KnE Social Sciences

IWPOSPA
Excellent Human Resource for the Sustainable Safety of Inland Water and Ferries Transport in New Normal Era-International Webinar (IWPOSPA 2020)
Volume 2020

Knowledge E
enriching | engaging | empowering

Conference Paper

Management of Loading and Safety Improvement Efforts to Reduce Passenger Accidents on Ships

Miko Priambudi

Lecturer of Politeknik Transportasi Sungai, Danau & Penyeberangan Palembang

Abstract

This study aims to determine the correct loading procedure for ships to reduce the risk of accidents, in accordance with applied operating standards. The study also evaluates the performance of operational officers in the field, to identify when and why they deviate from established protocols, and what risks this poses to passenger safety. The study uses the normative legal method or normative jurisdiction approach, combined with descriptive analysis, drawing on primary data through interviews and observations and secondary data via the study of legislation and books related to this research. The research concludes that one of the greatest risks to passenger safety is inaccurate loading manifestos. To avoid this, each passenger and driver should be required to produce a ticket, to better manage the volume of passengers and ensure ships are not overloaded and the cargo manifests offer clear and accurate information.

Keywords: Loading; Passenger; Safety.

Corresponding Author:
Miko Priambudi
p.mitch@gmail.com

Published: 12 January 2021

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the IWPOSPA Conference Committee.

1. Introduction

Indonesia as an archipelagic country, where most of its territory is in the form of waters, relies more on shipping as the dominant means of transportation, both in terms of distribution of goods, passengers, and shipping for security and defense needs of the State. Various shipping companies also began to appear along with the increasing needs and interests of the public towards shipping transportation. Ships as a means of transportation that connects adjacent islands and connects large islands, the role of sea transportation is very vital, therefore an adequate ferry fleet is needed, so that later it can facilitate the flow of goods and passengers from one area to another (Wahyuni, Eni Tri. “Manajemen Pemuatan Penumpang Dan Kendaraan Terhadap Keselamatan Kapal Roro.” Majalah Ilmiah Bahari Jogja 18.2 (2020): 118-125).

At the time of loading activities, several problems were found, one of which was the application of the loading procedure that was running incorrectly, field officers who

often recorded vehicle manifest, passenger data, and document completeness to be submitted to the harbormaster did not match the actual passengers and vehicle, and the presence of field officers who take a load that is not suitable for loading on board, thus compromising safety, applying lashing to heavy loads such as trucks that are too rushed due to short loading hours (Muhammad, Sahal Afhami. Upaya Sosiologi Kepada Penumpang Kapal Tentang Peralatan Keselamatan dan Prosedur Penggunaannya di PT. Dharma Lautan Utama (PT. DLU). Karya Tulis, 2020).

(1) Various problems that have recently occurred regarding the safety and comfort of passengers during the voyage, including the number of passengers who exceed the load capacity, undisciplined passengers that disturb other passengers, as well as technical and non-technical problems that interfere with the safety and comfort of passengers during For this reason, the role of ship crews is needed so as not to lose public confidence in shipping transportation. Good service and discipline that need to be implemented both for the ship's crew itself and for the passengers in order to create sailing safety and comfort. Shipping Safety Act No. 17 Chapter I Article 1 of 2008 concerning Shipping Safety and Security of Shipping covers the safety and security of inland waterways (Act No. 17 Chapter I Article 1 of 2008 concerning Shipping Safety and Security).

Ship safety itself is the condition of the ship that meets the requirements for material, construction, building, machinery and electricity, stability, arrangement and equipment including radio and ship electronics, based on Government Regulation Number 51 of 2002 concerning Shipping (Government Regulation Number 51 of 2002 concerning Shipping). Safety is an effort to be free or reduce the level of accident risk. Safety is always a top priority in any field, including the marine transportation sub-sector (Siswoyo, B. (2016). Persepsi Masyarakat Terhadap Peralatan Keselamatan Kapal Laut Dan Penyeberangan Di Provinsi Maluku. Warta Penelitian Perhubungan, 28(2), 146–156).

In ministerial regulation no. 115 article 1 of 2016, ship safety is the condition of the ship that meets the requirements for material, construction, building, machinery and electricity, stability, arrangement and equipment for assistive devices and radio, ship electronics as evidenced by a certificate after inspection and testing (Republic of Indonesia Government Regulation No. 115 of 2016 concerning How To Transport Vehicles On Water).

