



Optimization of Work Safety Application of Child Ship to Prevent Work Accidents at KM. Ciremai

Meilinasari N^{1*}, Hutagaol², Laila Puspitasari A³, Fierdiana Adella Putri⁴

^{1),2),3),4)} Sekolah Tinggi Ilmu Pelayaran Jakarta, Indonesia, email: leena.xlimn@gmail.com

*Corresponding Author: leena.xlimn@gmail.com

Abstract: Along with the times and technological advances that are increasingly advanced, so is the case in the world of shipping, especially maritime technology. As we all know that the equipment on board the ship is now more sophisticated and modern. The equipment is intended to improve the quality and safety of workers on board. With more modern safety equipment, it is hoped that accidents that often occur can be avoided, both shipping safety, work safety, and others. In addition, work safety is influenced by the level of knowledge and discipline of crew members in the use of work safety tools. Most of the accidents that occurred on board the ship were caused by the actions or actions of humans themselves. In this case, especially the crew who do not understand or do not meet the provisions on safety which are usually due to the undisciplined crew of the ship in using the work safety tools on board. The purpose of this study was to find out how to improve the discipline of crew members in the use of work safety equipment and to find out how to improve supervision by officers of crew members in implementing work safety procedures. This research was conducted in KM. Ciremai which is one of the ships managed by PT. Pelayaran Nasional Indonesia (PELNI). The research method used is descriptive qualitative. Sources of data obtained from the research site by means of observations, interviews with officers and crew members, especially the deck and documentation. From the results of the analysis of the data description based on the facts and available data, it shows that the accident on board the ship is influenced by the lack of discipline of the crew in the use of work safety equipment because not a few crew members underestimated the function of the safety equipment. This causes a high rate of work accidents on ships. Apart from the crew's own factors, work accidents can occur from the ship's environmental factors. When the author made observations directly on KM. Ciremai shows that the level of supervision from officers to crew members is still low regarding the application of safety procedures on board ships. So that the solution to the problem that can be done is by holding safety meetings (safety, meetings) on a regular basis. In this safety meeting, films about work safety can be shown to increase the knowledge of workers in order to inform the risks that can occur if they do not work according to work safety procedures. In an effort to overcome the lack of supervision of the ship's crew regarding the application of the use of safety equipment according to workplace safety standards, it can be done by adding CCTV installations in the area outside

the ship's deck. So that it can assist officers in supervising the crew while working to ensure the crew is working in accordance with work safety procedures. In addition, ship officers must monitor the CCTV screen on a regular basis so that officers can immediately reprimand crew members who work not according to work safety procedures so that this does not happen again. So it can be concluded that work accidents that occur on ships can be prevented by increasing the discipline of crew members in the use of work safety equipment and knowing the importance of the role of officers to supervise and provide direction as an anticipatory measure for work accidents.

Keywords: Safety Equipment, Ship's Crew, Workers Accident

INTRODUCTION

Accidents that occur on board ships are mostly caused by human actions or actions themselves. In this case, especially the crew members who have not been familiar with or do not comply with the provisions on safety which are usually due to the undisciplined crew of the ship in using the work safety tools on board. Like the incident that the author had experienced when the author carried out marine practice in KM. Ciremai. An example of a work accident that occurred is when a crew member was knocking rust on the front deck area (Forecastle) of the ship, one of the crew did not use protective glasses (Safety Goggles) that were on board the ship which were required and in accordance with safety standards. This is because protective glasses that meet these safety standards are not comfortable when used. So that the crew when working only uses ordinary glasses that do not meet safety standards because they do not fully protect the eyes. And when finished knocking the rust, then brushed on the part that was knocked. But when he was brushing the rust, the debris bounced off and hit the eyes of the crew. Work accidents that occur are caused by human carelessness in using work safety tools on board.

RESEARCH METHOD

This research was carried out while undergoing marine practice, starting from November 5, 2020 to August 23, 2021 at KM. Ciremai.

The researcher chose this qualitative descriptive method because the data owned by the researcher could later be analyzed and explained by describing the existing data, therefore this descriptive method the researcher chose to describe the use of safety equipment on KM. Ciremai is not in accordance with procedures or inappropriate, namely about the lack of knowledge and skills possessed by the crew of the KM ship. Ciremai by describing how to use the correct safety equipment was not carried out in accordance with existing standards.

