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Ship Accident Assessment and Handling

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Abstract

All users of sea transportation in Indonesia in particular and in the world in general, place great importance on safety and security issues. They are vital to avoid accidents which can include the sinking or burning of ships, collisions and running aground. The causes of accidents can be broken down into three groups: human factors; technical factors; and weather factors. These can result in loss of life, psychological trauma to survivors, material losses, and environmental damage. This study proposes the following as key considerations in the reduction of accidents: the provision of safe practice guidelines; identify and introduce protections for all risk categories; continuously improve onboard and personal safety measures. In addition, measures can be taken to mitigate the impact of accidents after they occur, such as responsivity, the collection of evidence to establish why accidents occur and ensure they do not occur again, good leadership and demeanors from ship personnel.

Keywords: Ship Accidents; Prevention Efforts; Countermeasures.

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1. Introduction

Indonesia is an archipelago which has more than 1800 islands. The islands are separated by sea and strait, so that to connect the islands with one another, adequate transportation facilities are needed. Ships are an important means of activity in relations between people from one island to another, as a maritime country, the role of the transportation sector, especially sea transportation, greatly supports the smooth flow of goods from one area to another. (Kurniallah, V. (2018). Perencanaan dan Perancangan “Museum Transportasi Air” (Doctoral dissertation, Universitas Muhammadiyah Surabaya). p. 18)

In the current era of development, this role is urgently needed so that the challenges will increase. Technological advances bring developments in the field of education, social relations and social relations, which will affect human behavior. Many new machines, materials and processes are encountered as a result of technological advances. But technological advances can also be detrimental if not handled properly, namely in the form of emerging hazards such as work accidents. It is not uncommon for a shipping industry to be careless in its maintenance and design, resulting in the victim’s

soul. Even though accidents do not happen by themselves, there is something that causes them (David, S. (2018). Identifikasi Kecelakaan Kerja Ditinjau Dari Penerapan Ism Code Di Oms. Ijen (Doctoral Dissertation, Politeknik Ilmu Pelayaran Semarang)). The cause of accidents is often the result of more than one cause (Daryanto, (2010). Media Pembelajaran Peranannya Sangat Penting Dalam Mencapai Tujuain Pembelajaran, Yogyakarta: Gava Media). Accidents can be prevented by eliminating the things that cause accidents. First, unsafe action. Second, unsafe working conditions.

All users of sea transportation in Indonesia in particular and in the world in general, always prioritize safety and security issues, which are then followed by aspects of affordable costs, speed and timeliness, and aspects of comfort. The occurrence of ship accidents such as drowning, burning, etc. are issues related to the safety and security of marine transportation. For the implementation of this sailing safety improvement, the Directorate General of Sea Transportation has issued policies in the prevention of ship accidents such as making shipping announcements about increasing shipping safety supervision for passenger ships, making announcements about weather conditions in Indonesian waters such as telegrams regarding bad weather readiness at sea. (Anwar, S., Halkis, M., & Dhahiyat, A. P. (2018). Peran Instansi Penegak Hukum Dalam Mengatasi Perompakan Bersenjata Terhadap Nelayan Tradisional Di Perairan Provinsi Lampung. Keamanan Maritim, 4(1)). Shipping safety is very important and occupies a central position in all aspects of the shipping world. The inherent aspects of shipping safety include the characteristics of attitudes, values, and activities regarding the importance of meeting safety and security requirements relating to transportation in waters and at ports. Neglect of shipping safety tends to increase economic and environmental costs such as decreased production, incurred medical costs, pollution and inefficient use of energy. The low safety of shipping can be caused by weak human resource management (education, competence, working conditions, working hours) and process management.

