

Analysis of the Implementation of the Port Guard Service to Improve the Security and Safety of the KM. AWU Ship

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Abstract

Port watchkeeping is an important activity in ensuring the security and safety of a vessel while it is berthed at the port, as it involves not only technical operational aspects of the ship but also supervision of passengers, luggage, and access to and from the vessel. This study aims to analyze the effectiveness of port watchkeeping implementation on KM. AWU and to identify efforts to improve safety and security while the vessel is in port. The research method used is a qualitative approach with data collection techniques through observation during sea practice, interviews, and documentation, which were then analyzed descriptively. The results show that the implementation of port watchkeeping on KM. AWU has generally been carried out quite effectively, particularly in technical safety aspects such as checking mooring lines and berthing conditions, monitoring vessel stability (draft, trim, and ballast), and inspecting berth lights and signals. However, preventive supervision of passengers and their belongings as well as recording activities in the watchkeeping log book still needs to be improved. In conclusion, the implementation of port watchkeeping has complied with procedural requirements but still requires improvement in preventive supervision aspects. Preventive measures that can be implemented include increasing patrol frequency during busy conditions, conducting active and scheduled CCTV monitoring, tightening supervision of access to and from the vessel, and ensuring that log book records are written in detail and comprehensively.

Keywords: *Port Watchkeeping, Ship Safety and Security, Surveillance, Prevention Efforts.*

I. INTRODUCTION

Maritime transportation plays a crucial role in Indonesia's economy as an archipelagic nation, with ports serving as hubs for loading and unloading goods and passengers. Passenger ships like the KM. AWU connect remote areas, supporting community mobility and inter-island trade (Haryanto & Santoso, 2022).

The safety and security of ships while docked at port depends on port watch officers, who monitor stability, moorings, and passenger access. These procedures not only protect ship assets but also prevent incidents that could potentially harm lives and the marine environment (Sari et al., 2023, Pratiwi & Nugroho, 2024).

KNKT investigation data from 2022 recorded four fires and explosions in the second semester, including the Sabuk Nusantara 91 incident at Masalembu Port due to inadequate passenger safety patrols. Human factors dominated 16 of the 31 accidents from 2019-2022, followed by technical issues (National Transportation Safety Committee, 2023; Utama & Wijaya, 2021).

On the KM. AWU, preventive surveillance of passengers, baggage, and ship access remains weak, although mooring and stability checks are relatively good. Logbook records are often incomplete, and patrols during busy times are less intensive, increasing the risk of theft or sabotage (Rahman et al., 2022; IMO, 2023).

Lack of scheduled CCTV monitoring and regular safety meetings reduces The effectiveness of watchkeeping, as evidenced by global port accident trends highlighting human factors, calls for an evaluation of STCW-based procedures for domestic passenger ships (Knudsen et al., 2024; Basuki, 2023).

This study aims to determine the effectiveness of the port watch service in maintaining the security and safety of the KM. Awu vessel, as well as to determine the efforts to improve security and safety on board the KM. Awu vessel. This study aims to analyze the effectiveness of the KM. AWU port watch service and formulate corrective measures such as increased patrols, active CCTV, and complete logbooks. The urgency

lies in the high number of accidents due to weak supervision in Indonesian ports, which threatens safety by 2026.

II. METHOD

Types and Methods of Research

This study uses a descriptive qualitative approach to analyze the implementation of port watch duties on the KM. AWU vessel to improve security and safety. This approach was chosen because it allows for an in-depth exploration of port surveillance phenomena through direct observation, interviews, and document analysis, as described in a qualitative methodological framework that emphasizes contextual understanding (Sugiyono, 2019; Creswell & Poth, 2021; Emzir, 2022). The descriptive method ensures that the collected data accurately reflects the reality on the ground, with a focus on the effectiveness of STCW procedures in the context of domestic passenger ships.