The definition of safety is a state of security, in a safe condition physically, socially, financially, politically, emotionally, psychologically or in education, which is protected from threats to these factors. To achieve this, protection can be made against an event that may result in economic or health loss (Firhand, A. (2017). Optimalisasi Keselamatan

pada Crew dan Buruh saat Kegiatan Bongkar Muat Menggunakan Crane Barge di Kapal MV. Pulau Nunukan (Doctoral dissertation, Politeknik Ilmu Pelayaran Semarang)).

From the definition of safety above, it can be concluded that safety is a condition that is safe and viewed from various aspects, especially in the context of transportation and safety itself needs certification by inspection and testing.

The safety regulations that must be obeyed either by the company or as a service provider or from workers handled by the company. Regulations related to Work Safety include (Transportation Training Agency, BST, Module-4: Personnel Safety and Social Responsibility, Department of Transportation, 2011):

1. Act No. 1 of 1970 concerning work safety.

2. Solas 1974, along with its amendments concerning Safety Of Souls At Sea

3. STCW 1987, amendment 1995, namely regarding training standards for seafarers.

4. ISM-Code, which is about the international code for safe operation of ships and prevention of pollution.

5. International Code of Practice, namely instructions on work (safety) procedures for equipment, ship operations, terminals and others. All these regulations force companies to develop work safety measures that can reduce the occurrence of accidents or adverse incidents, otherwise they will face challenges from the environment.

As explained in Act No. 17, before sailing, a ship must meet maritime requirements. The meaning according to Act No. 17 of 2008 concerning Shipping article 1 point 33, the maritime worthiness of a ship is the condition of the ship that meets the requirements for ship safety, prevention of water pollution from the ship, manning, loading lines, loading, the welfare of the crew and the health of passengers, the legal status of the ship., safety management and prevention of pollution from ships, as well as ship security management for sailing in certain waters.

Shipping safety The Safety of Life At Sea (SOLAS) regulation is a regulation that regulates maritime safety primarily with the aim of increasing the safety of life at sea which began in 1914, considering that, at that time, there were many ship accidents that claimed many victims everywhere. In the early stages, starting with a focus on the completeness of navigation regulations, the tightness of ship baffles and communication equipment, then developing on construction and other equipment (Kadarisman, M., & Jakarta, U. M. (2017). Maritime Safety and Safety Policy. Kebijakan Keselamatan Dan Keamanan Maritime Dalam Menunjang Sistem Transportasi, 4(2), 177–192). The modernization of SOLAS regulations since 1960, replacing the 1918 Convention with SOLAS 1960. Since then, regulations regarding design to improve ship safety factors have been included

such as: ship construction design, machinery and electrical installations, fire prevention, safety equipment, communication equipment and navigation safety. Meanwhile, efforts to improve these regulations by issuing additional regulations (amendments) resulted from the IMO convention, which were carried out consecutively in 1966, 1967, 1971 and 1973. However, efforts to enforce these regulations internationally did not go as expected, mainly because of procedural obstacles, namely: the need for approval of 2/3 of the number of member countries to ratify the regulation in question, turned out to be difficult to reach at the expected time. Furthermore, in the span of 1974, a new SOLAS 1974 convention was made, that is, each amendment is enforced according to a predetermined time target, unless there is a refusal from 1/3 of the number of member countries or 50% of tonnage owners in the world. (Suryani, D., Pratiwi, A. Y., Sunarji, & Hendrawan, A. (2018). Peran Syahbandar Dalam Keselamatan Pelayaran. Jurnal Saintara, 2(2)).

2. Research Methods

The Research Type in this research is qualitative research. The method used is a case study. By paying attention to some of the limitations of qualitative research, it can be understood that in essence qualitative research is a case study, that is, research that is tied to its context. In conducting case study research, researchers can interact continuously with the theoretical issues being studied and with the data collected. In addition, we can also use various research evidence about events that have a real life context. The researcher chose this approach because the title raised by the researcher was an event in real life. The research subject is a source of information in research, meanwhile the research subject is an insider in the research background.