Maritime safety and security here are the main policies that must get priority on shipping in supporting the smooth running of sea transportation in Indonesia as an archipelago. Indonesia has sovereignty over the entire Indonesian sea area, so that the sea has a significant role both as a means of unifying the nation and territory of the Republic of Indonesia, as well as the sea as an invaluable national asset and Indonesia's future. Control over the sea has the consequence that the Government is obliged to carry out governance in the field of law enforcement at sea, both against the threat of violations, utilization of waters, as well as maintaining and creating optimal shipping safety (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 importance of work safety in the shipping sector shows that the dangers in this sector are numerous and full of risks. Therefore, it is demanded that commercial shipping officers who are disciplined, skilled and agile in carrying out their duties. In the operation of ships, it is found that there are a lot of jobs, both light and heavy, which have a high enough risk of work accidents.

An accident is an event that is uncertain because it cannot be predicted when it will occur, where the place is and the size or size of the losses incurred. So that people often think that the accident is related to someone's fate. In fact, the accident is always preceded by symptoms that indicate the existence of an accident in other words, the accident can be found what caused it.

1. An incident is an unwanted event that can reduce productivity.
2. Work accident is an accident that occurs to someone due to work relations and is most likely caused by a hazard connection with workers and during working hours.
3. Survivors are relatively free from harm, injury, damage or from risk of harm, and so on.
4. Safety is a general term to express a level of risk from losses relatively free from losses, low possible losses.
5. Work safety is an effort or activity to create a safe work environment, preventing all forms of accidents.
6. Occupational Health is an effort on ways to improve and maintain the health of workers at the highest possible stage, both physically, spiritually and socially.
7. Danger is a condition or environmental change that has the potential to cause injury, disease, or property damage.

An accident often occurs due to more than one cause. Accidents can be prevented by eliminating the things that cause them. There are two main reasons for an accident. First, unsafe action. Second, unsafe working conditions. People who get injured are often caused by other people or because of their own actions that do not support safety. That 85% of accidents are caused by human wrongdoing (Unsafe Human Act), although in fact there have been other causes which cannot be seen (Syibli, Y. M., Asjani, F., & Devita, A. (2019). Upaya Mencegah Kecelakaan Kerja Anak Buah Kapal Bagian Mesin DI MT. KLASOGUN. Jurnal Sains Teknologi Transportasi Maritim, 1(2), 20-24).

Accident Prevention Measuring the possibility of an accident is more important than dealing with an accident. Accidents can be prevented by avoiding the causes that can lead to accidents. Preventive action can be taken with the utmost care in doing work and marked with a sense of responsibility. Prevent unsafe working conditions, know what to do in an emergency, and immediately report any incidents, irregularities and even the slightest equipment damage to the supervisor. Small or minor damage if left untreated, the longer it will develop and become a serious mistake if it is not repaired immediately (Hendrawan, A., & Nusantara, A. M. (2019). analisa indikator keselamatan pelayaran pada kapal niaga. Jurnal Saintara, 3(2)).

2. Research Methods

This type of research is a qualitative method. According to stating that qualitative research methods are the most appropriate type of research method in capturing human perceptions only with direct contact and an open mind and through inductive processes and symbolic interactions, humans can recognize and understand something. (Semiawan, C. R. (2010). Metode Penelitian Kualitatif: Jenis, Karakteristik dan Keunggulannya (Arita L (ed.)). Grasindo) This research was conducted descriptively by using a theoretical framework based on forecasting analysis (regression) so that the trends that occur in the pattern of ship accidents in Indonesian waters can be seen. The research method used is divided into two parts, namely the data collection process and the analysis and evaluation process. The secondary data collection process is carried out through a library survey, covering government policies in the field of ship safety.

3. Results and Discussion

3.1. Types of Marine Transportation Accidents

Talking about sea transportation, it is closely related to ships which are one of the most popular means of transportation for the Indonesian people. It has become the ship provider or sea transportation provider to maintain ships, maintain ship comfort and safety. Either before sailing, while sailing, or after sailing. That is because sea transportation has a high risk of accidents. Both passengers and crew could be in danger of their lives if the ship was not roadworthy.