Data Analysis Instruments and Techniques

The research instruments included an observation guide, a semi-structured interview guide, and documentation sheets to record findings related to mooring supervision, on-deck patrols, and watchkeeping logbooks. Data analysis techniques followed the Miles and Huberman model, which consists of data reduction, data presentation, and conclusion drawing, with source triangulation for validity (Sudaryono, 2021; Creswell & Poth, 2021; Sugiyono, 2023). This process involved transcribing interviews, categorizing observational findings, and interpreting documents to identify deficiencies in preventive supervision.

Population and Sample

The population included the entire crew of the KM. AWU during a 12-month sea practice (PRALA) from 2024, with a purposive sample consisting of key informants related to watch duty. The sample selection used criterion sampling for depth of information, focusing on experienced individuals such as watch officers (Husein Umar in Widiyanto & Nasution, 2022). This approach ensured contextual representation without broad generalizations, in accordance with qualitative principles (Emzir, 2022).

Research Procedures

The procedure began with participant observation during sea practice at Tanjung Perak Port and the operational route of the KM. AWU, followed by in-depth interviews with key respondents and document collection. Data were analyzed iteratively with validation through member checking for reliability, following systematic steps from collection to interpretation (Sugiyono, 2023; Creswell & Poth, 2021; Emzir, 2022). The entire process complied with research ethics and required informed consent from participants.

III. RESULTS AND DISCUSSION

Data Presentation

Port watch is a duty performed while a ship is at anchor or berth, with two shifts of four hours each. This duty is carried out by the watch officer and crew on duty with care, vigilance, and alertness both at sea and in port. They are responsible for maintaining the security, safety, and security of the ship, its cargo, passengers, and the surrounding environment. The data that the researcher will present is the researcher's experience during sea practice, as well as the problems the researcher has encountered based on the results of the data analysis that has been obtained.

1. Interview Results

In this study, researchers conducted interviews with four informants who were purposively selected based on their positions and direct involvement in the implementation of port watch duties on the KM. AWU, namely the captain, the first mate, the fourth mate, and the helmsman. The selection of informants aimed to obtain comprehensive information from various levels of responsibility on board the ship, starting from those with decision-making authority, operational supervisors, to the crew members who directly carry out watch duties. By involving informants from these various positions, it is hoped that a more comprehensive picture of the implementation of port watch duties and the obstacles faced in maintaining the security and safety of ships while in port is obtained.

Based on interviews with the captain of the KM. AWU, the port watch was essentially carried out in accordance with established procedures. However, several shortcomings were still found in its implementation, particularly regarding crew compliance with established procedures. This was due to the low level of awareness among some crew members regarding the importance of diligently implementing procedures. However, compliance with watchkeeping procedures is not only crucial for maintaining the safety of the ship and the company's operations, but also plays a role in preventing work-related accidents that could harm the crew.

The First Mate, the officer responsible for overseeing the ship's operations, stated that the port watch had generally been running smoothly. However, several obstacles remained that impacted the effectiveness of the watch, including the crew's lack of understanding of the applicable regulations for carrying out watch duties and a lack of sense of responsibility for their assigned duties. This situation indicates that improved crew understanding and discipline are still needed to ensure optimal watchkeeping.

Meanwhile, the fourth officer stated that the implementation of port watch duties has not been fully optimal in supporting ship security and safety. This is due to the high workload of the crew, especially during the 24-hour port watch duties. This condition has the potential to cause fatigue among the crew, which can reduce their level of alertness and concentration while carrying out watch duties. Furthermore, a lack of discipline in following the watch schedule and crew members leaving the guard area for personal reasons can also affect the effectiveness of ship security oversight while in port.

From the field implementation perspective, the helmsman explained that the port watch department plays a crucial role in maintaining the security and safety of ships. Watch officers are responsible for monitoring various activities around the ship, including the entry and exit of people and goods, to prevent theft, smuggling, and unauthorized entry on board. Furthermore, the watch department also functions to ensure that port operations, such as loading and unloading and refueling, can proceed safely and orderly in accordance with applicable safety procedures. However, in its implementation, several obstacles remain, such as a lack of training for ship crews, unfavorable weather conditions, disruptions to communication systems, limited security equipment, and a lack of coordination with port authorities.

