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# THE APPLICATION OF JOB SAFETY ANALYSIS (JSA) METHOD IN IDENTIFYING THE RISK OF WORK ACCIDENTS IN CHARGED MANPOWER IN BUNGKUTOKO PORT, KENDARI CITY

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## Abstract

**Background:** Data from the Ministry of Manpower of the Republic of Indonesia that the number of work accidents in Indonesia in 2016 was 101,368, in 2017 there were 123,041 cases, in 2018 there were 173,415 cases. At the end of September 2019 there were 130,923 cases and there were 6 people who died every day. On September 2019, the sectors that contributed to the relatively large number of work accidents were the processing industry with 50,358 (38.46%) cases, trade of 9,559 (7.30%) cases, transportation and warehousing 2,694 (2.06%) cases, and the rest 68,312 (52.18%) cases from other sectors. The same thing was reported by the Social Security Administration for Employment that there was an increase in work accidents by 40%, from 157,313 in 2018 to 173,105 cases in 2019.

**Methods:** This research is quantitative research with a descriptive analytic research design and applied observational analytic approach. The population of all loading and unloading workers was 150 people divided into 3 teams, where each team consisted of 50 TKBM members of Bungkutoko Port, Kendari City.

**Result:** This study found 3 work stages with the highest RPN value, namely, wrong in the lifting position in the stevedore of work process at the time workers lift goods and put them into the net, as well as in the cargodore of work process when workers stack goods on the truck with a value of 288, stumbling (cargo) which occurs in the stevedoring work process where The worker on the truck directs the crane and the net into the truck body with an RPN value of 192, and pinched by a lifting tool in the cargodore of work process when workers remove goods from the sling on the truck / remove the sling, with a value of RPN 144.

**Conclusion:** There were 3 loading and unloading work processes, namely, stevedoring, cargodoring, and delivery with each work stage having potential hazards, the impact of hazards, and control efforts, and the person in charge of control efforts.

**Key words:** *work accident, stevedoring, cargodoring, delivery*

## INTRODUCTION

Occupational Safety and Health is a science to anticipate, recognise, evaluate and control hazards that arise in the workplace which can have an impact on the health and well-being of workers, as well as the impacts that may be felt by the surrounding community and the general environment(1).

As industrialization and globalization develop as well as advances in science and technology, occupational safety and health are also growing. Law Number 1 of 1970 concerning safety as the legal basis for implementing Occupational Safety and Health in Indonesia has been strengthened by the issuance of Law Number 36 of 2009 concerning Health where in articles 164-165 concerning occupational health it is stated that all workplaces are required to implement occupational health efforts both in the sector. formal and informal including the State Civil Apparatus, INA and Police(2).

Data from the Ministry of Manpower of the Republic of Indonesia states that the number of work accidents in Indonesia in 2016 was 101,368, in 2017 there were 123,041 cases, in 2018 there were 173,415 cases, and at the end of September 2019 there were 130,923 cases, and there were 6 people who died every day. As of September 2019, the sectors that contributed to the relatively large number of work accidents were the processing industry with 50,358 (38.46%) cases, trade of 9,559 (7.30%) cases, transportation and warehousing 2,694 (2.06%) cases, and the rest 68,312 (52.18%) cases from other sectors(3).

The same thing was reported by the Social Security Administering Body for Employment that there was an increase in work accidents by 40%, from 157,313 in 2018 to 173,105 cases in 2019. BPJS Ketenagakerjaan data from Southeast Sulawesi Province recorded an increase in cases from 2017 which only 23 (8.21%) cases, in 2018 84 (30%) cases and in 2019 jumped sharply to 173 (61.79%) cases(4).

Bungkutoko Port, which is located in Abeli District, Kendari City, Southeast

Sulawesi Province, has a land area of 70,700 m<sup>2</sup>, 18,236 m<sup>2</sup> of landfill, 1200 m<sup>2</sup> of warehouse, and 388 m<sup>2</sup> of office. Meanwhile, the sea side has a dock area of 4,000 m<sup>2</sup>, -8 Mlws depth, 1,648 m<sup>2</sup> Trestle, and 1,200 m<sup>2</sup> Causeway. With these facilities, Bungkutoko Port can be berthed by ships weighing 6,000 DWT. In future development, Bungkutoko Port is not only a container port, but also serves as a multipurpose port. The port is also one of the ports that is busy with ships carrying passengers and shipping goods between islands, the number of loading and unloading workers is around 150 people, divided into 3 teams(5).