Accidents can happen anywhere, anytime, and happen to anyone. Therefore, it is our collective responsibility to maintain comfort and safety while sailing. The crew of the ship

and those who provide sea transportation must pay attention to the feasibility of the ship, whether the ship is in a proper condition or not to sail, also check the completeness and equipment to support safety while sailing, whether all have met operational standards or not. Meanwhile, passengers are required to maintain safety equipment and equipment on board so that they are not damaged or stolen, and passengers are required to follow all regulations that have been made by sea transportation service providers, while sailing.

Accidents in transit must be the responsibility of all parties involved in shipping practices. One of the parties responsible for an accident that occurs on a ship is the captain or crew of the ship. In the KUHD it is stated in article 341 that the captain is the leader of the ship. So that as the leader of the ship, it is hoped that the captain will be able to fulfill his responsibilities as indicated by the law (Andrea Nathaly Sitompul, "Pertanggungjawaban Nahkoda dan Pengangkut Terhadap Kecelakaan Kapal (Tinjauan KEPUTUSAN Mahkamah Pelayaran No.973/051/XII/MP-8)", (Undergraduate Thesis Faculty of Law, University Indonesia, Jakarta: 2010).p. 6-8).

There are various types of accidents that occur while sailing. The following will explain in advance the types of accidents, namely:

3.1.1. Drown

According to some literature, what is generally called drowning is death caused by suffocation (lack of breath) when fluids block the body's ability to absorb oxygen from the air causing asphyxia (https://id.wikipedia.org/wiki/ Tenggelam). But in this discussion it is not the drowning described above, but the drowning experienced by a ship or sea transportation which sometimes occurs during a voyage. What is meant by sinking here is an event where the hull enters partially or completely which results in a ship being unable to sail or operate. Meanwhile, according to the Big Indonesian Dictionary, what is meant by drowning is being immersed in water (kbbi.web.id/tenggelam). The sinking of a ship can be caused by several factors, namely:

1. Weather Factor

   In a voyage carried out by a ship, the weather is very influential in the smoothness and safety of the sailing activity. Often times, unfavorable weather causes delays or disrupts shipping activities. Even if a ship goes on a voyage in bad weather, it will cause an accident. For example, the sinking of a ship caused by weather factors also occurred in Indonesia. Namely the incident that occurred in Denpasar in the waters of Jungut Batu, Nusa Lembongan, Klungkung Bali. A ship

with a capacity of 40 people sank due to bad weather, and forced high waves to hit the ship (http://sp.beritasatu.com/nasional/faktor-cuaca-penyebab-perahu-tenggelam/11531). There are many other ship sinking incidents caused by bad weather that occurred in Indonesia and outside Indonesia. In essence, before making a voyage, a captain must check information on weather and climate conditions that occur on the shipping route. Information regarding weather and climate can be received by the ship captain from the Meteorology, Climatology and Geophysics Agency. And indeed Sea Transportation Companies must establish ties with the Meteorology, Climatology and Geophysics Agency (BMKG) in order to support smooth and comfortable shipping activities.

2. Human error

   For a ship, especially when it is sailing across the ocean, the role and existence of a captain as the highest official who leads and is responsible for the safety of the ship and everything in it, has a very important meaning. (Santosa Djohari. Pokok-Pokok Hukum Perkapalan. Yogyakarta: UII Press,2004. p.51). Also, every procurement, construction and workmanship of ships, including their equipment, as well as ship operations in Indonesia must meet ship safety requirements (Abdulkadir, Muhammad. (2013). Hukum Pengangkutan Niaga. Bandung: PT Citra Aditya Bakti. p. 104). Therefore the captain and/or the crew of the ship must notify the Ship Safety Inspector official if he finds out that the condition of the ship or part of the ship is deemed not meeting the safety requirements of the ship. (Ibid. p. 105). Moreover, the crew must obey and obey the captain quickly and carefully. Sometimes the crew ignores orders given by the ship's captain to check the equipment and completeness to support the smooth running. As well as the crew of the ship often took a way out that was not coordinated in advance with the captain regarding the condition of the damaged engine or the ship that was not fit to sail. Events like that are what cause the sinking of ships due to the condition of the ship which is not suitable for sailing, due to negligence of the crew or the ship's captain. As for what causes a ship to sink due to the ship's captain ignoring the capacity of passengers and goods on the ship. As experienced by the Mitra Abadi Ship which at that time was in East Jambrud Port, Tanjung Perak Surabaya. The ship that will sail to Donggala Central Sulawesi must sink before sailing due to overload or Over Capacity. The ship was loaded with various goods, a mixture of food and beverages, and other necessities that exceeded the capacity, which caused the ship to sink (http://photo.sindonews.com/view/4705/kapal-mitra-abadi-tenggelam-akibat-kelebihan-muatan).