3. Result and Discussion

3.1. Ship accident

(2) The ship accident is a sad event or calamity/disaster that befalls the ship itself and its crew and cargo. For this reason, proper and fast coordination between crew members and officers on land is needed, including when involving other commercial ships, the Indonesian Navy and the National SAR Agency (Basarnas) in providing assistance and evacuation of passengers. This accident, on the other hand, can be used as a very valuable lesson that ships for passengers are not suitable and should not transport

vehicles (AR, H. T. (2015). Manajemen Keselamatan Maritim Dan Upaya Pencegahan Kecelakaan Kapal Ke Titik Nol (Zero Accident). Jurnal Ilmiah Widya, 1(1)).

3.1.1. Causes of Ship Accidents

Various causes of the disaster onboard include:

1. human error,
2. damage to ship machinery,
3. external and internal factors, such as fire and collision events,
4. natural or weather factors,
5. a combination of all these causes. and
6. the ship is in contact with other ships.

In general, the disaster that may occur on a ship is the result of:

1. collision with another ship,
2. stranded (stranded/grounded),
3. drowning due to bad weather,
4. fire,
5. engine failure (engine blackout/breakdown), and
6. the ship is in contact with other ships.

According to statistical data, 85 percent of accidents are caused by human wrongdoing (Unsafe Human Act) even though there are actually other causes. Therefore, many theories put forward the causes of accidents, including: ISM - Code *(Dachlan, Andi, (2014). Kompetensi Pelaut Dalam Penerapan International Safety Manajemen Code (ISM-Code) Pada Kapal-Kapal di Lintas Penyeberangan Ketapang-Gilimanuk, Tesis of Master of Management, Economic Postgraduate Program, University of Jember.)*.

1. Direct Cause, namely factors caused by human actions (Unsafe Human Act). This includes the direct causes of work accidents, namely unsafe/dangerous (unsafe conditions) unsafe actions, for example:

a. Not careful in carrying out a job.

b. Don't know how to use safety tools.

c. Not being able to carry out a job.

2. Indirect cause (Undirect Cause) Namely the factors that interfere before the accident occurs and are outside the responsibility of the worker directly due to the accident that occurs from tools and materials that are no longer suitable for use in the job. Therefore it is necessary to pay attention to things that can cause accidents indirectly, for example:

a. Engine failure that is not noticed.

b. Damage to work tools and work safety tools that are not fixed. On the main point of the cause of the accident, more attention should be paid to the conditions that can cause a problem.

Thus, the main causes of accidents can be limited to 3 factors, namely:

a) The state of the work environment A good work environment can enhance work efficiency, reduce accidents and increase work enthusiasm. Factors that influence the emergence of an accident hazard in the work environment include:

1) The workspace is too narrow.

2) Workplace floors that are dirty or slippery so that people can easily fall and slip.

3) The ventilation is not perfect so that the indoor work space is very dirty, high humidity so that people feel uncomfortable working.

4) Lighting that is not perfect, for example a dark room, too glare and no local lighting (Spot Light).

b) The condition of the engine and work tools. The condition and location of the engine must be in accordance with the space or place and must be in accordance with the scope of the ship.

The error lies in the machine, among others:

1) It is located incorrectly

2) Not equipped with protective equipment

3) Existing protective equipment is not used. Work tools that are damaged or are too old, protective equipment for workers that have been damaged.

c) The human condition, the human condition or the workers on the ship must be in good condition and not in a physical or mental condition. Because before we join the company, the company must ensure that its workers must be in good health, therefore the company must check the workers through the hospital that has been appointed by the company to ensure the condition of the workers by giving a health certificate from the hospital to be shown to the company.

As for what the company will know if the worker has been examined by the hospital, include:

1) There is a disability

2) Low vision

3) Has epilepsy

4) slow reaction

5) Insufficient physical strength

6) Deaf or deaf

According to: Transportation Education and Training Agency Book, BST, Module 4: Personal Safety and Social Responsibility, Ministry of Transportation, 2020. Explains that the occurrence of accidents in the workplace can be broadly grouped into two causes, namely (Transportation Training Agency, BST, Module-4, "Personal Safety and Social Responsibility", Ministry of Transportation, Jakarta, 2000. p.54):

1. Unsafe actions from humans (Unsafe Act) for example:

a. Work without authority.

b. Failed to alert.

c. Work at high speed.

d. Causes protective equipment to malfunction.

e. Using a broken tool.

f. Works without the correct procedure.

g. Do not wear safety equipment.

h. Using the wrong tool.

i. Breaking work safety regulations.

j. Joking at work.

k. Drunk, sleepy and others.

