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Implementation of Ship Maintenance and Equipment in Implementing Embarkation and Debarkation Passengers on KM. Tidar

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Abstract: This study aims to evaluate the implementation of passenger embarkation and disembarkation procedures on KM. Tidar, focusing on three main aspects. First, assessing the implementation of ship safety equipment maintenance and equipment in the context of fulfilling regulatory and company requirements, and its impact on operational efficiency. Second, analyzing the implementation of inspections, reporting of non-conformities, corrective actions, and recording activities, and their impact on passenger safety and ship readiness for inspections and compliance audits to international standards. Third, evaluating the suitability of the procedures regulated in the Safety Management System (SMK) of KM. Tidar to identify, evaluate, and manage operational changes, and their impact on emergency response and adaptability to international maritime regulations. This type of research is qualitative with a descriptive approach. Data were collected through direct observation, interviews, and document analysis. The subject of the study is the passenger embarkation and disembarkation process, while the object is the implementation of Element 10 of the ISM Code related to passenger safety, operational efficiency, and compliance with international standards. The study was conducted on KM. Tidar Makassar during April-May 2024 using a non-probability sampling method to determine respondents from the relevant ship's crew. The results of the study showed that the care and maintenance of safety equipment, such as ladders, embarkation bridges, and communication devices, have improved operational efficiency and passenger safety. The process of inspection, reporting, and corrective actions are carried out systematically, supporting the ship's readiness for inspection and audit. In addition, the compliance of the Safety Management System (SMK) procedures in managing operational changes helps improve response to emergency situations and adaptability to international maritime regulations. Major obstacles such as bad weather and port congestion can be minimized through good coordination between the ship's crew and the port authority. Regular training for the crew on safety equipment is an important element in maintaining high safety standards.

Keywords: Maintenance, ship equipment, embarkation, disembarkation, passengers, crew.

INTRODUCTION

Shipping is part of the maritime transportation system regulated by Law No. 17 of 2008 concerning shipping. This regulation makes the shipping sector strategic for national development and supports the goals of national unity. Shipping or sea transportation is an inseparable part of transportation, has the ability to face future changes, and is capable of transporting large quantities. Its ability to connect regions through waters makes shipping have great potential to be developed and play a role both on a national and international scale. This supports national development and improving people's welfare in accordance with the principles of Pancasila and the 1945 Constitution. (Gunarti & Sugiharto, 2019)

Basic provisions regarding shipping have been regulated in Law No. 17 of 2008 concerning national shipping. One aspect regulated in the articles of the law is shipping safety, which includes the seaworthiness of ships. Article 1 paragraph 32 to paragraph 44 as a whole discusses various aspects of shipping safety, while Article 1 paragraph 34 specifically emphasizes ship safety. Ship safety includes requirements for materials, construction, buildings, machinery, electricity, stability, layout, and equipment including auxiliary equipment and radio, and ship electronics. These requirements must be proven through a certificate after undergoing inspection and testing (Bimantara et al., 2017).

Shipping safety is influenced by various factors, not just by one aspect. For example, although the sophistication of the ship and its modern equipment play an important role, it also depends greatly on the capabilities of human resources, equipment on land, coordination carried out before and during the voyage, and attention to sea signs and passenger factors. All of these factors greatly contribute to achieving an optimal level of shipping safety (Patayang & Lia, 2019). The level of safety in shipping is not only determined by technical factors alone, but is also influenced by the operational process of the ship, including the process of embracing and debraking passengers. This process, especially the boarding and disembarking of passengers through the ship's ladder, is a critical moment that requires effective management to minimize the risk of accidents and ensure smooth ship operations.