3.1.2. Burned

The next accident was a fire in a ship. These accidents rarely occur during shipping, more often these accidents occur when a ship is docked at the port. A fire on a ship can be caused by several factors, namely:

1. Electrical shorting that occurs in engine components that are useful for running the motor of the ship.
2. Sabotage carried out by certain parties, with certain objectives,
3. The ship's electrical condition is no longer suitable for use, which results in a short circuit,
4. A ship collision that can dislodge the ship's fuel, and possibly cause a ship fire,
5. The scuppers are not turned off during loading/unloading and their flammable materials.

3.1.3. Collision

Ship collisions often occur during shipping, collisions that occur by a ship can occur between ship and ship and ship with hard objects that can endanger shipping activities. There are several definitions regarding ship collision, a ship collision can be defined as a sea disaster which is the source of losses incurred on one or both parties. And the legal consequences arising from the ship collision event must be regulated in a law. For this reason, chapter VI, the second book of the KUHD was created (Purwosutjipto, H.M.N,. (1985). Pengertian Pokok Hukum Dagang Indonesia:Hukum Pelayaran Laut dan Perairan Darat. Jakarta: Djambatan. p. 274).

Another definition of ship collision is also contained in articles 544 and 544-a, which can be explained as follows:

1. If a ship, as a result of its way of sailing or because it does not comply with the provisions of the law, causes loss to other ships, goods or people on board, the event is included in the definition of ship collision (article 544). Here there is no collision or contact between ships with one another, even though this event is included in the definition of ship collision.
2. If a ship crashes into another object that is not a ship, either in the form of a fixed or moving object, for example: a sea base or dock, sea lanterns, sea signs (baken),

etc., then the ship collision with other objects which is not a ship can be called a ship collision (article 544-a) (Ibid. p. 275).

Collisions that occur between ships and ships are usually caused by a change of course by a ship which results in the taking of another ship's shipping lanes. And usually ship collisions occur due to lack of communication between the ship captains, resulting in ship collisions.

The ship captain must also pay attention to several regulations so that there is no ship collision, namely the ship captain must pay attention to sufficient space at sea. The space for a large ship allows a ship to change its direction in order to avoid danger or obstacles in front of it. If the space for the ship is limited, it is impossible for a ship to change its direction, because it will interfere with another ship's shipping line or hit something that can cause an accident. The captain on a ship must also pay attention to the speed of the ship, the captain must maintain the speed of the ship during the voyage If the captain does not pay attention to the speed of the ship, let alone increase the speed of the ship (http://arieflaksmono.com/peraturan{%}20p\Prevention{%}20tubrukan{%}20di{%}20laut.php).

Or the ship crash occurred due to abuse of power by the captain. The captain deliberately did not pay attention to the rules for driving the ship. In fact, the law has given so much power to a captain, nevertheless the law also provides criminal sanctions and civil fines and disciplinary action against the captain, if the captain misuses his power. For the captain who has acted badly on the ship he is piloting with the decision of the Indonesian Shipping Court, the authority of the captain to steer the ship is revoked for a maximum period of 2 (two) years. (Santosa Djohari, op.cit. p. 57). While ship collisions that occurred because the ship hit certain objects such as icebergs, which occurred on the Titanic, it was caused by very bad weather factors.

