activities, APAR inspections, the function of the first aid kit. Later every week it will be sent to us, including the near miss report, it must be submitted to us”(Ek).

As for monitoring the work environment itself, PT. Bukit AsamTbk. TanjungEnim, there is already a routine schedule for inspecting the work area and there are also sheetschecklistor you can also see directly the conditions of the work environment, as the results of interviews with research informants, namely:

"Inspection has a schedule, top management inspection tour night, top management tour is also available, sudden fatigue is at 3 in the morning. For top management, it is held once a month”(Fr).

"It's usually scheduled, for example it's a week, of course, sometimes there are 2 or 3 times, sometimes if there's no request, yes, it's a structured plan and realization, it's also included in the work program”(AJ).

"From the OHS side, when carrying out the inspection, they did not use a checklist sheet, so they immediately saw safe and unsafe conditions, as soon as there was a violation, they were immediately stopped”(Sa).

"If you do an inspection, it's like that, once a week, sometimes suddenly it's like an inspection”(He).

"Come on schedule, we have an inspection schedule, so it's appropriate... if it's not intense, at least it's an inspection once every 3 months”(YI).

"There it is, there is an inspection form during field inspections”(Ek).

Discussion

Work Accident Reporting Procedures

Based on the results of research conducted using in-depth interview guidelines and field observations, it was found that the majority of workers, both partners and from PT Bukit AsamTbk. itself uses an oral reporting system for initial reporting, in which case when an incident or accident occurs, every worker who experiences it or the supervisor will report the incident via telecommunications channels, such as radio, telephone, or via an application *Whatsapp*. When an incident or accident occurs, the operator will first report it to the supervisor (*foreman*) then proceed to a higher level such as supervisor, assistant manager, up to other highest management such as KTT (Head of Mining Engineering) and IT (Mining Inspector), and don't forget also to related agencies.

This is in accordance with Permenaker No. 03 of 1998 concerning Procedures for Reporting and Investigating Accidents, which in the regulation is explained in article 2 paragraph ¹ that administrators and employers are required to report any accidents that occur in the work environment where they lead and in Article 4 paragraph (1) and (2) it is also explained that management and employers are also required to report accidents to the local Department of Manpower within a period of no more than 2x24 hours from the incident or accident in the work environment, and the submission of these reports can also be reported orally before being carried out in the form of writing⁶.

This is also in accordance with the results of research conducted by (Sultan *et al.*, 2021)⁷ the result was that all employees working in the coal mining industry PT. Putra Kajang East Kalimantan considers it important to report any work incidents or accidents that occur in the work environment. And also from these workers there is also their desire to participate in providing reports regarding hazards and risks that have the potential to cause accidents, and they give a positive response regarding the digital technology-based work accident reporting system because the manual reporting system still finds several weaknesses.

Work Accident Investigation

Investigation of work incidents and accidents conducted by PT. Bukit AsamTbk has complied, where in carrying out the investigation when there were reports of incidents or accidents that occurred in the work environment, PT. Bukit AsamTbk. conduct an investigation through several stages, namely pre-investigation in the form of collecting data through the 4P method (*People, Part, Paper, Position*), then carried out an investigation by analyzing the data collected using the domino theory, as well as using *Why Tree*. After all the evidence and the results of the investigation have been completed, recommendations or corrective actions are made referring to

laws and regulations and SOP (*Standard Operational Procedure*) that happened.

Based on Minister of Energy and Mineral Resources Decree No. 1827 K/30/MEM/2018 Concerning Guidelines for the Implementation of Good Mining Engineering Principles, it is explained in Appendix III that the implementation of investigations related to work incidents and accidents is carried out by the KTT, PTL, or can also be carried out by the Mining Inspector referring to the considerations of the KAIT and the Head of Service related parties on behalf of KaiT. Whereas the KTT/PTL will immediately carry out investigations regarding all work incidents and accidents that occur within no more than 2x24 hours⁸. According to the results of research conducted by (Wiguna *et al.*, 2021)⁹ it is stated that factors related to human habits with a percentage of 41.17% are in the work fatigue factor, where work fatigue is a factor causing operators to experience drowsiness, thereby reducing the level of focus and awareness of surrounding conditions, such as visibility, to the distance of the vehicle accompaniment, as well as working hours at night are also other factors that cause the operator to experience work fatigue.

Research conducted by (Djafaret *et al.*, 2016)¹⁰ stated that, the work accident factor experienced by DT operators (*Dump Truck*) is the operator's own negligence. This can be caused by a lack of operator awareness, ability, and knowledge in operating the DT unit (*Dump Truck*) according to the SOP (*Standard Operational Procedure*) or procedures that have been implemented within the company, causing work incidents or accidents that result in damage to the DT unit (*Dump Truck*).