In an effort to improve safety standards and operational efficiency, the International Maritime Organization (IMO) has established the International Safety Management Code (ISM Code). The International Safety Management Code (ISM Code) is an international regulatory guideline for the management of safety and operation of ships, as well as preventing pollution of the marine environment. This code is established by the International Maritime Organization (IMO) for the Maritime Safety Council. The IMO publishes the ISM Code as a standard tool for regulating the "Safe Management and Operation of Ships for Pollution Prevention". The ISM Code mandates the use of written and documented methods for all operating procedures on board ships and ashore with the primary objective of maintaining safety and the marine environment. The role of the ISM Code in shipping companies is to monitor various aspects related to safety and environmental protection during ship operations to ensure optimal compliance with international standards. The competence, expertise and skills of the crew are very important in dealing with various situations that may occur during sailing.

The ISM Code aims to set global standards for the safety and operational management of ships and the prevention of marine pollution by ships with a focus on safety at sea, prevention of accidents and loss of human life, and protection of the marine environment and property (Arrafi et al., 2023). One of the key elements of the ISM Code is Element 10, which emphasizes the importance of change management in ship operations, including in embrasure and debrake processes.

KM. Tidar, as one of the ships that actively operates, has a great responsibility in ensuring the safety and comfort of its passengers. Along with that, the implementation of international standards in safety management, which is included in the International Safety Management

(ISM) Code set by the International Maritime Organization (IMO), is a must. Element 10 of the ISM Code includes:

1. The company shall establish procedures to ensure that ships are maintained in accordance with the requirements of the relevant classification regulations and any additional requirements established by the company.
2. In order to fulfill the above requirements, the company must ensure that: 1) Inspections are carried out within the appropriate time frame, 2) Any non-conformities are reported along with possible causes, if known, 3) Adequate corrective actions are implemented, and 4) Records of the above activities are maintained.
3. The company must establish procedures in the SMK (Safety Management System) to identify, equipment and technical systems where sudden operational failures may occur which could lead to hazardous situations. The SMK must provide specific actions aimed at demonstrating the reliability of such equipment or systems. Such actions must include periodic testing of backup equipment or technical systems that are not operated continuously.
4. The inspections as mentioned in 2 as well as the actions listed in 3 shall form part of the ship's routine operational maintenance program.

In its operations, one aspect that requires special attention is the embarkation and disembarkation process, namely the process of boarding and disembarking passengers on the ship. This process has a high potential risk if not managed properly, including risks to passenger safety and the smooth operation of the ship as a whole. In order to ensure that the embarkation and disembarkation process takes place safely and orderly, KM. Tidar needs to apply the principles of change management as regulated in Element 10 of the ISM Code. This element requires ships to identify, evaluate, and manage any changes in ship operations and safety management systems in a systematic and controlled manner. Through the application of Element 10 of the ISM Code, KM. Tidar aims to improve passenger safety and comfort in the embarkation and disembarkation process, as well as minimize the risk of accidents that may occur. Thus, the application of this international standard is an important foundation in KM. Tidar's efforts to maintain its reputation and safety performance in the shipping industry.

Based on the description above, although safety and operational efficiency are the main focus in shipping, further research is still needed to understand how the application of Element 10 of the ISM Code to the passenger embarkation and disembarkation process on passenger ships, such as KM. Tidar, affects passenger safety, operational efficiency, and compliance with international standards. Therefore, this study aims to provide a deeper understanding of the relationship between the application of the ISM Code and the passenger embarkation process, as well as its impact on passenger safety and smooth ship operations.

METHOD

The type of research used in this study is qualitative research. This research was chosen because it aims to understand in depth the implementation of embarking and disembarking passengers on KM. Tidar. The qualitative approach allows researchers to explore various aspects related to the phenomenon being studied and gain a deep understanding of the context that influences the process of embarking and disembarking passengers. As expressed by Denzin and Lincoln, qualitative research aims to interpret phenomena that occur using natural settings and involving various methods.

1. The subject of research is the subject that the researcher will target for research. When discussing the subject of research, one must first talk about the unit of analysis, namely the subject that will later become the center of the research target. The subject of research referred to in this study is the embarking and disembarking process of passengers at Km.