3.1.4. Aground

A ship that runs aground is usually caused by the ship's captain who pushes too much through the waters with receding water conditions. As happened to KM Titian Nusantara, which ran aground in Muara Jungkat. The captain of KM Titian Nusantara packed his ship out of Dwikora Port Pontianak through Muara Jungkat where the water was receding at that time. As a result KM Titian Nusantara ran aground.39 The collapse of a ship could also be caused by hitting a mound on the seabed. Therefore the important role of a captain is very influential, the captain must pay attention to the state of the water surface during the voyage to avoid running aground. The captain

must avoid the receding water surface and also have to pay attention to whether there is a mound in the water surface or the bottom of the sea water that can cause a ship to run aground (http://www.kalamanthana.com/2016/06/09/ini-penyebab-kenapa-sering-kapal-aground-dimuara-jungkat/).

3.2. Factors that cause accidents in sea transportation

Transportation has a very broad and important role for the nation's economic development. Can be done by air, sea, and land to transport people and goods. During his journey, in carrying out transportation by air, sea and land, he often encounters obstacles or things that hinder the transportation. One of the obstacles or obstacles is an accident (Uli, Sinta. (2006). Pengangkutan: Suatu Tinjauan Hukum Multimoda Transport Angkutan Laut, Angkutan Darat, dan Angkutan Udara. Medan.USU Press. p. 1). Accidents that can occur during shipping activities. Sailing itself can be defined as everything related to water transportation, ports, and security and safety. From this understanding, it can be concluded that, in carrying out transportation, especially sea transportation, it must pay attention to the value of security and safety. Especially in sea transportation, the provider of sea transportation modes must pay attention to the security and safety aspects contained in a sea transportation object, namely ships. There are various facilities or aspects that support security and safety in sea transportation. Starting from buoys, lifeboats, and other ship safety facilities. But now there are international regulations governing ship safety.

International Ship and Port Facility Security Code or ISPS Code is a comprehensive rule regarding steps to improve security for ships and port facilities, or it can be said as an international regulation on the security of ships and port facilities, which consists of two parts, parts A and B. Part A contains requirements mandatory for the government, ships/companies, and port facilities. Meanwhile, part B contains guidelines (Alghanmi, A. (2018). Risk Assessment and Management of Petroleum Transportation Systems Operations (Doctoral dissertation, Liverpool John Moores University)).

The safety facilities or equipment that must be in a ship, according to the contents of the International Ship and Port Facility Security Code are:

1. Ensuring the implementation of all ship security tasks.
2. Control of entry and exit of the ship.
3. Supervision of the increase in people/personnel and their luggage.

4. Monitor confined areas to ensure that only authorized persons/personnel have access in and out.
5. Monitor the deck area and the area around the ship.
6. Oversee the handling of cargo and ship supplies.
7. Ensure that security communications are in place and ready to use.

There are many more aspects of ship security that are regulated in the International Ship and Port Facility Security Code, to support the smoothness and safety and comfort of ships in terms of shipping. But often certain parties do not pay attention to the regulations that have been made, especially the ISPS itself. As a result, there are still frequent accidents experienced by a ship. However, not all ship accidents that occur are caused by technical errors or human errors. Ship accidents can also be caused by natural factors. And there are still more factors that cause accidents in sea transportation, especially on ships. According to the provisions of Act No. 17 of 2008 concerning Shipping, the Shipping Court is formed by and is responsible to the Minister of Transportation (Muhammad, Abdulkadir. Op. cit. p. 242). The following will describe the causes of marine transportation accidents, including:

3.2.1. Human Factor

Accidents that occur or are experienced by public transportation, especially sea transportation, cannot be separated from human factors. The human factor is the biggest factor, including carelessness in running the ship, the lack of the ability of the crew to master various problems that arise in ship operations.

There are still many ship crews or ship captains who ignore safety aspects during voyages. Even though there are regulations that regulate the captain and crew to maintain the comfort and safety of the ship being driven. Before talking about the human factors that cause accidents in sea transportation, it is necessary to explain in advance the parties or officers who support the smooth and safe shipping (Hasugian, S., Wahyuni, A. I. S., Rahmawati, M., & Arleiny, A. (2018). Pemetaan Karakteristik Kecelakaan Kapal di Perairan Indonesia Berdasarkan Investigasi KNKT. Warta Penelitian Perhubungan, 29(2), 229-240).