Ignorance, incapacity/incapacity, and someone's inability to take unsafe actions or mistakes that result in accidents caused by:

1. Do not know, the person concerned does not know how to do it safely and does not know the dangers of causing an accident.

2. Unable/unable, the person concerned has known the safe method, already knows the dangers that will occur, but because he is not able/less skilled or less skilled, eventually makes mistakes and fails.

3. Lack of responsiveness Although, the person concerned has clearly known the work methods/regulations and the dangers that exist and is capable or able to do so,

but due to lack of responsiveness there is no such thing as a mistake resulting in an accident.

2. Unsafe Condition A condition where the equipment does not meet the requirements is of course very dangerous for the workers themselves which causes the accident to occur. For example:

a. Security equipment that does not meet the requirements.

b. Damaged or unusable materials/equipment.

c. Poor ventilation and lighting

d. The environment is too crowded, humid and noisy.

e. Danger of explosion or fire

f. Lack of signaling facilities

g. Toxic air conditions: gas, dust, vapor.

This unsafe condition and unsafe act will then lead to incidents/accidents in the form of:

a. Fell

b. Burned/exploded

c. Exposed to electric voltage

d. Contact with hazardous objects or radiation

e. Pinched by objects

Explain that: 75 - 79 percent of human error is caused by a poor management system. So the task at hand is how to eliminate or reduce errors caused by the management system which directly or do not cause accidents, namely by creating a management system, which is able to create good cooperation between land management and management on board ships to operate safely. The management system in question must be supported by an implementer (HR) who is knowledgeable, has sufficient skills and supporting facilities (Transportation Training Agency, “International Safety Management Code”, Ministry of Transportation, Jakarta, 2006).

3.1.2. Efforts to Prevent Marine Accidents

Accidents at sea that occur and are treated as a secret for several reasons. For this reason, it is necessary to pay attention to the efforts to prevent ship accidents by obtaining input from various parties, including academics, accident analysis and rescue experts. To achieve safety objectives, the following efforts are required: (1) providing safe practices in ship operations and the work environment, (2) building protection against

all identified risks, (3) continuously improving the skills of ground personnel safety management and Onboard/on board. Every company is very important to develop, implement and maintain a Safety Management System which includes: (1) a safety and environmental protection policy, (2) procedures for reporting ship accidents and deviations from the provisions of the code, (3) instructions and procedures to ensure the safety of ship operations and environmental protection, workers on board strictly comply with international regulations and laws of the flag State of the ship concerned, (4)) determines the level of authority of the line of communication between ground personnel (DPA) and is combined with a variety of cargo, including on board, (5) procedures for preparedness and response in an emergency, (6) procedures for internal audits and management review. Ship accidents are difficult to predict and can happen anywhere. Therefore, to deal with disaster at sea before the ship leaves port, the ship is obliged to carry out the following preparations and requirements: (Ibid).

The government should actively participate and cooperate with various associations, academics and ship accident research centers to form its own marine accident investigation forum which can formulate various policy rules. In addition, seafarers' resource training is needed which is carried out seriously and responsibly for the crew (ABK), ship's officers (officer and crew), such as BST (Basic Standard Trainning) training. These skills and expertise are the basis for certificates that must be possessed by both the captain, officers and crew. This training aims to: (1) the crew to be skilled in dealing with any dangers on board, (2) the officers, especially the captain who is responsible as the leader of the ship, (3) representatives of the ship owner (owner) (4) person in charge of goods, loading/unloading (B/M), (5) ship stability. Thus the safety and security of ships and human souls can be saved.

Fulfillment of safety facilities Safety equipment, namely all equipment and equipment used to protect the lives of crew members and passengers during an emergency. As a ship crew, we must know the various safety tools and also know how to use them properly. The safety equipment described in the preceding section is part of safety management. Some of the safety equipment on the ship, including the Life Jacket, is a life jacket worn by the crew or passengers to float in the water when the ship is in an emergency. This one tool is familiar to the same as the safety equipment in an airplane. (Hendrawan, A., & Nusantara, A. M. (2019). Analisa Indikator Keselamatan Pelayaran Pada Kapal Niaga. Jurnal Saintara, 3(2)).

