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Integration of HIRARC and B/C Ratio to Reduce the Number of Accidents in PT. XYZ

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A B S T R A C T

PT XYZ is one of the companies engaged in the mining industry. The company has total coal reserves of 5.8 million tons and produces a coal calorific value of 4900 Kcal/kg GAR. PT XYZ uses a 30-ton class dump truck for overburdened transportation activities. Overburden transportation is transporting material from one location or facility to another. The operation of dump trucks has risks that need to be controlled to minimize work accidents. Truck operators have considerable risks, including bumping, hitting, slipping, falling, and pinched. This study aims to identify potential accidents that can occur and propose preventive measures based on the risk level of each possible accident in the operation of dump trucks using the HIRARC method at PT XYZ. Based on the results of the study shows that the potential hazards experienced by dump truck operators include collisions, pinching, slipping, overturning units, backing units when on an incline, buckets crashing into vessels, grazing other units, low back pain, neck pain, herniated nucleus pulposus, fatigue, loss of control, unprotected operators, collapsed and dragged units, reduced control, loss of control, trapped units, buried units, falling into ravines, damaged units. In addition, the risks experienced by dump truck operators are 6 high risks, 7 medium risks, and 9 low risks. From the overall transportation of overburden material, dump truck operators experienced a high risk of 27%, a medium risk of 32%, and a low risk of 41%.

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1. INTRODUCTION

The mining industry is a business that uses heavy equipment on a daily basis. Some examples of heavy equipment commonly used in the mining industry are bulldozers, trucks, wheel loaders, excavators, scrapers, motor graders, rollers, and others.

One of the heavy equipment that is often used in trucks. Trucks are one of the important components of a project. Trucks that are used require an operator in charge of using the truck. Operating a truck is a relatively risky activity for the operator. Although trucks provide significant benefits, they are also one of the

causes of work accidents in a project. Data from the official website of the Ministry of Energy and Mineral Resources of the Republic of Indonesia recorded 93 accidents in mining areas in 2021. This number includes 36 minor accidents and 57 serious accidents. Then of the 93 mining accidents in 2021, 11 people died due to work accidents. Accidents in mining areas are one of the inhibiting elements that reduce the performance of a project. This continues to be a focus that continues to require special attention. Attention to work accidents continues to be one of the important aspects of mining. From year to year, companies are increasingly concerned with achieving zero accidents.

One of the companies engaged in the mining industry is PT XYZ. The company has an IUP-OP license and has an area of 3,414 hectares. In addition, the company has total coal reserves of 5.8 million tons. And produces a coal calorific value of 4900 Kcal/kg GAR. The HIRARC method is used to determine the risk rating. Using HIRARC can produce a level of risk that is experienced by truck operators who work at PT XYZ. Dump trucks are one of the most widely used types of trucks in various industries. PT XYZ uses a 30-ton class dump truck regularly. The dump truck is used for overburdened transportation activities. Overburden transportation is the process of transporting material from a location or facility to another location or facility. The transportation activity is transporting overburdened material from the mine to the disposal facility. Operating a dump truck has risks that need to be controlled. Occupational safety risk is one of the risks that need to be controlled. One incident that recently occurred was a truck that collided with another truck. This incident is one of the minor examples because it caused a lot of damage to the truck, namely mirrors and broken safety lights. But daily, truck operators are always at great risk.