As for the parties, among others (Purwosutjipto, HMN. Op.cit. p. 115): In accordance with the definition of the captain itself, the captain is the official who is responsible and holds the highest authority in the ship. This means that everything, whether it is the

operation, the mechanism of the ship, or the safety during the voyage, is fully held by a captain. Apart from the ship's captain, the party who plays a role in a voyage is the crew. The crew consists of:

1. Section Deck (Deck Department).
2. This part of the deck crew is in charge of navigation (sailing).
3. Engine Room Section (Engineering Department).
4. The head of the engine section is called the "head of the engine room" or chief engineer, his job is to run and maintain all kinds of engines, which are on the ship.
5. Supplies Section (Catering Department)
6. This section has two sections, namely: the cooking section and the service section. This section is large, and even larger on a passenger ship, where the organization resembles a hotel.
7. Administrative/financial affairs.
8. Sometimes a special officer is assigned to a ship in charge of administration/finance/cargo. This officer is called the "Purser".
9. Health Affairs.
10. On the passenger ship there is also a doctor and several nurses.
11. Markonic.

Almost every ship is stationed by one or several markonists, who are in charge of receiving and sending telegraph or radio calls. Of all the parties involved in a voyage, it is clear that each party already has its own duties. And once again the crew of the ship worked on orders from a ship captain. Often times, accidents that occur are caused by each party or certain parties ignoring orders from a ship captain, and ship accidents can occur due to miscoordination between the ship captain and the crew, which results in the failure of one or several ship systems which can result in accidents.

3.2.2. Technical Factors

An accident experienced by a ship can also be caused by technical factors. What is meant by technical factors here is the problem of inaccurate ship design maker in making ship designs. Many ships, especially passenger ships, are wrong in terms

of the ship design. There are also technical factors in terms of ship maintenance and ship engines. The maintenance carried out is sometimes not according to the schedule that has been made, causing the ship's engine to overheat quickly and causing a ship to catch fire (http://kapal-pelaut-surveyor.blogspot.co.id/2012/11/3-faktor-penyebab-kec\accident\in.html).

3.2.3. Weather Factor

Accidents are often caused by unfavorable natural conditions or bad weather conditions. Many captains ignore the weather conditions during the voyage, even though there have been reports of weather conditions occurring on the shipping route. The weather factor here can be in the form of very strong winds, rising waves, very heavy rain, or fog that can block the visibility of the captain. As well as a very heavy current that can disrupt the navigation system of the captain. From the factors that cause the occurrence of sea accidents above, it is clear that before a ship undertakes a voyage it must first be checked the completeness and equipment to support safety and comfort in shipping, then a captain must work together or the captain must ask for a weather report from the BMKG on his shipping line, in order to avoid bad weather. But before that all sea transportation providers must select the captain and crew. They must have competence in terms of shipping so that a ship can avoid an accident (ahmad, s. P. (2018). Analisis faktor-faktor yang mempengaruhi kecelakaan kapal pada jalur pelayaran pelabuhan tanjung emas semarang. Scription). Impacts of Marine Transportation Accidents Marine transportation accidents can have wide-ranging consequences, namely:

1. Inflicted priceless casualties.
2. Causes psychological problems for the victim.
3. Caused material loss, and
4. Causes damage to the environment