Efforts to improve safety facilities Ship safety facilities are available on board according to the requirements and needs, but in order to make the best use of them according

to their utilization, it is necessary to improve quality through intensive maintenance Maintenance as referred to is carried out periodic inspections, among others (Nurhasanah, N., Joni, A., & Shabrina, N. (2015). Persepsi Crew dan Manajemen dalam Penerapan ISM Code Bagi Keselamatan Pelayaran dan Perlindungan Lingkungan Laut. Proceeding SENDI_U, 978–979):

a. Life boy, Life jacket Considering that these items are relatively rarely used, it is necessary to check every month, both their condition, function and quantity, this keeps the possibility that during an emergency there are items that are not functioning perfectly or the amount decreases due to theft (Khikmatul Heny Masitoh, Sonhaji, S. (2017). Pelaksanaan Perlindungan Hukum Bagi Awak Kapal Pada Pt Pelayaran Nasional Indonesia (Pelni) Semarang. Diponegoro Law Journal, 6(1), 1–12).

b. Inflatable Life Raft Safety facilities are generally only used in times of emergency when an accident occurs, maintenance of Life Raft safety equipment or Re-Inspection Life Raft is generally carried out every 1 year according to SOLAS 1974, both for commercial ships, passenger ships, and Special ships, to further ensure the condition of the goods functioning properly it is necessary to have periodic inspections every month, both technically the function of the goods themselves and the equipment contained therein.

c. Lifeboats Rescuing lifeboats are one of the safety facilities in the form of mechanical items equipped with an outboard motor, because they are mechanical items, they need regular maintenance as well as maintenance of motor vehicles in general so that their mechanical functions run properly when used.

d. Human Resources. The rescue task on board during an emergency is currently carried out by a shipping company called ERT (Emergency Response Team), a team that moves during an emergency, but there needs to be increased coordination between the private sector, in this case the shipping company and the government by forming a team. representing the government who specifically handles accidents on board (Mutholib, A. (2013). Kajian Fasilitas Keselamatan Kapal Pada Lintas Penyeberangan 35 Ilir- Muntok. Jurnal Transportasi, 25(5), 140–146).

An important part which is a safety equipment is the Life Raft, which is a raft that is used to save the lives of crew members and passengers when the ship sinks, which are on the right and left sides, amounting to 8 (eight). In accordance with the provisions and its use, the Life Raft available on board has been regularly maintained as stated in the maintenance document. Some of the items or items contained in Life Raft have been described above, items in Life Raft which are of limited use, such as food, drinks, medicines, generally have to be replaced with new items when they have entered their

expiration date. As for navigation tools and safety equipment such as Parachut Signal, Hand Flare, Buoyant Smoke Signal (Ibid).

3.1.3. Ship Accident Management

If there is a ship accident, several things must be considered: (1) Be responsive and thorough in the ship accident, (2) Do not forget to collect authentic evidence, (3) the captain, officers and crew at the beginning maintain the existence of the ship and did not worsen the situation. They must also report ship disasters/accidents that occur immediately to the owner, H & M, and P & I club to the concerned, this action should not be underestimated, report it immediately. Collection of evidence The captain of a ship is obliged to make and is ready to collect (R.P. Suyono. (2007). Shipping Pengangkutan Intermodal Eksport Import Melalui Laut, Musibah Kapal, Pencegahan dan Penanganannya, Keamanan Pelabuhan. PPPM. Jakarta). As evidence or physical evidence is attached as follows (Ibid);

1. Ship's diary (log book); Usually on the ship there are several diaries or log books such as machine diaries, radio diaries, deck diaries, watch diaries on the bridge, and the main thing is the ship's diary, this book has no graffiti and no missing pages, typos must be at the stage where the write errors If the ship has an accident, the first thing they are asked to show is the ship's diary to be studied such as the KNKT by an authorized officer, and the ship's master must convince and answer according to the truth of the actual events, as well as the officers and crews.

2. Map of shipping (Sailling Chart); The master must make sure that the position of the ship on the map is not changed and the position that was previously there is not deleted, because many ship violations occur in narrow shipping lanes and through a guide. The master must see that the position of the ship through the signs and keep the positions recorded on the map and the distance when passing through a sign.

3. Ship Managing Book; The master must see that all notes in the motion book are written in ink and signed by the responsible person and nothing is deleted. For ships with technology, it is enough to take a copy of the printer paper from the printer machine. This machine records every ship's movement activity recorded when the engine is forward or backward.