Overall, the results of interviews with the four informants indicate that the implementation of port watch duties on the KM. AWU has been carried out in accordance with existing procedures, but still requires improvement in several aspects, particularly related to crew discipline, understanding of watch procedures, workload management, and support facilities and operational coordination. Improvements in these aspects are expected to support the creation of a more effective port watch service in maintaining the security and safety of ships while in port.

2. Observation Results

The data presented in this study were obtained from direct observations during the researcher's sea practice onboard the KM AWU, particularly while the ship was in port. Based on observations, it was discovered that the officer on duty was conducting ship patrols as part of his port watch duties. The patrols involved inspecting the condition of the ship's deck and surrounding area to ensure the ship remained safe.

At the beginning of the watch change, the officer on duty was seen inspecting the deck area, including the condition of the gangway, mooring lines, and the general situation around the ship. This demonstrated that the officer on duty had fulfilled his duties to maintain the ship's security.

Based on observations made by researchers during port watch activities, several deficiencies remain to be addressed by the ship's crew. This is related to the crew's lack of awareness of the importance of implementing port watch duties while the ship is docked, resulting in several potentially dangerous incidents. Here are some examples of such incidents:

A. Incident 1

One incident researchers observed was the absence of a guard at the ship's gangway for a brief period. This incident occurred while the ship was at Ende Port, where the gangway, the main access point for entering and exiting the ship, was apparently unmanned. This situation persisted for approximately 10 minutes.

At the time, the port was bustling with activity around the ship, with dockworkers and other people having business in the dock area. However, because there were no officers on duty at the gangway, the flow of people on and off the ship could not be properly controlled.

*Gangway*The gangway is a crucial part that must be maintained while the ship is in port, as it provides the primary access to the ship. If unattended, unauthorized persons could potentially gain access to the ship, endangering the safety and security of the ship and its crew.

B. Incident 2

Based on observations conducted by researchers while the KM. AWU was in port, it was discovered that ship patrols were part of the port watch service carried out by the officers on duty. These patrols aimed to ensure the ship remained safe and that there were no disturbances that could jeopardize its safety and security.

During the observations, researchers observed that the officers on duty were indeed patrolling the ship's deck area, particularly at the beginning of the watch change. These patrols included inspecting the ship's surroundings, the situation in the gangway area, and the general condition of the deck.

However, based on further observations, patrols were not always conducted routinely during each watch period. On several occasions, the watch officer spent most of his time on the bridge or in the room without directly checking the deck area at specific intervals.

C. Genesis 3

Based on observations conducted by researchers while the KM. Awu was docked at the port, they found passengers boarding and sitting on the ship's railings in the open deck area. This incident occurred during embarkation and disembarkation, when the passenger count was quite high, and some were waiting their turn to disembark or observing port activities from the ship.



Fig. 1. Passengers climb up and sit on the railing

Source: Researcher documentation

The railing, which should have served as a safety measure to prevent the risk of falling overboard, was instead used by some passengers as a seat or a foothold to look out over the pier. This situation occurred without constant, direct supervision from the on-duty personnel at the time. Although crew members occasionally issued warnings, supervision was not consistent, resulting in repeated incidents.

Based on observations, these passengers' actions have the potential to pose safety risks, particularly if they are pushed around due to overcrowding, the ship's movement due to waves or tides, and the possibility of slipping. This situation indicates that deck supervision during berthing still needs to be improved as part of the port watch's effectiveness in maintaining security and safety on board.

D. Genesis 4

Based on observations conducted by researchers while the KM. Awu was docked at the port, a mobile phone belonging to a passenger was lost on the economy class deck. The incident occurred during a crowded ship, coinciding with the embarkation and disembarkation of passengers.

The passenger reported the loss after realizing his cell phone was no longer in its original storage location. According to information obtained, the economy deck was busy prior to the loss, and the officers on duty were focused on regulating passenger traffic.

As a follow-up, the ship's CCTV footage was reviewed to establish the chronology of events. The footage revealed a dense passenger traffic around the scene, making it difficult to clearly identify the

suspected perpetrator. The CCTV review was conducted by the officer on duty along with relevant officers as part of the ship's security procedures.