Researchers collect data and information by performing data collection techniques as follows: Observation; Interview. In this interview, the author conducts direct interviews by interviewing officers, in this case, deck officers and crew rating decks. The author conducted interviews not formally but asked spontaneously or directly what he wanted to know without using a list of questions while on duty together at the bridge. The author asks about the problems that occur on the ship regarding irregularities in the use of safety equipment when working on ships which affect the occurrence of many small and large accidents working on ships. The people interviewed by the author, among others:

1. The captain above KM. Ciremai.
2. Mualim I above KM. Ciremai
3. The helmsman above KM. Ciremai.

Documentation Study

That is, the writer does the documentation by making small notes about the events

that exist and opening and reading the documents that are stored as files, which are related to these activities. In addition, the author also attaches photos of work activities on the deck and reports of accidents that occur on board (Personal Injury Report) as one of proof that work safety on ships is in fact still not implemented properly.

Research subject

In this study, the population is the entire crew of the ship or crew who work on the KM. Ciremai. Meanwhile, the selected samples are deck officers and deck crew ratings.

Data analysis technique

The technical analysis used in writing this thesis is descriptive and qualitative, namely by explaining the events or events that the author experienced while carrying out marine practices on KM. Ciremai. The author describes the facts and events on board the ship, which the author has personally experienced, which contains events that have occurred on the ship.

The author tries to explain the problems that occur, starting from the factors that cause work accidents on ships, such as the lack of discipline of crew members in the use of work safety equipment and the level of officer supervision is still low. The author also describes the solution to the problem for each of the factors that cause work accidents on KM. Ciremai gave good suggestions based on existing theories, as well as the knowledge that the author got while on board.

FINDINGS AND DISCUSSION

Data Description

An accident is an incident or occurrence that is unexpected and unwanted by everyone. Unexpected event means an event that is not intentional and occurs suddenly. The accident has the impact of material loss or suffering which can be fatal, permanently disabled or possibly death.

Considering that work on a ship also has a very high risk of danger, so that every ship is required to have a high enough level of safety to become seaworthy. Likewise, crew members are required to have adequate competence in accordance with standards so that the occurrence of work accidents on board can be reduced. On the occurrence of accidents that occur on ships, the writing of this thesis is emphasized on accidents that occur while doing work activities. In this facts section the author will reveal incidents of accidents and misunderstandings of crew members in the use of safety equipment that have occurred in KM. Ciremai is used as a case study material. Some of the data found by the author where these facts are the author's experience while carrying out marine practice duties as a deck cadet include:

Table 1. Accident Facts

Time/Place	Incident accident	Causative factor
Laut Jawa 10-12-2020	While doing <i>chipping</i> rust on deck accident happened	- Bosun is careless and negligent in not checking the tool - automatic chipping that he will use at work. Bosun neglects not to use the appropriate wearpack and that meets the

	which in naturally by bosun that is his feet got wired wire from tool	predetermined SOLAS and ISM Code standards. - Headmaster I not reprimand crew members who are not disciplined in using work clothes (wear packs) whose fabric is only limited to the calf of the foot so that it is not safe to use.
	<i>chipping</i> That sticks into meat in her feet.	
Sarong 30-01-2021	When knocking rust on the one on the stern of one the crew irritation of the eyes due to exposure to rust flakes.	- The crew of the ship was negligent in using eye protection equipment, namely safety glasses that meet the standards because the crew feels uncomfortable when wearing safety glasses that match the standards on board. So that when working the crew uses ordinary glasses that do not comply with safety standards.
Biak 02-04-2021	While changing the lamp at the bosun store, the electrician was bleeding from the head due to being hit by a key.	- The crew of the ship is negligent and does not use work safety equipment, namely head protection when working. The first officer does not reprimand the crew who are not disciplined in using head protection equipment.

Data Analyst

Judging from the problems that exist in the facts and data found, the analysis that the author will make is an analysis with a descriptive method. Based on the results and analysis carried out by the author during carrying out marine practices in KM. Ciremai, the cause of this accident is based on several factors. The most dominant factor is caused by the carelessness of humans themselves in using work safety tools on board which can have very fatal consequences.

Lack of discipline of the crew in using work safety tools.

Discipline in the use of work safety equipment is the main thing that must be considered by the crew in order to avoid a work accident on the ship. From the data obtained from the field, after the author made direct observations of daily work activities on the deck, it showed that there was still a lack of discipline for the crew regarding the use of safety equipment according to established standards. Many factors are the cause of work accidents on ships, one of which is the low level of understanding and knowledge of the crew themselves in implementing work safety on ships. It can be seen when crew members carry out daily work on the deck, there are still many crew members who do not use eye protection equipment (safety goggles) in accordance with safety standards. the crew only used ordinary glasses to work when chipping rust, there was even one crew member who did not use eye protection at all. In addition, based on the results of the interview that the author has conducted with one of the helmsmen, the factor that causes work accidents that occur on the ship is because there are still many crew members who underestimate the usefulness of work safety equipment used at the time. work. In addition, not a few crew members think that their work is not too high risk if they only use sub-standard work safety equipment.