3.1.4. Safety and Security of Ship Operations

Seaworthiness is regulated in “The Hague-Visby Rules and The Hamburg Rules”. Marine eligibility as the carrier is expressly stated as the obligation of the carrier or ship owner, said to include:

The carrrier should be bound before and at the beginning of the voyage to exercise due dilegence to: (a) make the ship seaworthy, (b) properly man, equip and supply the ship, (c) make the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carrieage and preservation.

This provision is interpreted the same as ship seaworthy, crew seaworthy, and cargo seaworthy for the insurer will not receive coverage without documentary evidence of this marine eligibility. This description is corroborated by the analysis carried out by Hopkins in *(Lasse, D.A, (2014). Keselamatan Pelayaran, dilingkungan teritorial Pelabuhan dan Pemanduan Kapal Raja Grafindo Persada. Jakarta.p. 65*,) who argue that seaworthiness is related to the feasibility level of the ship’s structure, equipment, and manning. For marine insurance purposes, the ship is said to be seaworthy. Likewise, for the purposes of a transportation contract, the ship must have cargo wortthiness. Technological intervention has made fully automated, integrated and key man-made technologies to be found aboard the newest ships. Although the classic aim of engineering automation is to replace operators, ship designers give an appreciation of the validity of early predictions suggesting that even highly automated systems require humans for supervision, adjustment, maintenance, expansion and upgrade. This time, The technology of ships without crew which has a lot of personnel/various personnel, there are ships that are already sophisticated and have economically prepared the ship’s crew/crew, officers and masters with very few numbers. They use the General Pourpose Crew (GPC) system, which means that the crew deck and engine crew are the same, as if on a voyage on the high seas, the crew deck can work in the engine room to help with the activities of engine officers and crew deck (GPC). This is very economical and mutually beneficial for both parties, where the owner gets benefits, and the crew/crew get a fairly large reward. In addition, not all ships have such as GPC crew, especially ships with state flags, convenience flags, such as Panama, Belize, Greec, and Indonesian flagged ships, and so on.

3.1.5. Flow Procedure of Loading Vehicles and Passengers on the Ship

The delay of ships docked during loading hours can be influenced by several factors, one of which is due to bad weather, where currents and winds in the Bali Strait often change rapidly and make it difficult for the ship to move. If the ship is late, it will result in an accumulation of vehicles that will cross. This incident usually occurs on weekends, school holidays and national holidays (Idul Fitri, Christmas and New Year). Delay in mooring ships is one of the causes of vehicle accumulation in the waiting area for vehicles. So that the schedule for the next ship will be too late too. During loading hours there is a build-up of vehicles at the entrance to the pontoon wharf where the ship docked, and is dominated by motorbikes and small vehicles (private cars, pick-ups, small trucks) (Ibid).

In addition, the inexperience of the captain, new officers and helmets in controlling ships in strait waters with strong currents and strong winds can prevent ships from docking quickly and meeting service hours. In service, if the ship experiences delays in filling load hours, it will be subject to sanctions (disqualification) from the port, this can directly harm the company because the ship is not allowed to carry cargo on the next trip. To overcome in anticipation of bad weather then from the port should provide information about the temporary closure of the port one hour before closing, This is done so that vehicles that are going to cross do not take queues and fill the flow of the road around the port which causes traffic jams. And in bad weather, the ship is advised to immediately dock or anchor in the space provided. If during bad weather the ship does not anchor immediately, the ship will be swayed in the water and will drift into shallow waters and will cause the ship to run aground. In addition, other efforts made to avoid accumulation can also be carried out by diverting heavy vehicles such as buses and trucks to another dock to follow the next queue, another goal so that ships do not need to carry a lot of loading on vehicles, so that the ship can load many small vehicles and cars in time. The short one And in bad weather, the ship is advised to immediately dock or anchor in the space provided. If during bad weather the ship does not anchor immediately, the ship will be swayed in the water and will drift into shallow waters and will cause the ship to run aground. In addition to that, other efforts to avoid accumulation can also be carried out by diverting heavy vehicles such as buses and trucks to other docks to follow the next queue, another goal so that ships do not need to carry a lot of loading on vehicles, so that ships can load many small vehicles and cars in time. (Martopo, Arso & Soegiyanto. (2004). Penanganan dan Pengaturan Muatan. Semarang: Politeknik Ilmu Pelayaran Semarang).