Figure 2. CCTV Check

Source: Researcher documentation

This incident demonstrates that even though CCTV surveillance systems are in place and functioning, the high passenger density during docking can potentially increase the risk of lost luggage. This situation indicates the need for increased direct supervision by on-duty personnel and strengthened security controls in passenger deck areas, particularly in economy class, which has higher mobility and density.

3. Documentation Results

Based on documentation obtained by researchers from observations, a safety meeting was held to discuss the implementation of watchkeeping on board the ship. This meeting was held to improve the crew's understanding and discipline in carrying out watchkeeping duties, ensuring that these activities can be carried out effectively and in accordance with the company's Standard Operating Procedures (SOPs).



Fig. 3. Safety Meeting

Source: Researcher Documentation

Safety meeting Monthly safety meetings on board ships play a crucial role in ensuring the safety and security of the vessel. These meetings serve as a reminder to the captain and all crew members regarding safe work procedures, port watch duties, and potential risks that may arise during ship operations. Safety meetings provide crew with a clearer understanding of the importance of discipline, vigilance, and teamwork to maintain the safety of the vessel.

From a security perspective, safety meetings help raise crew awareness in monitoring activities around the ship, including who enters or exits the ship and its belongings, thereby preventing security disturbances. As part of the safety aspect, discussions on the use of safety equipment, fire prevention, and emergency response procedures can help minimize the risk of workplace accidents. By holding regular safety meetings, it is hoped that the implementation of port guard duties will be more orderly and coordinated, and will be able to improve the overall level of security and safety of the ship.

Furthermore, documentation obtained during research on board the KM. Awu revealed that each port watch was accompanied by a logbook filled out by the officer on duty. The logbook recorded the start and end times of the watch, weather conditions, the ship's position at anchor, passenger embarkation and disembarkation activities, loading and unloading activities, and significant events that occurred during the watch period.

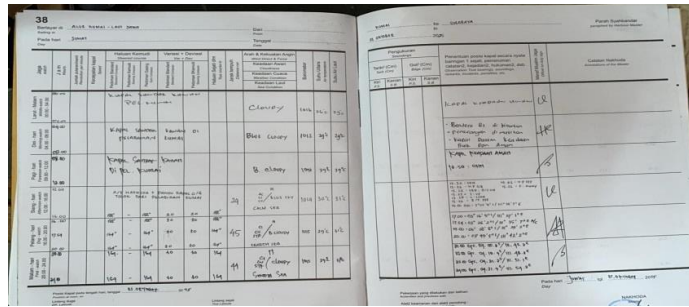


Figure 4. Log Book

Source: Researcher documentation

Based on the documentation review, the logbook was generally completed in accordance with established procedures, but some notes were brief and lacking in detail, particularly regarding incidental events and supervisory actions. This indicates that although the watch administration is in place, the completeness and accuracy of the recording still need to be improved to support the effectiveness of port watch duties and serve as evaluation material in case of future problems.

Data analysis

The data analysis in this study uses the Miles and Huberman interactive model, which consists of data reduction, data presentation, and conclusion drawing and verification. The application of this model aims to answer the problem formulation regarding the effectiveness of the implementation of port guard duties and efforts to improve the implementation of port guard duties in maintaining the security and safety of the KM. AWU vessel.

This data analysis is also linked to the provisions of the International Maritime Organization through STCW Section A-VIII/2 which stipulates that the officer on duty is obliged to maintain the security of the ship, supervise access to the ship, and carry out routine patrols while the ship is in port.

1. Data Reduction

Data was obtained through direct observation, interviews with watch officers and crew, and documentation. Based on the data collection results, various events and conditions related to the implementation of port guard duties were identified. However, not all of the data was directly relevant to the research problem formulation regarding the effectiveness of port guard duties. Therefore, the researchers selected and grouped the data into several main categories as follows:

A. Physical Supervision of Ships and Passenger Access for Boarding and Disembarking

Observations revealed that while the ship was docked, passengers climbed onto the railings in the passenger deck area. This action indicates a gap in the supervision of open areas, particularly during times of high passenger density.