At a glance, it can be seen that there are many potential hazards of potential hazards that threaten every work process carried out by workers that can result in accidents, material loss for workers and the company, death, decreased quality and quantity of production, as well as hazards to the surrounding environment(6). The operation of lifting and transportation aids such as Rubber Tyred Gantry Cranes (TGC) and cranes for loading and unloading activities at Bungkutoko Port has resulted in many workers experiencing injuries, such as being pinched and hit by tools and cargo.

Based on an interview with one of the managers of the Tunas Bangsa Mandiri TKBM at Bungkutoko Port, he said that in the last 3 (three) years from 2017 to 2019 several physical complaints that loading and unloading workers often complained about every day were low back pain, back pain, pain / neck tension, shoulder pain and sprains, hand pain, and other health problems, such as coughing and dizziness. In 2019 to 2020 there were 3 (three) serious work accidents, namely 1 person was injured / scratched by cargo, 5 people tripped over cargo, 1 person fell from the transport truck and suffered a fracture. The three cases of accidents have been handled well, the workers received medical care, however, there are also some who only undergo traditional healers or massage treatments. It



was further explained that all loading and unloading workers were provided with health insurance in the form of a Jamsostek card and collaborated with BPJS employment. Occupational accidents and health problems are still frequently experienced by workers, but these incidents are not well documented and because workers consider them to be occupational risks for them.

## METHOD

This research is a type of quantitative research, using a cross-sectional design(7). The research approach used was observational. The population is all loading and unloading workers as many as 150 people who are divided into 3 teams, where each team consists of 50 TKBM members of Bungkutoko Port, Kendari City. In this study, the researchers took a sample of 20 people from each team, so that the total sample size was 60 people. The data were collected by using purposive sampling method(8).

## RESULT

The number of lift and transport equipment at Bungkutoko Kendari Port, there are 6 lift and transport aircraft used including 1 unit of reach stacker, 1 unit of 32 ton forklifts, 2 units of 7 ton forklifts, 1 unit of 5 ton forklifts, and mobile cranes. 30 tons as much as 1 unit (Table 1).

**Table 1**  
**Frequency Distribution of the Number of Lift and Transport Equipment at Bungkutoko Port, Kendari City**

| Type of Aircraft and Transport | Number of Tools (unit) |
|--------------------------------|------------------------|
| <i>Reach Stacker</i>           | 1                      |
| <i>Forklift 32 tons</i>        | 1                      |
| <i>Forklift 7 tons</i>         | 2                      |
| <i>Forklift 5 tons</i>         | 1                      |
| <i>Mobile Crane 30 Tons</i>    | 1                      |
| <b>Total</b>                   | <b>6</b>               |

The frequency distribution of TKBM at Bungkutoko Port, Kendari City by age

shows that 14 people aged 21-28 years (23.3%), 19 respondents aged 29-36 years (31.7%), 37 respondents aged -44 years as many as 14 people (23.3%), and respondents aged 45-52 years as many as 13 people (21.7%) (Table 2).

**Table 2**  
**Frequency Distribution Based on the Age of TKBM at the Port Bungkutoko, Kendari City**

| Age          | n         | %          |
|--------------|-----------|------------|
| 21-28 years  | 14        | 23.3       |
| 29-36 years  | 19        | 31.7       |
| 37-44 years  | 14        | 23.3       |
| 45-52 years  | 13        | 21.7       |
| <b>Total</b> | <b>60</b> | <b>100</b> |

The frequency distribution of TKBM at Bungkutoko Port, Kendari City based on tenure shows that 32 respondents with a service period of <2 years (53.3%) and a service period of > 2 years (46.7%) (Table 3).