In addition to this, passengers and vehicles are not aware of the flow of service properly, resulting in many vehicles and passengers who originate in and break through so that they pass the ticket check. For motorized vehicles that are often found playing into the dock, which is not the time of departure, sometimes they miss the ticket inspection, and there are even motorized vehicle passengers who sometimes break through the roadblock which results in hassles in implementing vehicle arrangements on board. Here it can be overcome by prioritizing passengers first to enter the ship via the gangway to maintain passenger safety so that passengers can be monitored more closely and no passengers experience the wrong departure time.

3.1.6. The implementation of loading is related to safety on board the ship

The inaccurate recording of passenger and vehicle manifest during loading hours is due to the inaccuracy of field officers in recording the manifest because they think that if the checking is done closely it will take time and result in service delays and will result in delays in the submission of a sailing approval letter (SPB) which results in a schedule The departure is delayed, besides that the officers in the field are reluctant to add the manifest recording sheet which is only available for 50 columns so that there is a mismatch in the manifest recording because the loading service time is very narrow, so the officers are overwhelmed in arranging the vehicles that will enter the loading dock. If the manifest is not filled, it is feared that if something happens that threatens the safety of life and security at sea, it will complicate the process of evacuation and police investigation. Apart from writing inaccurate manifest, short loading hours are also the reason behind the violation/deviation that occurred at the port.

The average loading time of 12 minutes for each vessel is considered very narrow, so loading hours constraints are the reason why the manifest was not recorded accurately. Sometimes it is found that officers take loads exceeding loading hours without coordinating with the ship, so that when the vehicle has entered the loading dock they have to be returned when they find that the ship is not enough to be loaded, this can trigger competition for officers who are at the dock to maximize the ship's load each regardless of the loading capacity of the ship which ultimately threatens the safety of life, in addition to that short loading hours also cause losses to ship owners if loading hours have started but locker services are still in process resulting in wasted loading time. One of the efforts to overcome the inaccurate manifest recording can be done by routine supervision by the port to monitor the running of services to conduct performance

evaluations. Apart from being supervised, there is also an addition of special personnel in the field for the implementation of manifest recording so that these officers do not have dual duties and only focus on recording manifest only. Attempts to avoid recording because the manifest column provided by the port can add a manifest column so that the field does not run out of time to retrieve the manifest sheet again if the column on the manifest sheet runs out Apart from being supervised, there is also an addition of special personnel in the field for the implementation of manifest recording so that these officers do not have dual duties and only focus on recording manifest only. Attempts to avoid recording because the manifest column provided by the port can add a manifest column so that the field does not run out of time to retrieve the manifest sheet again if the column on the manifest sheet runs out Apart from being supervised, there is also an addition of special personnel in the field for the implementation of manifest recording so that the officer does not have dual duties and only focuses on recording the manifest. Attempts to avoid recording because the manifest column provided by the port can add a manifest column so that the field does not run out of time to retrieve the manifest sheet again if the column on the manifest sheet runs out (Purjiyono, Astriawati, N, P. S. S. (2019). Perawatan Sistem Pelumasan Mesin Utama Pada Kapal Km. Mutiara Sentosa II. Teknovasi, 06, p. 74–80).

To overcome the short loading time, it can be done by maximizing the time used when moving the ship docked so that the remaining time used for moving the ship can be used for loading activities, in addition to maximizing the movement time other efforts to overcome the short loading time can also be carried out in accordance with the distribution of cargo. Type and field officers must be able to make good use of this short time, one of which is by dividing the tasks with the maximum of the ship's crew for carrying out the loading.

4. Conclusion

Based on the previous description, the authors can draw the following conclusions: Indicators of ship and shipping safety are two inseparable sides, the ship must have safety equipment, including lifeboats, life jackets, fire extinguishers, documents and certificates, sail-worthy conditions The health of the crew, everything must be properly prepared and their existence and condition are confirmed so that the voyage will be safe and secure.

References

[1] Thamrin, AR. HM. (2015). Manajemen Keselamatan Maritim Dan Upaya Pencegahan Kecelakaan Kapal Ke Titik Nol (Zero Accident). *Jurnal Ilmiah Widya*, vol. 1, issue 1, pp. 110-116.

[2] Badan Diklat Perhubungan, "International Safety Management Code", Departemen Perhubungan, Jakarta, 2006.