This is also in accordance with the theory of work accidents put forward by Heinrich (1931) which states that as much as 88% of work accidents can come from the worker himself while doing his job or unsafe actions (*unsafe action*), then as much as 10% can be caused by the work environment itself or unsafe conditions (*unsafe condition*), and for the remaining 2% it can occur because it comes from the accident incident itself.

Work Accident Penalty

Based on the results of interviews conducted with research informants regarding penalty against work incidents and accidents, it was found that the sanctions given by violators who work in PT. Bukit Asam Tbk. already contained in *Golden Rules*, which in the regulation also contains penalty consisting of SP1 to SP3 or the hardest being getting fired, until there are also financial fines. The penalty given also depend on the magnitude, small or light, the severity of the violation committed by the worker. Meanwhile, companies are required to report any work incidents or accidents which will then be forwarded to the KTT (Head of Mining Engineering), up to IT (Mining Inspector).

Based on research conducted by (Kristiawan and Abdullah, 2020)¹¹, it is stated that it is important to conduct training for workers in achieving the target of zero work accident rates (*Zero Accident*), and also the need to make strict regulations with the aim of creating a safe work

environment, training and increasing the knowledge of workers so that they pay more attention to aspects of Occupational Safety and Health (OHS) in the work environment, as well as quite strict penalty when finding workers who are found to have violated these regulations so that they pay more attention to situations that have the potential to cause hazards and risks of work accidents.

In research conducted by (Perdini, 2012)¹², it is explained that workers will receive penalty if they are found to violate the rules that exist in the company. The penalty given can be in the form of reprimands, directions, and coaching which are then given a Warning Letter (SP), even dismissed. Then, with the imposition of strict penalty it will create a deterrent effect for violators, and actions that have the potential to cause risk can be avoided.

Work Accident Monitoring

PT. Bukit Asam Tbk. itself has carried out supervision of the work environment, starting from maintenance systems, inspections, to routine work environment inspections carried out according to a pre-arranged schedule. Especially for heavy vehicles such as DT (*Dump Truck*), an inspection is carried out every 6 months which is called commissioning with the aim of ascertaining whether the unit is still in operational condition or not, along with the safety features of the unit such as lighting functions, availability of fire extinguishers, first aid kits, and others. Meanwhile for the maintenance of the DT unit (*Dump Truck*) implemented based on HW (*Hour Meter*), namely the length of time the vehicle unit engine has been running, and if it has reached 250 then it must be repaired in *workshop-workshop* or workshop provided. For daily maintenance, the operator will usually carry out a P2H (Daily Inspection and Maintenance) before running the vehicle unit, with the aim of ascertaining whether there are irregularities or damage that has the potential to cause work accidents.

This is in accordance with research conducted by (Astari and Suidarma, 2022)¹³ which explains that, supervision regarding the implementation and eligibility of facilities and infrastructure is always carried out by companies. The form of supervision consists of activities safety checks, investigations regarding incidents and accidents that occurred, checking the adequacy of owned facilities and infrastructure, then checking the conditions of the work environment.

This is also in accordance with PP No. 50 of 2012 concerning the Implementation of the Occupational Safety and Health Management System (SMK3) is explained in Appendix II Element 7.(1).(1) that the implementation of work environment inspection activities is carried out regularly. And in Element 7.(1).(4) it is also explained that checklists or sheets *checklist* has been prepared in advance for later use when carrying out work environment inspection activities¹⁴.

Based on Minister of Energy and Mineral Resources Decree No. 1827 K/30/MEM/2018 Concerning Guidelines for the Implementation of Good Mining Engineering Principles, explained

in Appendix III that inspections related to work safety are carried out in all work environments and their activities consisting of⁸.

- A. Inspection activity plan
- B. Readiness inspection activities
- C. Implementation of inspection activities
- D. Suggestions and follow-up actions from inspection activities
- E. Consideration of the results of inspection activities
- F. Preparation of reports and informing the results of inspection activities

Conclusion

PT. Bukit Asam Tbk. and work partners always report every incident or accident that occurs in the work environment, then for reporting themselves they do it via airplane, such as radio, telephone, even using an application *Whatsapp* to report the incident. Then for, the investigation itself is carried out using different methods and analysis for each work unit, but has one goal, namely to find the root causes of the incident or accident and recommendations so that the incident does not recur. Then for the sanctions themselves, it has been stated *ingolden rules*, which consists of sanctions SP1 to SP3, as well as financial fines. For supervision, it can be carried out such as carrying out work environment inspections according to a predetermined schedule, then for maintenance of vehicle units it is carried out based on HM (*Hour Meter*) per 250 hours, while for daily maintenance there is a P2H form that must be filled out by every operator.

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