Minimizing the risk of accidents and occupational diseases in the future is one of the focuses of the SHE department in PT XYZ. Truck operators are considered to have considerable risk. Accidents include when the operator is maneuvering or doing an overtake but loses control of the brake pedal and crashes into a truck or other facility; this accident can cause minor injuries to the operator's death. Therefore, risk control is needed at PT XYZ, especially for dump truck operators. PT XYZ needs to identify potential accidents that can occur and then prevent them from happening to operators. This is necessary because the operation of dump trucks has a risk of being considered very dangerous and is the most widely used truck, so similar accidents often occur. Therefore, it is necessary to identify and take precautions so that dangerous risks can be properly prevented. In addition, PT XYZ has never identified potential risks for dump truck operators. Therefore, this study aims to identify potential accidents that can occur, and make a proposal for preventive measures in accordance with the level of risk of each potential accident in the operation of dump trucks. In this study used HIRARC (Hazard Identification, Risk Assessment, and Risk Control) and calculation of C/B Ratio (Cost-Benefit Ratio). HIRARC is a method used to find risk, assess risk, and control risk. While the calculation of C / B Ratio to determine the feasibility of the proposed improvements provided. Both methods are expected to minimize the risk of accidents at work in the operation of dump trucks at PT. XYZ.

2. LITERATURE REVIEW

According to Ahad (2021), coal mining has a high risk of work accidents. Therefore, controlling the hazards and risks that can cause work accidents when mining is necessary. The control is carried out to create safe, efficient, and productive mining. Work accidents are usually caused by workers, work tools, and the work environment, so it is necessary to implement occupational safety and health (K3) in mining. According to Watumlawar (2021), Mining K3 is all activities to ensure and protect mine workers to be safe and healthy through efforts to manage occupational safety, occupational health, work environment, and occupational safety and health management systems. Minister of Energy and Mineral Resources Regulation No. 38 of 2014 is a regulation that regulates the implementation of mining safety management system. According to Akbar et al. (2022), some of the risks that can occur in continuous construction when going to pull or damage the machine, hands left behind, tools moving alone, excavators

moving, damaging walls, damaging, tools generating dust, causing damage, buckets moving with trucks when loading, destruction of balance and balance when swinging, and material overload causing problems in the cabin. According to Zakri & Saldy (2019), the production process is the main activity in mining. It is these activities that produce commodities that generate profits for the company. Heavy equipment is a major component in the production process, the selection of heavy equipment into a factor determining the amount of production costs. Types, specifications, and how to procure heavy equipment is important in the calculation of production costs. Luthfiansyah (2019), heavy equipment commonly used in mining are trucks and excavators. Two areas are the focus of mining activities, namely the mining area and the disposal area. Excavators occupy the mining area to produce mining goods, while the disposal area is where the mining process is carried out. Good management of heavy mining equipment activities will determine the amount of mining goods collected as a result of mining activities and the income of the mining company itself.

According to Yuliandi (2019), occupational health and safety is a thought and effort to ensure the integrity and perfection of both physical and spiritual labor in particular, and humans in general, work and culture towards a just and prosperous society. Occupational Safety and Health (K3) is one of the occupational safety and health efforts in the work environment, which aims to improve the quality of life and increase worker productivity. According to Sulistyaningtyas (2021), a work accident is an unwanted and unpredictable event that can cause both material and human losses as victims. Several factors contribute to Indonesia's high number of work accidents, including: (1) Human resources do not have the expertise and skills to operate high-tech factory machinery, inadequate occupational health, and nutritional status, (2) A large number of unemployed people makes laborers choose to work better without considering dangerous work, which is vital to work rather than being unemployed, (3) Weak supervision from labor agencies, and (4) The Social Security program covers a small number of workers.

Casban (2018), work accidents can be caused by human factors (unsafe action) and environmental factors (unsafe condition). Unsafe action factors can be caused by various things such as physical imbalance of Labor (disability), lack of Education, carrying excessive loads, working more than working hours. According to Ponda (2019), risk is a manifestation or manifestation of a potential danger (hazard event) that results in the possibility of losses becoming greater. Depending on how it is managed, the level of risk may vary from the mildest or low to the most severe or high stage. Through the analysis and evaluation of all potential hazards and risks, minimization or control measures are sought to prevent disasters or other losses. According to Indragiri & Yuttya (2018), HIRARC is a fundamental element in the Occupational Safety and health management system related to hazard prevention and control efforts. The whole process of HIRARC, also called risk management, will then produce a HIRARC document that is very useful to prevent work accidents. According to Ramli (2010), HIRARC is a series of processes to identify hazards that can occur in routine or non-routine activities in the company, then conduct a risk assessment of these hazards, and then create a hazard control program so that the risk level can be minimized to a lower level to prevent accidents.