Furthermore, gangway supervision was not optimal at certain times because officers were divided between managing passenger flow and coordinating with port authorities. This data was reduced to an indicator of weak preventive oversight during high-traffic situations.

The data is relevant to the STCW provisions regarding the duty of the officer on watch to conduct regular patrols and pay special attention to the condition of the ship's access (gangway) and the safety of people on board.

B. Passenger and Luggage Safety

Observations also noted the loss of a passenger's mobile phone on the economy passenger deck while the ship was docked. CCTV footage revealed that the area experienced high passenger traffic and lacked continuous direct supervision by the crew.

During the reduction process, this data was focused on as an indicator of the effectiveness of the ship's internal security oversight during the berthing period. The incident demonstrated that, despite the presence of a surveillance system (CCTV), active oversight by personnel was not fully optimal.

This data is directly related to the port watch officer's responsibility in ensuring the safety of all persons on board the ship as stipulated in the STCW competency standards.

C. Vessel Technical Condition Inspection

From the results of interviews and observations, it was discovered that the duty officer carried out checks on:

- a) Condition of the gangway and its fastening,
- b) Tros-tros pengepil,
- c) The position of the water in the gutters,
- d) Ship draft (under keel clearance)
- e) Ship lights and signals.

However, patrol frequency is not always carried out at the ideal intervals, particularly when loading, unloading, or embarkation activities are taking place simultaneously. This data demonstrates the gap between written procedures and actual practice in the field.

D. Filling in the Log Book

Documentation shows that the port watch logbook was routinely filled out. However, some entries were general in nature and did not detail the security situation or specific conditions that occurred during the watch.

In the reduction process, this data was selected as an indicator of the effectiveness of documentation as a control and evaluation tool for the implementation of guard duty.

2. Data Display

Implementation Port watch services were analyzed with reference to the Standards of Training, Certification, and Watchkeeping for Seafarers (STCW) established by the International Maritime Organization. The analysis focused on aspects of safety supervision, passenger security, ship technical control, and watch administration.

Table1. Analysis Matrix of the Effectiveness of Port Guard Service Implementation Based on STCW Standards on KM. AWU

No	STCW Provisions (Normative)	Implementation Indicators	Current Conditions on KM. AWU	Level of Compliance
1	The officer on duty is obliged to ensure the safety of all people on board the ship while it is docked	Regular patrols and surveillance of open areas	Patrols were conducted by the officer on duty and crew while the ship was docked. However, during embarkation, with a high passenger load, supervision was not focused, resulting in passengers still being found sitting on the railing without immediate warning.	Quite appropriate
2	Gangways and vessel access must be secured at all times.	Gangway guarding and access control	Gangway security is handled by one officer who also performs other duties. Ticket checks are conducted visually without detailed identification records. During peak hours, supervision is less effective due to the increased flow of passengers entering and leaving.	Quite appropriate
3	The guard officer is responsible for the security of people and property.	Passenger surveillance CCTV use	CCTV cameras are installed at several strategic locations, but they aren't continuously monitored. A passenger's mobile phone was lost on the economy deck while the ship was docked. Follow-up action was taken after the report was received.	Less than optimal
4	Checking the condition of moorings, troughs and tidal changes	Monitoring of ship's tros and position	Tros inspections were conducted at the initial berthing stage and when significant tide changes occurred. Tros tension was adjusted if slack or excessive tension was observed. No mooring incidents were observed during the study period.	In accordance
5	Ensure the stability of the ship (draft, trim, ballast) in a safe condition	Monitoring under keel clearance and trim	The officer of the watch monitored draft and trim based on loading data and coordination with the engine room. There was no significant change in stability during the berthing.	In accordance