Tidar. The determination of this subject was carried out when the researcher began to enter the field and during the research.

2. The object of this study is the problem to be studied, namely how the application of Element 10 of the ISM Code in the process of passenger embarkation and disembarkation on KM. Tidar affects passenger safety, operational efficiency, and compliance with international standards. data sources, namely secondary data and primary data as follows:
 - a. Primary data is data obtained directly from the original source through direct observation and direct interaction with respondents. In the context of this study, primary data will be obtained through direct observation at ports served by KM. Tidar and through interviews with various related parties, such as PT. PELNI management, ship crew, port officers, and several passengers. This primary data will provide specific and direct information related to the implementation of passenger embarkation and disembarkation.
 - b. Secondary data is data that has been collected by other parties previously and can be reused for research purposes. In this study, secondary data can be in the form of official documents such as KM Tidar activity reports, regulations related to shipping and ship safety, and literature related to the research topic.

This secondary data will support the understanding of the broader context related to the implementation of embarking and disembarking of passengers, and can be used as a comparison or confirmation of the findings of the primary data. Data analysis is Analysis Interactive, namely data collection, reduction, data presentation

RESULTS AND DISCUSSION

Implementation of Ship Maintenance and Equipment in the Implementation of Passenger Embarkation and Disembarkation on KM. Tidar.

The implementation of ship maintenance and equipment in the embarkation and disembarkation process is very important to support passenger safety in the embarkation and disembarkation process. Based on the results of the research conducted, the researcher will explain the implementation of maintenance and equipment of safety equipment on the KM. Tidar Ship in the embarkation and disembarkation process of passengers.

To find out how to apply maintenance and equipment of safety equipment to support smoothness during the embarkation and disembarkation of KM. Tidar passengers, it can be obtained from the results of interviews with several points.

1. Implementation of maintenance and equipment of safety equipment on board ships

- a. Capt. Herman as the Captain of the KM. Tidar Ship
"As the Captain, I ensure that the implementation of International Safety Management (ISM) on board is carried out in accordance with applicable regulations. All procedures and documentation of ship maintenance and equipment are periodically checked and audited by the classification society to ensure compliance with international and company regulations."
- b. Sugiharto as First Mate
"As the First Officer, I am responsible for the day-to-day implementation of ISM on board. This includes routine checks of safety equipment and ensuring all maintenance records are complete and up-to-date."
- c. Nurul Fallah as the Third Officer
"As the 3rd Mate, I am responsible for the inspection and maintenance of the safety equipment on board. I ensure that all maintenance procedures are carried out in accordance with ISM standards and report the inspection results to the 1st Mate."
- d. Yunnisa Fadila as ABK I

"We as ABK always follow the instructions of the officers and ensure that all maintenance and equipment checks are carried out in accordance with the applicable SOP and ISM."

- e. Nursuci Ramadani N as ABK II

"As a crew member, I always ensure to follow the procedures set out in the ISM Code. We routinely check and maintain safety equipment and report any damage or irregularities to the officer in charge."

2. The ship's crew knows the types and functions of safety equipment on board the ship.

- a. Capt. Herman as the Captain of the KM. Tidar Ship

"Yes, I ensure that all ship crews receive adequate training and knowledge about the types and functions of safety equipment. This training is conducted routinely and tested through periodic emergency drills."

- b. Sugiharto as First Mate

"I supervise the training of the ship's crew to ensure they fully understand the type and function of each safety device on board. This knowledge is tested periodically."

- c. Nurul Fallah as the Third Officer

"We hold regular training sessions for the entire ship's crew, including simulations of the use of safety equipment. I ensure that every crew member understands the function and how to use the equipment."

- d. Yunnisa Fadila as ABK I

"We get regular training on the types and functions of safety equipment, so we know how to use it when needed."

- e. Nursuci Ramadani N as ABK II

"Yes, every ship crew is trained and given knowledge about the types and functions of safety equipment. This training is carried out periodically and every crew is required to understand its use."