The first step in HIRARC is hazard identification. Hazards can be defined as any condition, situation, or behavior that has the potential to cause harm, including accidents, illnesses, deaths, environmental pollution, and damage to company facilities (Ahmad et al., 2016). Risk assessment is carried out to determine the likelihood/level of risk associated with each identified hazard. This process is based on guidelines from the Australian Standard/New Zealand Standard for Risk Management (AS/NZS 3260: 2004), which is a standard from Australia (Australia Standards/New Zealand Standards 4360, 2004).

Table 1. Likelihood criteria

Level	Criteria	Description
5	Almost Certain	Can happen anytime
4	Likely	Often occur
3	Possible	Can happen every once in a while
2	Unlikely	Rarely happening
1	Rare	Almost never happened

Table 2. Severity criteria

Level	Criteria	Description
5	Catastrophic	Fatal and/or chronic diseases require serious medical treatment and/or very serious and long-term environmental damage, huge losses and very broad impacts, cessation of all activities
4	Major	Serious injury and/or chronic illness require medical treatment and/or serious and long-term environmental damage
3	Moderate	Moderate injury and/or chronic illness requires medical treatment and/or moderate effect on the environment, sizeable financial loss
2	Minor	Minor injury and/or illness with mild symptoms and/or small effect on the environment, small financial loss
1	Insignficant	No injury and/or no disease caused and/or no effect on the environment, small financial loss

Table 3. Risk matrix

Likelihood	Severity				
	Insignificant	Minor	Moderate	Major	Catastrophic
5	T	T	E	E	E
4	S	T	T	E	E
3	R	S	T	E	E
2	R	R	S	T	E
1	R	R	S	T	T

According to Ramli (2010), risk control is carried out on all hazards in the hazard identification process and considers the risk rating to find priorities and control methods. Furthermore, in determining rules, the hierarchy of controls must be considered, starting from elimination, substitution, technical, administrative, and PPE controls. According to Surya and Ririh (2021), the 5W1H analysis consisting of what, where, when, why, who, and how is a method to analyze the sources of problems that have been identified. The 5W1H analysis is used to investigate and find the start of the cause of the issues that occur in research activities. The 5W1H analysis contains five questions that will help identify the source of the problem and can be given an improvement solution or input to overcome the problem. Arifin et al. (2021) said that comparing benefits and costs (Benefit Cost Ratio or B / C) is a way to determine whether a business is profitable or unprofitable. The B / C ratio compares the benefits obtained and the costs spent on an activity or project. B means Benefit, while C means Cost. The formula for calculating the B / C ratio:

B/C ratio = Benefit (B):Cost (C)
B/C ratio > 1 (feasible)
B/C ratio = 1 (break even)
B/C ratio < 1 (not feasible).

3. RESEARCH METHOD

This research uses primary and secondary data obtained from historical data of PT. XYZ based on literature studies from books and journals of previous researchers. The method of analysis can be seen in Figure 1.