**Table 3**  
**TKBM Frequency Distribution at Bungkutoko Port, Kendari City Based on the Service Period**

| Years of service | n         | %          |
|------------------|-----------|------------|
| <2 Years         | 32        | 53.3       |
| > 2 Years        | 28        | 46.7       |
| <b>Total</b>     | <b>60</b> | <b>100</b> |

Worksheet Job Safety Analysis (JSA) The Stevedoring Work Process at Bungkutoko Port, Kendari City, there are 4 work stages, namely, workers enter the barge / hold, workers lift goods and enter into the net, lifting goods in the net using a crane to a transport truck, and The worker on the truck directs the crane and the net into the truck's body, with 19 potential hazards that can lead to work accidents (Table 4).. Efforts to control are attempted by the person in charge, in this case the TKBM manager, field supervisors, port K3 staff and TKBM foremen to minimize the potential risk of work accidents.

**Table 4**  
**Job Safety Analysis Worksheet (JSA) Stevedoring Work Process at Bungkutoko Harbor, Kendari City**

| Work Stage                                    | Potential hazard   | Potential Risks                       | Control   | Responsible   |
|---|--|---------------------------------------|---|---|
| 1. Workers enter the barge / hold             | Dropped into the hold  | Wounds, fractures                     | Need caution and put up warning signs   | TKBM managers, field supervisors, port K3 staff, foremen          |
|   | Fall into the sea  | Drowning, death                       | Need caution and put up traffic warning signs   |   |
|   | Slip   | Wounds, injuries                      | Use complete PPE, namely a helmet, vest, safety shoes, and gloves   |   |
|   | Stumble  | Wounds, fractures                     | Use complete PPE, namely a helmet, vest, safety shoes, and gloves   |   |
| 2. Workers lift goods and put them in the net | Sun exposure   | Dehydration, fatigue                  | Using complete PPE, namely helmets, vests, safety shoes and gloves, as well as setting rest hours and providing drinking water at work for workers. |   |
|   | Exposure to dust   | Respiratory disorders, eye irritation | Use complete PPE, namely helmets, vests, safety shoes, and masks.   |   |
|   | Stuck by goods   | Injuries, broken bones                | Use complete PPE, namely a helmet, vest, safety shoes, and gloves   |   |
|   | Got hit by a tool  | Wounds, injuries, fractures           | Use complete PPE, namely a helmet, vest, safety shoes, and gloves   |   |
|   | Fatigue  | Error in lifting                      | Rest hour setting   |   |
|   | Wrong lifting position   | Back pain, joint injuries             | Adjusting the rest time, stretching after working for a long time, increasing knowledge of ergonomics of correct lifting procedures and positions.  |   |
|   | 3. Lifting goods in the net using a crane to the transport truck | Stuck by goods                        | Injuries, broken bones  | Use complete PPE, namely a helmet, vest, safety shoes, and gloves |
| Got hit by a tool                             |  | Wounds, injuries, fractures           | Use complete PPE, namely a helmet,  |   |

|   |                                   |                                       |   |
|---|-----------------------------------|---------------------------------------|---|
|   |                                   |                                       | vest, safety shoes, and gloves  |
|   | Exposure to dust                  | Respiratory disorders, eye irritation | Use complete PPE, namely helmets, vests, safety shoes, and masks.                         |
|   | The sling broke                   | Injuries, broken bones, death         | Use complete PPE, namely a helmet, vest, safety shoes, and gloves                         |
| 4. The worker on the truck directs the crane and net into the truck body. | The sling broke                   | Injuries, broken bones, death         | Use complete PPE, namely a helmet, vest, safety shoes, and gloves                         |
|   | Stuck by goods                    | Injuries, broken bones                | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves |
|   | Sandwiched in the back of a truck | Wounds, fractures                     | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves |
|   | Slip                              | Wounds, injuries                      | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves |
|   | Stumble                           | Wounds, injuries                      | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves |

Job Safety Analysis Worksheet(JSA) The Cargodoring Work Process at Bungkutoko Port, Kendari City, there are 2 work stages, namely, Removing goods from the sling on the truck / removing the slings and arranging the goods on the truck, with 11 potential hazards that can risk causing work accidents. Efforts to control are attempted by the person in charge, in this case the TKBM manager, field supervisors, port K3 staff and TKBM foremen to minimize the potential risk of work accidents (**Table 5**).