3. The ship's crew understands how to maintain the safety equipment on board the ship..

- a. Capt. Herman as the Captain of the KM. Tidar Ship

"The ship's crew, especially those directly responsible for the maintenance of safety equipment, are given clear instructions and specific training on how to maintain safety equipment. Manuals and SOPs (Standard Operating Procedures) are available on board for reference."

- b. Sugiharto as First Mate

"Yes, we provide training and guidance on safety equipment maintenance. I also conduct regular inspections to ensure that maintenance is carried out properly."

- c. Nurul Fallah as the Third Officer

"Yes, as part of our training, I provide detailed instructions on how to maintain safety equipment. We also have a maintenance manual that all crew must follow."

- d. Yunnisa Fadila as ABK I

"Yes, we are trained on how to maintain safety equipment and frequently perform routine checks and maintenance as scheduled."

- e. Nursuci Ramadani N as ABK II

"We are given special training on how to maintain safety equipment and carry out maintenance according to the specified schedule."

4. Ship maintenance and equipment affect the safety of passenger embarkation and disembarkation.

- a. Capt. Herman as the Captain of the KM. Tidar Ship

"Of course, proper maintenance and equipment are essential to ensure the safe embarkation and disembarkation of passengers. Equipment such as ladders, embarkation bridges, and communication devices must always be in prime condition to prevent accidents."

b. Sugiharto as First Mate

"Yes, good equipment conditions are very important for passenger safety during embarkation and disembarkation. We ensure that all equipment is always ready to use, such as ensuring that the chains and wheels on the ship's ladder are in good condition so as not to hinder the embarkation and disembarkation process or the simplest example is that there is no liquid on the ship's ladder that could cause passengers to fall.

c. Nurul Fallah as the Third Officer

"Good equipment condition greatly affects the safety of embarkation and disembarkation. We ensure that all equipment used, such as ladders and embarkation bridges, are routinely checked and maintained to prevent accidents."

d. Yunnisa Fadila as ABK I

"Good equipment condition is very important. We ensure all equipment is in good condition so that the embarkation and disembarkation process can be carried out safely."

e. Nursuci Ramadani N as ABK II

"The condition of the equipment greatly affects safety. We always ensure that all equipment is in good condition before the embarkation and disembarkation process begins to avoid accidents."

5. What are the procedures for embarkation and disembarkation of passengers carried out on KM. Tidar?

a. Capt. Herman as the Captain of the KM. Tidar Ship

"The embarkation and disembarkation procedures on KM. Tidar are carried out by following strict SOPs. This includes identity checks, supervision of embarkation equipment, and ensuring coordination between the crew on duty on deck and on land."

b. Sugiharto as First Mate

"I provide information to passengers on the procedures to be followed and give them directions to facilitate the embarkation and disembarkation process. During the embarkation process, I ask passengers to show their travel tickets and identification documents when boarding the ship for verification and security. In addition, I check passengers' belongings strictly to ensure that there are no prohibited or dangerous items, and provide assistance to passengers who need it in carrying their belongings and heading to the designated area on the ship. After all passengers board the ship, safety procedures and other important information are conveyed to them before the ship departs. Next, during the disembarkation process, I provide assistance to passengers in collecting their belongings and guide them to the disembarkation area, after which I ensure that passengers leave the ship safely and do not carry prohibited items. After all passengers disembark, the ship area is checked again to ensure that no passengers are left behind and the ship is ready for the next process.

c. Nurul Fallah as the Third Officer

"The embarkation and disembarkation procedures on KM. Tidar are supervised by the First Officer with me assisting in ensuring that all equipment is ready for use and in good condition. We also monitor the flow of passengers to maintain order and safety."

d. Yunnisa Fadila as ABK I

"We assist in monitoring and regulating passenger entry and exit routes and ensure all security procedures are followed."