The reason the crew deliberately does not use work safety equipment is because it is only a hassle and makes movement when working is not free, even though the crew does not realize that accidents can occur anywhere and anytime that can take human lives or make lifelong disability. To optimize the lack of discipline of the crew regarding work safety on board the ship, the role of the captain, officers and shipping companies is also very necessary.

Officers can provide knowledge about work safety procedures through familiarization activities for crew members who will work in their new places. So that the crew can understand and understand correctly what are the duties and responsibilities of each worker related to work safety and good and correct work safety procedures. In addition to the familiarization activities that have been carried out, in order to improve the knowledge of the crew, do not forget to hold regular safety meeting led by the commander I. The implementation of this safety meeting is expected to provide broader knowledge, as well as improve discipline when doing a job. Therefore, the role of shipping companies can also support the level of knowledge of the crew which can be done by making videos about work safety procedures so that they can avoid the risk of work accidents that can be fatal and can harm all parties.

Lack of level of officer supervision over crew members in implementing work safety procedures.

Apart from the crew's own factors, work accidents can arise from the ship's environmental factors. The captain is the holder of the most important role in controlling the ship both operationally and management. Leaders as much as possible must create a sense of security as well as a source of inspiration for the crew. When the author made direct observations that occurred above KM. Ciremai shows that the level of supervision from officers to crew members is still low regarding the application of work safety procedures on KM. Ciremai. This is because the captain and officers of the ship have their own activities and duties and responsibilities. So that ship officers are often negligent in paying attention to and supervising the crew while doing work on the ship. As in the third incident, there was a work accident at the bosun store because the electrician who was changing the lamp did not use a safety helmet in accordance with safety standards. As a result, the electrician suffered bleeding in the head due to being hit by a key. Work accidents can occur due to lack of supervision from officers and no warning for crew members who are working without using work safety equipment according to procedures.

From some of the data that has been obtained by the author regarding the events encountered during the practice in KM. Ciremai, proves that the level of supervision by officers on the crew of the ship is still low in the use of work safety equipment. Because the crew felt that they did not receive a direct warning from the officer, the crew continued to use safety equipment that was not in accordance with the established procedures. It can be concluded that work safety is above KM. Ciremai in fact has not been implemented properly. Therefore, to improve the discipline of the crew on board the ship in the use of safety equipment, it is expected that the officers on board the ship to always supervise and control the workers who are doing a job and reprimand directly to the crew who do not use work safety equipment. and provide warnings about the dangers and consequences that will occur if you do not use work safety tools. Therefore, the supervisory system of officers needs to be emphasized on board the ship. So that officers can carry out their functions according to their position and position as well as possible. Thus the implementation of the work will run smoothly and safely if it is supported by personnel who understand the duties and responsibilities of each worker.

Alternative Troubleshooting

Based on the causes of the problems resulting from the data analysis that the author wrote in this thesis. Then the author makes an alternative solution in accordance with the events that the author has described in the data analysis above, namely:

Lack of discipline of the crew on the use of work safety equipment. Improving the discipline of the crew on the importance of using safety equipment on board is one of the

supporting factors for achieving the ship's operational objectives concerning the safety of the lives of personnel on board. Therefore, to be able to achieve one of these objectives, the officers or officers on board the ship must be able to embrace all ship personnel regardless of the positions and abilities possessed by the personnel. The officers on board the ship must also be able to motivate their subordinates to be enthusiastic in using work safety tools to be able to create the operational goals of the ship, namely the safety of the lives of the personnel on board. There are many things that officers can do to discipline ship personnel who violate the use of tools Safety that is not in accordance with the procedures taught include:

Held a Safety Meeting (Safetymeetings)

If the work safety is in accordance with the procedures, then it will then be the responsibility of the ship's officers to be able to practice and socialize to the crew so that they can provide direction before and after doing a job. This briefing is intended so that all crew members can understand the duties and obligations of each worker and when carrying out a job it can run safely and smoothly in accordance with established procedures. In addition, don't forget to hold regular safety meetings at least once a month and usually held at the end of the month to evaluate the work for the past month. In general, the safety meeting is chaired by the first officer and can be attended by all crew members related to the work to be carried out at that time. The implementation of this safety meeting is expected to provide broader knowledge, as well as increase discipline when doing a job. In this safety meeting to increase the knowledge and discipline of the crew, Mualim I can provide information related to work safety procedures by asking for films about work safety and attaching posters in public places on the ship with the aim that the crew members can find out how important it is to implement work safety in accordance with procedures so that they can avoid the risk of work accidents that can be fatal and can harm all parties.