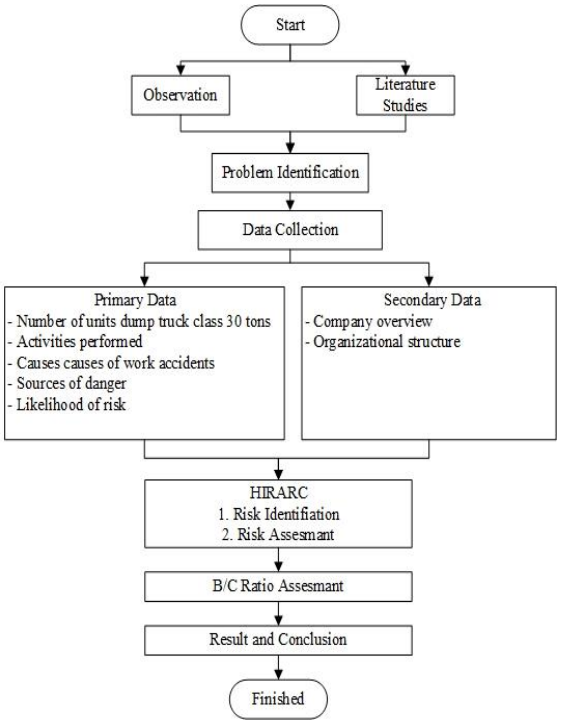

Figure 1. Flowchart analysis stages

HIRARC method is used to identify risk factors that can be the cause of the risk potential analysis stage, then an assessment of the risk value based on the calculation of the likelihood and severity. The next step is to establish risk control recommendations based on the hierarchy of risk control and the legal basis for implementing K3. Last used the calculation of the cost-benefit ratio to determine the feasibility of the proposed improvements.

4. RESULT AND DISCUSSION

PT XYZ is one of the companies engaged in the mining industry. The company itself has 38 units of dump trucks, namely 32 units of Hino FM260TI dump trucks and Scania P360CB-6X4. Both types are dump trucks with a class of 30 tons. As many as four work activities are found at PT XYZ with the following description.

1. Preparation

Figure 2. Preparation

The preparation stage is important before the Dump Truck is used, as the things done during preparation are checking the condition of the unit. The preparation stage starts with the process of using PPE. The required PPE is PPE (a helmet, protective shoes, glasses, mask, gloves, earplugs, and reflective vest). After that, checks are carried out in the cabin including finger panels, mirrors, cabin lights, horns and alarms, brake air pressure, engine sounds, service breaks, engine/exhaust breaks, retarder breaks, parking breaks, steering functions, transmission handles, wipers. Then check the function of seatbelt, radio communication, fire extinguisher, and rotary lights.

2. Material Loading

Figure 3. Material loading

Loading material is done using an excavator to move the material into the dump truck vessel. The dump truck backs up to the loading front and stops. Then the material is loaded into the vessel until it is complete. During the loading process the operator waits in the cabin, until getting confirmation that the vessel is full, either by radio or, through the horn sounded by the excavator operator.

3. Overburden Material Removal

Figure 4. Material transfer

Material transfer using a dump truck from the pit to the disposal has a distance of 1

kilometer. The road traveled has narrow streets, climbs, and descents. During the transfer, the operator operates the dump truck. The truck will meet or cross paths with other loaded and empty units on the way. The road will also deteriorate in quality due to frequent travel and weather factors.

4. **Dumping**

Figure 5. Dumping

Dumping is placing or lowering material from the vessel to the disposal facility. To remove, the unit must back up to the dumping area. Once the unit is positioned in the dumping area, the operator presses the button to raise the vessel, then presses the button again to lower the vessel.

Based on the results of the HIRARC method analysis for the 4 work activities, it can be described as follows.

1. Risk Identification

   The risk identification stage is carried out to determine the potential hazards and risks that can cause work accidents and occupational diseases from overburdened transportation activities. The following are the results of risk identification which can be seen in Table 4.