- e. Nursuci Ramadani N as ABK II
"The embarkation and disembarkation procedures on KM. Tidar are carried out under strict supervision. We always ensure that passengers follow the designated route and maintain order during the process. For pregnant passengers, we give priority and assistance such as wheelchairs if needed. Children are also a top priority, they must always be accompanied and we ensure they remain with their families. The elderly and passengers with disabilities also get priority, with friendlier routes and wheelchair assistance. If there are passengers with special medical conditions, we note them and are ready with medical assistance. There are always officers ready to help and provide information so that everything runs smoothly and safely."

6. The deck officer is responsible for carrying out the embarkation and disembarkation of passengers.

- a. Capt. Herman as the Captain of the KM. Tidar Ship
"The deck officers in charge are usually the Chief Officer and Second Officer. They ensure all procedures are carried out safely and efficiently."
- b. Sugiharto as First Mate
"As Mate 1, I am directly responsible together with Mate 3 in carrying out the embarkation and disembarkation of passengers. We ensure that everything runs according to procedure."
- c. Nurul Fallah as the Third Officer
"The 1st Mate has the primary responsibility, but I, as the 3rd Mate, support them by ensuring that all safety equipment is functioning properly and assisting in direct supervision during the embarkation and disembarkation process."
- d. Yunnisa Fadila as ABK I
"The 1st Mate is primarily responsible. However, he is assisted by the 3rd Mate in preparing the equipment used in the embarkation and disembarkation process for passengers, and we as ABK assist in carrying out this procedure."
- e. Nursuci Ramadani N as ABK II
"The First Officer and Third Officer are responsible for the implementation of passenger embarkation and disembarkation. We as crew support them by ensuring that all equipment needed for the embarkation and disembarkation process is ready to be used so that the process runs smoothly and safely."

7. Handling the embarkation and disembarkation process when the ship cannot dock for some reason.

- a. Capt. Herman as the Captain of the KM. Tidar Ship
"In situations where the ship cannot dock, we use small boats or tenders to transport passengers to land. Safety procedures are tightened and coordination with the port authorities is carried out to ensure that all passengers can board or disembark the ship safely."
- b. Sugiharto as First Mate
"In situations where the ship cannot dock, we use tenders or lifeboats to handle the embarkation and disembarkation of passengers. We also coordinate with the port authorities to ensure that passengers can board and disembark safely."
- c. Nurul Fallah as the Third Officer
"In situations where the ship cannot dock, I assist in the arrangement and operation of lifeboats or tenders. We coordinate with the First Officer and ensure that all passengers can board and disembark the ship safely and orderly."
- d. Yunnisa Fadila as ABK I

"We assist in arranging and operating small vessels or tenders to safely transport passengers ashore."

e. Nursuci Ramadani N as ABK II

"If the ship cannot dock, we use lifeboats to transport passengers. This process is carried out very carefully for the safety of all passengers by ensuring that passengers in the lifeboats use safety equipment such as Life-Jackets, and we coordinate closely with the port authorities to ensure everything runs smoothly and safely."

8. Inhibiting factors for the embarkation and disembarkation process that have been encountered in the field

a. Skipper

"The main factors that hinder the embarkation and disembarkation process are bad weather conditions and port congestion. Bad weather, such as strong winds and high waves, can make ship maneuvering very difficult and dangerous. This forces us to delay or slow down the process to ensure the safety of passengers and crew. Port congestion is also often an issue, because when the port is full of other ships, we have limited space to maneuver, and have to wait our turn to dock. This not only causes delays but also adds pressure on the crew to work faster in often less than ideal conditions."

b. 1st Officer

"One of the biggest obstacles in the embarkation and disembarkation process is bad weather and port congestion. Unfriendly weather, such as storms or heavy rain, greatly affects the stability and safety of ships when anchoring. In such conditions, we have to be very careful and often postpone operations to avoid the risk of accidents. In addition, port congestion is a challenge. When the port is full of ships waiting to dock or depart, we have to coordinate more intensively with the port authorities and other ships, which often results in delays and disruptions in the schedule."