Giving rewards for crew members who work according to work safety procedures

What is meant by reward is reward services provided by the company to the workforce, because these workers have contributed energy and thoughts for the progress of the company in order to achieve the goals that have been set. Giving rewards (awards) as a form of appreciation for crew members who have worked according to work safety standards. This is expected to motivate other crew members to work according to work safety standards so that the work will run well and it is hoped that there will be competitiveness for fellow crew members to do the best work. This reward can be in the form of promotion from the company to every crew member who has good awareness and discipline in terms of implementing work safety.

Lack of supervision by officers of the crew in implementing work safety in KM. Ciremai

Adding CCTV installations and checking CCTV monitors regularly by officers

To achieve the standards set, it is necessary to have good supervision, good procedures, and good actions from officers on board. The way that can be done is that the officer provides direct supervision of the crew in implementing work safety procedures. However, in the midst of the officer's busy working hours, such as when on guard duty or carrying out other activities, it is not always possible for the officer to supervise the crew while working. In addition to functioning for security in all parts of the ship, CCTV can assist officers in supervising the crew who are working on the ship. For now the CCTV that has been installed above KM. Ciremai is only in the ship's deck room, which serves to minimize the potential for criminal acts in the passenger waiting room or crowd centers on the ship with the aim of providing security and comfort for ship passengers. So to increase the

supervision of officers on the crew while working outside the ship's deck, it is very necessary to add CCTV installations outside the ship's deck room. The addition of CCTV is as a medium for monitoring and visual supervision in the area outside the deck when the crew is doing a job. In addition, from the ship's officers themselves, periodic surveillance is required in the CCTV room to monitor all CCTV that has been installed on the ship. When carrying out guard duty on the bridge, officers can monitor the CCTV screen every 15 minutes to ensure that the crew is working by carrying out their duties and responsibilities in accordance with work safety procedures.

Provision of sanctions or penalties for crew members who work without implementing work safety according to procedures.

Working on a ship is highly demanded in self-discipline. On board, a work activity process, discipline, and skills are needed by the crew regarding the work. For example, a crew member who does not wear personal protective equipment. The reason for not using work safety equipment is because it is only a hassle and makes movement when working is not free, so the crew thinks there is no need to use them. This can prove that the supervision of the officers against the crew is still very lacking, so that not a few crew members are still working not according to the work safety standards of the ship's crew because they do not get a warning from the officer. So as an officer, he must take firm action by giving sanctions which can be in the form of punishment if the crew does not carry out their work in accordance with existing work safety procedures. Giving punishment as a consequence of actions that violate the rules, from these actions will have a deterrent effect on the crew, so that everything related to the actions that are violated is expected to not happen again. Sanctions or punishments play an important role in maintaining the discipline of the crew, so it is hoped that the crew will be reluctant to commit violations. This method is expected to motivate the crew of the deck ship so that the work will be carried out properly. Considering the problem that is caused is not a trivial problem, the sanctions or penalties given to the crew must be carried out firmly and applied directly so that the troubled crew members will not repeat to make mistakes. With the imposition of sanctions or punishments, there is no repetition of the act that caused the original punishment. And also with the imposition of sanctions or punishments, there will be changes in the individual.

Evaluation of Problem-Solving Alternatives.

In this sub-chapter, the author will look for the best answer or solution that is suitable for use in the field and accepted by all parties and is believed to be the most effective method associated with efforts to optimize the application of work safety on board.

Lack of discipline of the crew in using work safety tools

Held a Safety Meeting

Advantages: (a). Knowledge of crew members will increase on good and correct work safety procedures so that the number of accidents will decrease. (b.) The crew of the ship became aware of safety procedures to be followed before and after work. (c.) The crew members are increasingly motivated by increasing attention from officers. (d). Can evaluate activities that are not in accordance with work safety procedures so that the crew can better understand their duties and responsibilities in implementing work safety on board.

Disadvantages: (a) The implementation of safety meeting reduces the rest time for the crew because the safety meeting is usually held on holidays or rest hours. (b). In showing films and attaching posters about work safety, additional costs are required.

Giving rewards for crew members who work according to work safety procedures.

Advantages: (a). The crew on board the ship feel motivated to do the work in

accordance with applicable procedures. (b). Can create competitiveness among crew members to do the best job on board. Disadvantages: (a). By giving a gift or award, the crew will work only for chasing the prize. (b). The competitiveness created can because a commotion.