Table 4. Risk identification

No	Activity	Process	Potential Hazard	Risk	Impact
1	Preparation	Removing the unit from the outside	Unit inspection negligence	Collision	Injuries, and deformities in the legs
			Fanbelt	Pinched	Bruise on the finger
		Checking unit cabin parts	Dirty footing, and slippery	Slip	Death from broken neck
2	Material Loading	Loading unit to front loading	Corrugated front	Reverse Unit	Fractures and neck injuries
		Overburden charge charging	Material overload	Unit recoil on incline	Fractures and neck injuries
			Sleepy	Bucket bumping vessel	Vessel walls bend if they occur frequently
3	Overburden Material Removal	Operate the unit from front loading to disposal	Sunlight interferes with vision	Graze other units	Damage to the body unit
			Body posture	Low back pain	Injuries requiring treatment and rest
				Neck pain	Injuries requiring treatment and rest
				Hernia nucleus pulposus	Pain, and decreased function of leg muscles
			Shocks due to not smooth roads	Fatigue	Pain in the buttocks
			The road is slippery, narrow, and potholes	Graze other units	Cracks in the bones of the legs
				Lost control	Bruises on the legs
			Seatbelt not used	Unprotected Operator	Death
			Broken front tire	Unit collapsed and dragged	Injuries, and deformities in the legs and head
			Middle tire rupture	Reduced control	Damage to the tire frame
			Middle tire rupture	Lost control	Small fractures or cracks
			Small landslide	Unit stuck	Unit cannot be operated
			Moderate landslides	Collapse Unit	Small fractures or cracks
			Large landslide	Buried units	Death
4	Dumping	Returning the unit to the dumping area	Uneven surface	Mired in the abyss	Death
		Dumping	The Unit runs even though the vessel has not gone down perfectly	Damaged units	Hydraulic breakdown

2. Risk Assessment
   Risk assessment is used to determine the level of risk in terms of the likelihood of occurrence (likelihood) and the severity that can be caused (severity). The likelihood is assigned a range between a chance that rarely occurs to a risk that can occur at any time. The following risk assessment results can be seen in Table 5.

Table 5. Risk assessment

No	Activity	Process	Potential Hazard	Risk	Impact	Likelihood	Severity	Risk Rating
1	Preparation	Removing the unit from the outside	Unit inspection negligence	Collision	Injuries, and deformities in the legs	1	4	T
			Fanbelt	Pinched	Bruise on the finger	1	1	R
		Checking unit cabin parts	Dirty footing, and slippery	Slip	Death from broken neck	1	5	T
2	Material Loading	Loading unit to front loading	Corrugated front	Reverse Unit	Fractures and neck injuries	1	3	S
			Material overload	Unit recoil on incline	Fractures and neck injuries	2	3	S
		Overburden charge charging	Sleepy	Bucket bumping vessel	Vessel walls bend if they occur frequently	2	1	R
3	Overburden Material Removal	Operate the unit from front loading to disposal	Sunlight interferes with vision	Graze other units	Damage to the body unit	2	1	R
			Body posture	Low back pain	Injuries requiring treatment and rest	3	2	S
				Neck pain	Injuries requiring treatment and rest	2	2	R
				Hernia nucleus pulposus	Pain, and decreased function of leg muscles	1	3	S
			Shocks due to not smooth roads	Fatigue	Pain in the buttocks	1	1	R
			The road is slippery, narrow, and potholes	Graze other units	Cracks in the bones of the legs	1	2	R
				Lost control	Bruises on the legs	3	1	R
			Seatbelt not used	Unprotected Operator	Death	1	5	T
			Broken front tire	Unit collapsed and dragged	Injuries, and deformities in the legs and head	1	4	T
			Middle tire rupture	Reduced control	Damage to the tire frame	1	1	R
			Middle tire rupture	Lost control	Small fractures or cracks	3	2	S
			Small landslide	Unit stuck	Unit cannot be operated	4	1	S
			Moderate landslides	Collapse Unit	Small fractures or cracks	1	2	R
			Large landslide	Buried units	Death	1	5	T
4	Dumping	Returning the unit to the dumping area	Uneven surface	Mired in the abyss	Death	1	5	T
		The Unit runs even though the vessel has not gone down perfectly	Damaged units	Hydraulic breakdown	Hydraulic breakdown	1	2	R

The risks experienced by dump truck operators are 6 high risks, 7 medium risks, and 9 low, as seen in the graph below.