c. Mualim 3

"Embarkation and disembarkation processes are often hampered by bad weather and port congestion. Bad weather, such as strong winds and heavy rain, can interfere with visibility and safety of operations, so we have to delay or slow down the process to ensure everything runs safely. Port congestion is also a big problem. When too many ships want to dock or depart at the same time, space becomes very limited and coordination with port authorities becomes more complex, which can cause significant delays."

d. crew 1

"In bad weather, such as storms or strong winds, embarkation and disembarkation become more difficult and dangerous. We have to be extra careful to ensure passengers are safe, which often takes longer. In addition, congestion at the port often hinders. When there are many ships wanting to dock or depart, we have to wait our turn, and this can be inconvenient for passengers due to delays."

e. crew 2

"Bad weather is always a big problem during embarkation and disembarkation. When the weather is not friendly, such as strong winds and high waves, we have to work more carefully and sometimes have to delay the process for safety. In addition, the congestion of the port also makes it difficult. If the port is full of other ships, we have to queue and wait for our turn, which can make the process longer and make passengers wait longer."

From the several descriptions, it shows that the maintenance and equipment of safety equipment on the ship greatly influences the process of embracing and disembarking passengers of KM. Tidar. The entire series of activities regarding maintenance and equipment

on the ship that are carried out will provide positive factors and a fairly high level of effectiveness and efficiency for the running of the embracing and disembarking process of passengers. The crew who are responsible for the maintenance and equipment of safety equipment and who are responsible for the process of embracing and disembarking passengers are required to follow the entire series of existing activities and are able to provide a positive influence, such as the Crew will gain knowledge and skills in carrying out maintenance of safety equipment on the ship that will be used during the process of embracing and disembarking passengers of KM. Tidar. In addition, the Officer as the ship's Crew who leads the ABK is required to give. encourage and motivate the Ship's Crew (ABK) to acquire knowledge, skills and better understanding regarding the application of equipment and maintenance of safety equipment related to and used during passenger embrasure and debrasure so as not to cause accidents and discomfort during the process of passengers getting on and off the ship.

9. Job Safety Analysis

Job Safety Analysis (JSA) is a method for identifying and controlling hazards in the workplace. JSA is used to identify hazards before a work accident occurs.

Analysis: Implementation of Embarkation and Disembarkation of Passengers on KM. Tidar

Location: KM. Tidar

Teams involved: Ship Officers, Crew and Port Authorities

Work Steps

1. Preparing ship ladders, embarkation bridges, and other safety equipment.
2. Perform equipment condition checks before use.
3. Directing passengers in the embarkation process (boarding the ship) in an orderly manner.
4. Supervise the passenger disembarkation process (debarcation) with safety procedures.
5. Store safety equipment back after the process is complete.