**Table 5**  
**Worksheet Job Safety Analysis (JSA) Cargodoring Work Process at Bungkutoko Port, Kendari City**

| Work Stage   | Potential hazard    | Potential Risks                       | Control   | Responsible  |
|--|---------------------|---------------------------------------|---|--|
| 1. Unload the goods from the slings on the truck / remove the slings | Slip                | Wounds, fractures                     | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   | TKBM managers, field supervisors, port K3 staff, foremen |
|  | Stuck by goods      | Dead                                  | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|  | Clamped in the lift | Wounds, fractures                     | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|  | Stumble             | Wounds, injuries                      | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|  | Sun exposure        | Dehydration, fatigue                  | Using complete PPE, namely helmets, vests, safety shoes and gloves, as well as setting rest hours and providing drinking water at work for workers. |  |
|  | Exposure to dust    | Respiratory disorders, eye irritation | Use complete PPE, namely helmets, vests, safety shoes, gloves, and masks  |  |
| 2. Stacking goods on the truck.                                      | Dust exposure       | Respiratory disorders, eye irritation | Use complete PPE, namely helmets, vests, safety shoes, gloves, and masks  |  |
|  | Fell                | Wounds, injuries                      | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|  | Stuck by goods      | Wounds, fractures                     | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|  | Sun exposure        | Dehydration, fatigue                  | Using complete PPE, namely helmets, vests, safety shoes and gloves, as well as setting rest hours and providing drinking water at work for workers. |  |
|  | Wrong lifting       | Back pain,                            | Adjusting the rest time,  |  |

|  |          |                |   |
|--|----------|----------------|---|
|  | position | joint injuries | stretching after working for a long time, increasing knowledge of ergonomics of correct lifting procedures and positions. |
|--|----------|----------------|---|

Worksheet Job Safety Analysis (JSA) The Delivery Work Process at Bungkutoko Port, Kendari City, there is 1 work stage, namely, Moving goods from a warehouse or accumulation field onto trucks, with 5 potential hazards that can risk causing work accidents. Efforts to control are attempted by the person in charge, in this case the TKBM manager, field supervisors, port K3 staff and TKBM foremen to minimize the potential risk of work accidents (**Table 6**).

**Table 6**  
**Worksheet Job Safety Analysis (JSA) Delivery Work Process at the Port Bungkutoko, Kendari City**

| Work Stage  | Potential hazard | Potential Risks                       | Control   | Responsible  |
|---|------------------|---------------------------------------|---|--|
| Moving goods from the warehouse or yard onto trucks | Stuck by goods   | Broken bones, death                   | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   | TKBM managers, field supervisors, port K3 staff, foremen |
|   | Stumble          | Wounds, fractures                     | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|   | Pinched          | Wounds, injuries                      | Improve work concentration (focus), wear PPE, namely helmets, vests, safety shoes, gloves   |  |
|   | Sun exposure     | Dehydration, fatigue                  | Using complete PPE, namely helmets, vests, safety shoes and gloves, as well as setting rest hours and providing drinking water at work for workers. |  |
|   | Exposure to dust | Respiratory disorders, eye irritation | Use complete PPE, namely helmets, vests, safety shoes, gloves, and masks  |  |

Hazard identification during the loading and unloading process shows that the stevedoring section identified 60 hazards (100%), 60 hazards (100%) identified in the cargodoring section and 60 hazards (100%) in the delivery section (**Table 7**).

**Table 7**  
**Hazards Identification During the Loading and Unloading Process at Bungkutoko Port**  
**Kendari City uses the Job Safety Analysis (JSA) method**

| Hazard Identification | Loading and Unloading Process |            |             |            |           |            |
|-----------------------|-------------------------------|------------|-------------|------------|-----------|------------|
|                       | Stevedoring                   |            | Cargodoring |            | Delivery  |            |
|                       | n                             | %          | n           | %          | n         | %          |
| There is              | 60                            | 100        | 60          | 100        | 60        | 100        |
| There is no           | 0                             | 0          | 0           | 0          | 0         | 0          |
| <b>Total</b>          | <b>60</b>                     | <b>100</b> | <b>60</b>   | <b>100</b> | <b>60</b> | <b>100</b> |