Lack of supervision by officers of the crew in implementing work safety in KM. Ciremai.

Adding CCTV installations and checking CCTV monitors regularly by officers

Advantages: (a). The installation of CCTV can make it easier for officers to carry out surveillance because they can be monitored at any time. So that they can find out that the crew is working in accordance with work safety procedures. (b). If at the time the officer carried out direct supervision of the crew is working and finds errors or deviations from the established procedures, the officer can immediately act by giving instructions or warnings so that the crew can immediately know what the error is.

Disadvantages: (a). Not all angles of the ship can be monitored on CCTV. (b). Not all crew members feel happy when their work is always supervised. This can cause discomfort for crew members who are working because every work done is always supervised by officers. So that this will lead to a disharmony relationship between the crew and officers on board.

Giving sanctions or punishments for crew members who work without implementing work safety according to procedures

Advantages: (a) Increase the sense of discipline towards the crew. (b) Can motivate the crew not to receive sanctions so that they always follow work safety procedures. (c) The crew becomes more motivated in implementing work safety procedures in order to have a good disciplinary assessment so that they can get an award from the company.

Disadvantages: (a) It creates tension on the crew at work, but enforcement of regulations must be carried out. (b) Not all crew members can accept sanctions given by officers well.

Selected Troubleshooting

Based on the results of the evaluation of the problem-solving that has been discussed above, the authors provide the right and best solution that can be done on KM. Ciremai related to efforts to optimize the application of work safety on board ships. So the author concludes his actions are as follows:

Lack of discipline of crew members in using work safety tools.

Based on the data that the authors have obtained in Japan, the main factor in the lack of discipline of crew members in implementing safety procedures is the low level of knowledge possessed by each crew member. So that efforts can be made to increase the knowledge of the crew of the ship, namely by holding regular safety meetings carried out on the ship. Safety meeting is usually done once a month, but can also be done after or before carrying out activities related to work safety standards on board. In this safety meeting, we discuss problems or evaluate activities that have been carried out in order to support the security and smooth running of the next work. Another purpose of the implementation of the safety meeting is to increase the knowledge of workers in order to inform the risks that can occur if they do not apply safety procedures on board the ship at work. Prioritizing personal safety by using safety equipment is a topic that is often discussed in meetings. In this safety meeting, it is possible to show films about work safety and put posters about work safety in public places on board the ship.

Lack of supervision from officers to crew members in implementing work safety procedures.

In an effort to overcome the lack of supervision of the crew regarding the application of the use of safety equipment in accordance with work safety standards, the role of the captain and officer of the ship is very necessary so that these goals can be achieved so that all work can run safely and smoothly and avoid the risks of work accidents, namely by carrying out additional installation of CCTV in the area outside the ship's deck so that it can help officers oversee the crew in their work to ensure that the crew is working by carrying out their duties and responsibilities in accordance with work safety procedures. In addition, officers must regularly monitor the CCTV screen monitors to ensure that crew members work according to work safety procedures. If it is found that a crew member is working not in accordance with work safety procedures, the officer can reprimand him so that it does not happen again.

CONCLUSIONS

Rules governing the safety management system for ships and shipping companies, or other publications that have been issued by IMO to support the creation of shipping safety, the safety of human life, the safety of ships and their cargo, and the protection of the environment from damage due to pollution from ships.

But in the implementation above KM. Ciremai is still far from what it should be, namely there are frequent deviations from the Safety Management System which is the embodiment of company policy where the ISM Code is the main guideline. From the results of the analysis of the data description based on the facts and existing data, the obstacles that cause deviations in the implementation of work safety procedures can be concluded as follows:

In the use of work safety tools on the KM. Ciremai because of the lack of quality human resources from the crew themselves and the lack of motivation given by the company and officers on board. In addition, the low discipline of crew members regarding work safety on ships is also due to the low knowledge of crew members regarding safe work procedures on ships so work safety procedures are not implemented. The solution to the problem chosen is to conduct a safety meeting at least once a month. In this safety meeting, films about work safety procedures to prevent work accidents on the ship can be shown.

Lack of supervision of officers against the crew of the ship in implementing work safety on the KM. This is because the officers on board the ship lack a sense of responsibility in carrying out direct supervision of the work activities of the crew. The solution to the chosen problem is that officers on board the ship add CCTV in the outer deck area of the ship and more officers must spend more time monitoring the CCTV monitor screen on a regular basis so that officers can continue to supervise and monitor the crew to ensure that the crew works by carrying out his duties and responsibilities in accordance with work safety procedures.

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