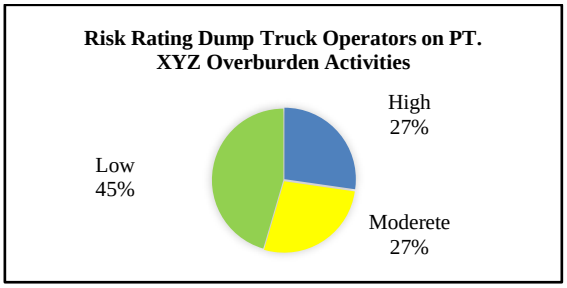

Figure 6. Risk rating graph

From overall transportation overburden material, the dump truck operator experienced high risk at 27%, moderate risk at 32%, and low risk at 41%. The risk assessment results contained 6 risks with a high-risk rating: the risk of collision and slipping when checking the unit, collision when moving overburdened material, and the unit collapsing. They dropped, buried the unit, and fell into the ravine when dumped.

The 5W1H analysis was not carried out on all identified risks but only on risks with high and extreme risk ratings. This is done because medium and low risks are considered acceptable. The risk assessment results show 6 risks with a high-risk rating. The results of the 5W1H analysis can be seen in Table 6.

Table 6. 5W1H analysis

Risk Rating	Factor	What	Why	Where	Who		When	How
		What Problems?	Why it can happen	Where is the source risks?	Who is at risk	Who is responsible	When does it happen	How does repair?
T	Human	Operator negligence in conducting daily unit checks	Supervisors are not careful in overseeing the inspection unit	Brake unit	Operator	Supervisor	When the overburden is removed	Increased risk awareness through regular Safety briefings
T		Seatbelt not used	Operators lack discipline, or forget to use setabelt	Cabin unitt	Operator	Operator	Material overburden treatment	Increasing risk awareness through safety briefings, increasing the frequency of safety patrols
T	Machine	Smooth footing	The footing is not cleaned beforehand	Unit footing	Operator	Operator	When the operator rises into the unit	Addition of unit cleaning especially on footrest in SOP
T		Front tire burst	Front tire punctured by sharp objects such as sharp stones	The road from mine to disposal	Operator	Supervisor	Overburden material treatment	Increased frequency of road surveillance and maintenance
T	Environment	Large landslide	High rainfall	Cabin unit	Operator	Foreman hauling route	Overburden removal	Installation of landslide detectors at points that are considered at risk of landslides
T		Uneven surface	The dumping area supervisor does not pay attention to the slope because the dumping area is covered with material, as well as a large area	Dumping area	Operator	Supervisor	When material dumping activities are carried out	Increasing risk awareness through safety briefings which are held every Monday,

The control that needs to be done is to increase risk awareness through periodic safety briefings from once a week for each shift and increase the frequency of safety patrols from 2 times a week to 3 times a week for risks during the human factor, which has a chance of collision due to 2 hazards, namely negligent inspection of the unit, and unused seatbelt. The following control is to do cleaning every shift starts for the machine factor with the risk of slipping and the source of danger of slippery footing. Footing cleaning, for now, is done in

the morning only. The following control is on environmental factors: increased road repair and maintenance, installation of LEWS equipment, and increased supervision of the dumping area. These controls are carried out for the risks of front tire bursts, large landslides, and uneven dumping area surfaces.

Then the cost-benefit ratio will be calculated. The value of benefits and costs is needed to get the cost-benefit ratio. The benefits of control include compensation that is not incurred and production activities that are not hampered or stopped because of avoided risks. Cost is the amount of money that needs to be spent to carry out the proposed control.

Table 7. Benefit of Control

Handling	Benefit	Total	Value (IDR)
Routine safety briefings, and safety patrols	Disability Compensation	1 person	196.000.000
	Death Compensation	1 person	342.800.000
	Production runs	24 hours	588.874.105
Unit cleaning	Disability Compensation	1 person	342.800.000
	Death Compensation	12 hours	294.437.052
Road maintenance	Disability Compensation	1 person	196.000.000
	Death Compensation	1 person	392.000.000
	Production runs	12 hours	294.437.052
Avalanche detector	Death Compensation	1 person	342.800.000
	Production runs	12 hours	294.437.052
Improved Oversight	Death Compensation	1 person	342.800.000
	Production runs	12 hours	294.437.052
Total			**3.921.822.315**