**DISCUSSION**

**Identification of the hazards of work accidents using the JSA method for loading and unloading workers at Bungkutoko Port, Kendari City**

JSA is a technique that focuses on the stages of work as a way to identify hazards before unwanted events occur(9). This technique focuses more on the interaction between workers, job tasks, equipment and the work environment. Once it is known the hazards present at the work stage, efforts are made to eliminate or reduce the hazard risk to an acceptable level. JSA is very important to be able to determine and establish work procedures appropriately so that occupational accidents and occupational diseases can be prevented when workers carry out a good work procedure.

JSA is a procedure used to review a method or way of working and determine hazards that may have previously been overlooked in the laying of a factory or building on the design of machines, work tools, materials, work environment, and process (10). JSA is an analysis of work safety in an activity in the form of safe work recommendations based on the potential hazards that may arise in each sequence of work steps(11).

In the loading and unloading process at Bungkutoko port, there are 3 main activities, namely stevedoring, cargodoring, and delivery which are carried out for 8 hours every day. This activity is a loading and unloading activity which is generally carried out at every seaport that serves loading and

unloading activities, both multipurpose ports and container ports.

The following are the stages in making JSA loading and unloading activities at the port of Bungkutoko, Kendari City: a) Determine the type of job and the name of the worker. In this case the loading and unloading activities carried out by TKBM at Bungkutoko Port consist of 3 types of work processes, namely: stevedoring, cargodoring, and delivery; b) Determine the work stages of each work process. In the stevedoring work process there are 4 work stages, namely: workers enter the barge / hold, workers lift goods and put them into the net, lifting goods in the net using a crane to the transport truck, and workers on the truck directing the crane and the net into the truck bag room. In the cargodoring work process, there are 2 work stages, namely: removing the goods from the sling on the truck / removing the slings and arranging the goods on the truck. Whereas in the delivery work process, there is only a job of moving goods from the warehouse or storage field onto trucks. c) Determine the potential hazards of each stage of work. In this case, the hazard is a potential that can cause work accidents to TKBM. In general, there are types of occupational accident hazards in the loading and unloading activities carried out by TKBM, namely: falling, slipping, tripping, being hit by objects, being hit by tools, exposed to sunlight, exposure to dust, fatigue, incorrect lifting positions, broken slings, and being pinched by tools.

In the stevedoring work process, based



on table 4 of the Job Safety Analysis (JSA) worksheet, the stevedoring work process at Bungkutoko Port, Kendari City, there are 19 potential hazards. Common potential hazards that can cause work accidents include falling into a hold, falling into the sea, slipping, tripping, exposure to sunlight, exposure to dust, being hit by objects, being hit by tools, fatigue, incorrect lifting positions, broken slings, and being caught in the tub. truck.

This is confirmed by research(12), At the Port of Tanjung Perak, Surabaya, it was stated that the hazards identified in the manual loading and unloading work of porters at Kalimas Terminal, Tanjung Perak Port, Surabaya were 46 potential hazards, the highest risk value from the risk analysis was 15, namely the danger of falling and being hit.

The results of this study are in line with the research(13), regarding the Loading and Unloading Workers (TKBM) at the Port of Tanjung Emas in Semarang, occupational safety and health risks that are often experienced by workers at the port include muscle or musculoskeletal disorders due to non-ergonomic conditions, injuries due to collisions, falls, slips, fractures, and even died from being crushed by a load. Data on occupational accidents (including deaths) that occurred on loading and unloading Workers (TKBM) at Tanjung Emas Port Semarang in 2011 were 14 people, 2012 were 19 people, 2013 were 22 people, in 2015 were 6 people, and in 2016 were January to April as many as 12 people.

Other research results, namely research (14), shows that most of the workers on the stevedoring and receiving port of Tapaktuan Aceh are exhausted. One of the factors that can affect fatigue includes the opportunity to change attitudes or work positions, clothing, shoes, floor conditions and work shifts.