B. Bahaya yang Ditemukan			
Langkah kerja	Potensi bahaya	Pengendalian	Evaluasi dan monitoring
1. Menyiapkan tangga, jembatan, dan alat keselamatan	Tangga atau jembatan rusak (karat atau baut longgar) sehingga berpotensi menyebabkan kecelakaan - Risiko tergelincir atau terjatuh saat memasang alat keselamatan	Pemeriksaan menyeluruh terhadap alat sebelum pemasangan	Penanggung Jawab Keselamatan: Perwira kapal <input type="checkbox"/> Tindakan Darurat: <ul style="list-style-type: none"> • Segera aktifkan prosedur evakuasi penumpang jika terjadi kecelakaan. • Hubungi otoritas pelabuhan atau tim medis jika diperlukan. <input type="checkbox"/> Pelatihan: <ul style="list-style-type: none"> • Pelatihan rutin untuk ABK (kru) mengenai perawatan dan pemeriksaan alat keselamatan. • Simulasi situasi darurat, seperti evakuasi penumpang. <input type="checkbox"/> Revisi: <ul style="list-style-type: none"> • Dokumen JSA ini harus diperbarui jika ada perubahan prosedur kerja, peralatan, atau lingkungan kerja
2. Melakukan pemeriksaan kondisi alat	Alat keselamatan tidak memenuhi standar atau ditemukan kerusakan. - Kesalahan dalam pengoperasian alat komunikasi seperti radio atau pengeras suara	Pastikan tangga dan jembatan dalam kondisi layak pakai (tidak karat, tidak longgar)	
3. Mengarahkan penumpang dalam proses embarkasi	Penumpang tergelincir karena tangga atau jembatan licin - Kepadatan yang menyebabkan kekacauan atau cedera	Tempatkan kru di setiap titik kritis untuk membantu penumpang.	
4. Mengawasi proses debarkasi	Risiko penumpang kehilangan keseimbangan saat turun di tangga atau jembatan	Pastikan tidak ada desakan antar penumpang selama proses turun.	
5. Menyimpan kembali perlengkapan	Cedera karena salah menangani alat berat atau besar (misalnya tangga).	Tangga dan perlengkapan berat lainnya harus dilipat atau disimpan dengan hati-hati.	

Figure 1. Job Safety Analysis

10. Safety Pyramid KM. Tidar



Figure 2. Safety Pyramid

Safety Pyramid Implementation of Safety on KM. Tidar

1. Implementation of International Safety Management (ISM) on the KM. Tidar Ship
 - a. All ship crew, from the captain to the crew, follow procedures in accordance with ISM in maintaining safety equipment on board.
 - b. ISM enforcement ensures that safety equipment maintenance is carried out correctly and documented.
2. Crew Knowledge of Safety Equipment
 - a. All ship crew have received training regarding the types and functions of safety equipment.
 - b. Regular training is conducted to ensure a good understanding of the use of safety equipment.
3. Safety Equipment Maintenance

Ship crews are trained to maintain safety equipment, with clear procedures and guidelines, including regular checks to ensure equipment is in good working condition.
4. The Influence of Ship Maintenance and Equipment on Safety
 - a. Good maintenance and condition of safety equipment greatly affects the smoothness and safety of passenger embarkation and disembarkation processes.
 - b. Safe embarkation and disembarkation processes depend on the condition of equipment such as ladders and embarkation bridges.
5. Embarkation and Disembarkation Implementation Procedures
 - a. The implementation of embarkation and disembarkation is carried out according to SOP, with strict supervision from the ship's crew.
 - b. This process involves coordination between the ship's crew and port officials to ensure the safety and comfort of passengers.
6. Deck Officers and Their Responsibilities
 - a. Deck officers (First Mate and Third Mate) are fully responsible for carrying out embarkation and disembarkation procedures.
 - b. This officer ensures that every procedure is followed correctly and that the necessary equipment is ready for use.
7. Obstacles in the Embarkation and Disembarkation Process

The main obstacles faced are bad weather and port congestion, which often cause delays and require extra arrangements to ensure safety.

CONCLUSION

Based on the results of the study conducted on the KM. Tidar Ship, the conclusion that can be drawn is that the implementation of safety equipment maintenance and equipment

greatly affects the smoothness and safety of the passenger embarkation and disembarkation process. Good management of safety equipment maintenance, such as ladders, embarkation bridges, and communication devices, as well as the implementation of strict procedures based on the International Safety Management (ISM) Code standards, have been proven to increase the effectiveness and efficiency of this process. Bad weather and port congestion are the main obstacles faced during the implementation of embarkation and disembarkation, but with good coordination between the ship's crew and port authorities, these obstacles can be overcome to ensure passenger safety. Routine training for the crew on the types, functions, and maintenance of safety equipment is also an important element in maintaining high safety standards on board. Overall, the implementation of good safety equipment maintenance and effective management by ship officers and Crew (ABK) contribute significantly to the safety and comfort of passengers during the boarding and disembarkation process on the KM. Tidar.

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