Table 8. Cost of Control

Handling	Cost	Description	Total (IDR)
Routine safety briefings, and safety patrols	Solar safety patrol	Solar for 1 unit / year	17.824.500
	Wages foreman safety	1 year	84.000.000
Unit cleaning	Water costs	1 year	308.352
Road maintenance	Solar motor scraper	1 year Solar for 1 unit / year	341.640.000
	Solar motor grader	Solar for 1 unit / year	341.640.000
Avalanche detector	Cost of installing LEWS	1 unit	30.000.000
Increased Surveillance	Area supervisor wages	1 year	84.000.000
Total			**899.104.500**

Table 9. B/C Ratio of Control

Risk	Handling	Benefit (IDR)	Cost (IDR)	B/C
Collision	Routine safety briefings, and safety patrols	1.127.674.105	101.824.500	11,0747
Slip	Unit cleaning	637.237.052	308.352	2066,5897
Collapsed and dragged units	Road maintenance	882.437.052	683.280.000	1,2915
Buried units	Avalanche detector	637.237.052	30.000.000	21,2412
Units mired in the abyss	Increased Surveillance	637.237.052	84.000.000	7,5862

Each of the benefit-cost ratio of the Controlled Risk is the risk of collision with routine safety briefing control, and safety patrol, the benefit value of IDR 1,127,674,105, the cost value of

IDR 101,824,500, the value of the benefit-cost ratio of 11.0747 greater than 1 is said to be feasible. Slip with unit cleaning control, benefit value of IDR 637,237,052, cost value of IDR 308,352 benefit-cost ratio value of 2066.5897 is greater than 1 then it is said to be feasible. The unit collapsed and dragged by road maintenance control, the benefit value of IDR 882,437,052, the cost value of IDR 683,280,000 the value of the benefit-cost ratio of 1.2915 greater than 1 is said to be feasible. Buried Unit with landslide detector control, benefit value of IDR 637,237,052, cost value of IDR 30,000,000, benefit-cost ratio value of 21.2412 greater than 1 is said to be feasible. The Unit fell into the abyss with the control of increased supervision, the benefit value of IDR 637,237,052, the cost value of IDR 84,000,000 the value of the benefit-cost ratio of 7.5862 greater than 1 is said to be feasible.

B/C ratio = Total Benefit/Total Cost
= IDR 3.921.822.315/ IDR.412.852
= 4,3604
B/C ratio > 1 (Feasible)

Based on the calculation of benefit cost ratio with a value of 4.3604 greater than the value of 1, risk control is said to be feasible from the comparison of benefits and costs.

5. CONCLUSION

Based on the results showed that the potential hazards experienced by dump truck operators include collisions, pinched, slipped, inverted units, backward units when on a slope, bucket crashing vessel, grazed other units, low back pain, neck pain, hernia nucleus pulposus, fatigue, loss of control, unprotected operator, unit collapsed and dragged, reduced control, lost control, trapped units, buried units, mired in the abyss, damaged units. In addition, the risks experienced by dump truck operators are 6 high risk, 7 medium risk, and 9 low risk. Of the overall overburden material transportation, dump truck operators experienced a high risk of 27%, a medium risk of 32%, and a low risk of 41%. Proposed improvement of the resulting risk is a routine safety briefing, and safety patrol, road maintenance, unit cleaning, installation of landslide detectors, increased supervision. Control of routine safety briefings, and safety patrol, the value of the benefit-cost ratio of 11.0747, control of unit cleaning with the value of the benefit-cost ratio of 2066.5897, control of road maintenance with the value of the benefit-cost ratio of 1.2915, control of landslide detectors with the value of the benefit-cost ratio of 21.2412, control of increased supervision with the value of the benefit-cost ratio of 7.5862. The risk control has a benefit value of Rp 3,921,822,315, and a cost of Rp 899,412,852 with a comparative value of 4.3604. Because all ratio values are greater than 1, then risk control is said to be feasible.

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