In the cargodoring work process, based on table 5, the Job Safety Analysis (JSA) worksheet for the cargodoring work process at Bungkutoko Port, Kendari City, there are 11 potential hazards. Common potential hazards that can cause work accidents

include slipping, being hit by objects, being pinched by lifting equipment, tripping, exposure to sunlight, exposure to dust, falling, and wrong lifting positions

This is confirmed by research (15), against the loading and unloading workers at Teluk Nibung Janjung Balai Asahan Port, stated that in the cargodoring work process there are 9 hazards that can cause accidents consisting of 5 physical hazards, namely direct exposure to sunlight, wheelbarrows sliding without control, scattered piles of goods, fall because they are entangled in ropes that are scattered in the warehouse, the uneven floor of the warehouse can cause workers to trip. Workers lift and arrange goods repeatedly when arranging goods, workers often do this by bending so that in this condition workers are at risk of experiencing low back pain. The potential for these hazards is in line with research by(16), unnatural work postures and slouching overly cause musculoskeletal complaints.

The results of this study are in line with the research (17), regarding the Loading and Unloading Workers (TKBM) at the Port of Tanjung Emas in Semarang, occupational safety and health risks that are often experienced by workers at the port include muscle or musculoskeletal disorders due to non-ergonomic conditions, injuries due to collisions, falls, slips, fractures, and even died from being crushed by a load.

In the delivery work process, based on table 6, the Worksheet Job Safety Analysis (JSA) for the delivery work process at Bungkutoko Port, Kendari City, there is 1 job activity and 5 potential hazards were found. Potential hazards that can cause work accidents, namely falling objects, tripping, pinching, exposure to sunlight, and exposure to dust.

This is confirmed by research(18), on the loading and unloading workers at Teluk Nibung Port, Tanjung Balai Asahan, stated that in the delivery work process there were 9 potential hazards that could cause accidents consisting of 6 potential physical hazards,



namely, being pinched and the danger of falling goods from goods carried by workers. a) Determine the risk of each hazard that has been identified. Risk is the result of danger if it causes an accident. There are various types of risks from hazards at each stage of the loading and unloading process carried out by TKBM ranging from minor risks, such as injuries, injuries, dehydration, fatigue, respiratory problems / irritation, lumbago, joint injuries, wounds, fractures to the heaviest risks such as , drowning and wounds which can cause death. This is confirmed by research(19), regarding the Loading and Unloading Workers (TKBM) at the Port of Tanjung Emas in Semarang, occupational safety and health risks that are often experienced by workers at the port include muscle or musculoskeletal disorders due to non-ergonomic conditions, injuries due to collisions, falls, slips, fractures, and even died from being crushed by a load. b)Determine the most effective control measures to reduce the risk of each potential hazard at the stage of work. There are various risk control efforts including: need to be careful warning and put up warning signs, use complete PPE, namely helmets, vests, safety shoes, gloves, and masks, regulating rest periods, stretching after working for a long time, increasing knowledge about ergonomics of proper lifting procedures and positions, as well as increasing concentration (focus) at work.

This is confirmed by research (20),states that the design of recommendations or proposed improvements is carried out based on the hazards that occur. It aims to find a solution for all problems from existing hazard sources. With the proposed improvement, the Bungkutoko Port and TKBM Management can reduce the accident rate and prevent similar accidents from before. c)Determine the party who is responsible and committed to carrying out such control efforts. Some parties who are competent in the loading and unloading process at the port are TKBM Managers, Field Supervisors, Port K3 staff

(supervisors), TKBM Foremen. Supervisors or workers, both of them work together in implementing the JSA that has been created. In general, the supervisor is responsible for making the JSA, documenting the JSA form, providing training to all TKBM as stated on the JSA form and enforcing safe and efficient work procedures. d)JSA form that has been approved by the supervisor with the signature and full name of the supervisor. The form is proof of commitment and guidance in ensuring that the form covers all stages of work to be carried out in the field. e)The JSA form then received approval from the Safety Manager, evidenced by the signature and clear name of the Safety Manager as the party responsible for ensuring that everything written in the JSA form has met the safety aspects of the work. f)Each TKBM team member puts a signature on the JSA form, so that all team members are aware of it and as evidence that the JSA form has been socialized to all team members. g)The JSA Form is complete and must be documented and disseminated to related parties.

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