3.3. 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 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.
4. Every company is very important to develop, implement and maintain a Safety Management System that includes (AR, H. T. (2018). Manajemen Keselamatan Maritim Dan Upaya Pencegahan Kecelakaan Kapal Ke Titik Nol (Zero Accident). Jurnal Ilmiah Widya, 4(3)):
5. safety and environmental protection policies,
6. procedures for reporting ship accidents and deviation from code provisions,
7. instructions and procedures to ensure the safety of ship operations and environmental protection, workers on board the ship strictly comply with international regulations and the laws of the flag State of the ship concerned,
8. determine the level of the ground line of communication authority (DPA) and on the ship,
9. procedures for preparedness and response in an emergency,
10. procedures for internal audit 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 (Widiyarini, W., Permana, D. J., & Hunusalela, Z. F. (2019). Penerapan Zero Accident melalui Penyuluhan Keselamatan dan Kesehatan Kerja kepada Mitra SMK. Jurnal PkM Pengabdian kepada Masyarakat, 2(03), 287-293):

1. follow the International Management code (ISM code) regulations,
2. testing how to operate the emergency steering wheel, (emergency Rudder),
3. checking the operation of the GPS (Global Positioning System),
4. the safety of the lifeboat (David) of the rescue was lowered and raised,
5. check anchor and anchor chain in good condition, (6) preparation for acceptance of Pilot (guide), and lowering Pilot,
6. check smoke detectors on the bridge to anticipate fires in the hatches,

7. before sailing, the maps starting from the starting point to the destination have been corrected and up to date.
8. generator check, running test or not,
9. check street lights and emergency lights,
10. emergency test Main engine,
11. the results of Internal audits and Management reviews,
12. operation of the Oil Water Separator (OWS),
13. checks the hatch cover and loading and unloading equipment as well as electronic devices.

It is better if the government actively participates and collaborates 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, training for seafarers' resources is needed which is carried out seriously and responsibly for ship crews, ship officers (officer and crew), such as BST (Basic Standard Trainning). 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 facing any dangers on board,
2. the officers, especially the skipper who responsible as the leader of the ship,
3. representatives ship owner (owner),
4. person in charge of goods, loading/unloading (B/M),
5. ship stability. Thus the security and safety of ships and the human soul, can secure.

3.4. 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. Collecting evidence The master of a ship

is obliged to make and ready to collect (R.P. Suyono, Shipping Pengangkutan Intermodal Eksport Import Melalui Laut, Musibah Kapal, Pencegahan dan Penanganannya, Keamana nPelabuhan. PPPM. Jakarta. 2007), responsive and thorough in an accident if a ship gets an accident reports if the ship is involved in an accident or accident so that the ship and also its company are in a legal status that can be resolved easily and without complication, thanks to the Master's accurate report to all interested party. As evidence or physical evidence is attached as follows;

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 existing position is not deleted, because there are 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.

4. Conclusion

Indonesia is an archipelago which has more than 1800 islands, as a maritime country, the role of the transportation sector, especially sea transportation, greatly supports the smooth flow of goods from one area to another. All users of marine transportation facilities in Indonesia in particular and in the world in general, always place great importance on safety and security issues. Maritime safety and security here are the main policies that must get priority in shipping in supporting the smoothness and prevention of marine transportation accidents in Indonesia as an archipelago. The accidents that often occur are drowning, burning, collision and running aground, this is

due to several factors, namely human factors, technical factors and weather factors. Therefore it requires the following efforts: (1) provide safe practices in ship operations and work environment, (2) establish protection against all identified risks, (3) continuously improve onboard and onboard personal safety management skills. The countermeasures include (1) being responsive and thorough in the ship accident, (2) Do not forget to collect authentic evidence, (3) the captain, officers and crew members at the beginning maintained the ship's existence and did not worsen the situation. They must also report ship disasters/accidents that occur immediately to the owner, H & M, and the P & I club to those concerned. (3) continuously improve onboard and onboard personal safety management skills. The countermeasures include (1) being responsive and thorough in the ship accident, (2) Do not forget to collect authentic evidence, (3) the captain, officers and crew members at the beginning maintained the ship's existence and did not worsen the situation. They must also report ship disasters/accidents that occur immediately to the owner, H & M, and the P & I club to those concerned. (3) continuously improve onboard and onboard personal safety management skills. The countermeasures include (1) being responsive and thorough in the ship accident, (2) Do not forget to collect authentic evidence, (3) the captain, officers and crew members at the beginning maintained the ship's existence 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.

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