[3] Badan Diklat Perhubungan, BST, Modul-4: *Personil Safety and Sociaty Responsibility*, Departemen Perhubungan Tahun 2011.

[4] Badan Diklat Perhubungan, BST,Modul-4, "Personal Safety and Social Responsibility", Departemen Perhubungan, Jakarta, 2000.

[5] Dachlan, A. (2014). Kompetensi Pelaut Dalam Penerapan International Safety Manajemen Code (ISM-Code) Pada Kapal-Kapal di Lintas Penyeberangan Ketapang-Gilimanuk. (Tesis Program Magister Manajemen, Pascasarjana Fakultas Ekonomi, Universitas Jember, 2014).

[6] Firhand, A. (2017). *Optimalisasi Keselamatan pada Crew dan Buruh saat Kegiatan Bongkar Muat Menggunakan Crane Barge di Kapal MV. PULAU NUNUKAN.* (Doctoral dissertation, Politeknik Ilmu Pelayaran Semarang, 2017).

[7] Hendrawan, A. and Nusantara, A. M. (2019). Analisa Indikator Keselamatan Pelayaran Pada Kapal Niaga. *Jurnal Saintara*, vol. 3, issue 2, pp. 53-59.

[8] Kadarisman, M. and Jakarta, U. M. (2017). Maritime Safety and Safety Policy. *Kebijakan Keselamatan Dan Keamanan Maritime Dalam Menunjang Sistem Transportasi*, vol. 4, issue 2, pp. 177–192.

[9] Masitoh, K. H. and Sonhaji, S. (2017). Pelaksanaan Perlindungan Hukum Bagi Awak Kapal Pada Pt Pelayaran Nasional Indonesia (Pelni) Semarang. *Diponegoro Law Journal*, vol. 6, issue 1, pp. 1–12.

[10] Lasse, D. A. (2014). *Keselamatan Pelayaran, dilingkungan teritorial Pelabuhan dan Pemanduan Kapal.* Jakarta: Raja Grafindo Persada.

[11] Martopo, A. S. (2004). *Penanganan dan Pengaturan Muatan.* Semarang: Politeknik Ilmu Pelayaran Semarang.

[12] Muhammad, S. A. (2020). *Upaya Sosiologi Kepada Penumpang Kapal Tentang Peralatan Keselamatan dan Prosedur Penggunaannya di PT. Dharma Lautan Utama (PT. DLU).* Semarang: *Repository Universitas Maritim AMNI (UNIMAR AMNI) Semarang*.

[13] Mutholib, A. (2013). Kajian fasilitas keselamatan kapal pada lintas penyeberangan 35 ilir- muntok. *Jurnal Transportasi*, vol. 25, issue 5, pp. 140–146.

[14] Nurhasanah, N., Joni, A. and Shabrina, N. (2015). Persepsi Crew dan Manajemen dalam Penerapan ISM Code Bagi Keselamatan Pelayaran dan Perlindungan Lingkungan Laut. Semarang: *Proceeding Seminar Nasional Multi Disiplin Dan Call For Papers SENDI_U*, Agust, pp. 978–979.

[15] Purjiyono, Astriawati, N. and Sigit,P., S. (2019). Perawatan Sistem Pelumasan Mesin Utama Pada Kapal Km. Mutiara Sentosa Ii. *Teknovasi*, issue 6, pp. 74–80.

[16] Suyono, R. P. (2007). *Shipping Pengangkutan Intermodal Eksport Import Melalui Laut, Musibah Kapal, Pencegahan dan Penanganannya, Keamanan Pelabuhan*. Jakarta: PPPM.

[17] Siswoyo, B. (2016). Persepsi Masyarakat Terhadap Peralatan Keselamatan Kapal Laut Dan Penyeberangan Di Provinsi Maluku. *Warta Penelitian Perhubungan*, vol. 28, issue 2, pp. 146–156.

[18] Suryani, D., *et al*. (2018). Peran syahbandar dalam keselamatan pelayaran. *Jurnal Saintara*, vol. 2, issue 2, pp. 33-39.

[19] Act No. 17 of 2008 Chapter I Article 1 concerning Shipping.

[20] Government Regulation Number 51 of 2002 concerning Shipping.

[21] Republic of Indonesia Government Regulation No. 115 of 2016 concerning How To Transport Vehicles On Water.