No	STCW Provisions (Normative)	Implementation Indicators	Current Conditions on KM. AWU	Level of Compliance
6	Regular inspection of sewer water and tanks	Checking the condition of the basement	Inspections of the lower chamber and bilge are carried out at certain times according to the watch schedule, but do not yet use systematically documented time intervals.	Quite appropriate
7	Lights and signals must be installed and functioning.	Backlight inspection	The mooring and deck lights were checked before nightfall and at the change of watch. No malfunctions were found during the inspection.	In accordance
8	All important events are recorded in a log book	Filling in the log book at each change of guard	The logbook is filled out at each shift change. However, patrols and minor incidents (such as passengers sitting on the railing) are not always recorded in detail.	Quite appropriate

Source: Researcher Documentation

Based on the table above, it can be seen that the implementation of port guard duties on the KM AWU has been standardized in accordance with STCW regulations. The supervisory structure, division of duties, and technical inspection procedures have been implemented according to standards.

However, the level of conformity is not yet fully optimal in the supervision aspect. preventive and passenger safety. Several indicators suggest that implementation remains administratively routine and not fully based on risk management. This is evident in:

- A. Patrol intensity does not always increase when passenger density is high.
- B. CCTV surveillance has not been carried out actively and continuously.
- C. Log book documentation that does not reflect situational analysis.

Meanwhile, in terms of technical aspects of the ship such as stability, condition of the TROS, as well as lights and signals on, the level of conformity is classified as good and no significant deviations were found.

3. Conclusion Drawing

The results of the analysis, which has gone through the data reduction and presentation stages, are then formulated in the form of conclusions. To facilitate understanding and provide a systematic overview of the research results for each aspect examined, these conclusions are summarized in the following table.

Table 2. Evaluation of the Implementation of the Port Guard Service Based on Security and Safety Aspects on the KM. AWU

No	Aspects Analyzed	Description of Findings	Efforts to Improve Security and Safety
1	General patrol and surveillance	Patrols are conducted by the officer on duty and crew every 1–2 hours while the ship is docked. However, during embarkation and disembarkation, when there are heavy passenger numbers, patrol intensity is not increased, resulting in suboptimal oversight, particularly in the open areas of the passenger deck.	Establish additional patrol schedules during critical hours (embarkation/debarkation), divide surveillance sectors per deck area, and record patrol times and results in a detailed log book.
2	Gangway and exit security	Gangways are guarded by one officer, but during busy times, officers often overlap with other duties. Passengers are still found entering restricted areas without strict supervision.	Deploy a minimum of 2 personnel during high passenger flow, implement a stricter access control system, and conduct a briefing before docking regarding the division of supervisory duties.
3	Safety of passengers and luggage	There have been reports of missing items (cell phones) in the economy deck area while the ship is docked. CCTV is available but not continuously monitored, so responses to potential theft are reactive.	Optimizing CCTV monitoring, increasing the frequency of patrols in vulnerable areas, and posting security notices to passengers to look after their belongings.
4	Inspection of the pier and moorings	Checks were conducted on the condition of the pier when initially mooring and when tidal changes occurred. Adjustments were made to the pier tension if any slack or tension was	Maintaining inspection consistency, adding inspection time recording in the log book, and improving coordination with ground personnel when weather conditions change.

No	Aspects Analyzed	Description of Findings	Efforts to Improve Security and Safety
		observed. No incidents of unmooring were observed.	
5	Ship stability monitoring (draft, trim, ballast)	The officer of the watch monitored draft and trim based on load conditions and in coordination with the engine room. No stability issues were found during the inspection.	Conduct regular monitoring of load changes, ensure effective communication with the engine room, and record significant changes in draft or ballast.
6	Inspection of sewer water and tanks	Inspections of the lower compartment and bilge are carried out at certain times according to the watch schedule, but do not fully consider certain operational conditions such as changes in weather, loading and unloading activities, or indications of abnormal conditions on the ship.	Establish more systematic inspection intervals and carry out additional checks in extreme weather conditions or after loading and unloading activities.
7	Docking lights and signals	All mooring and deck lights were in good condition and checked before nightfall. No malfunctions were observed during the vessel's berth.	Conduct preventive checks before docking and during watch changes, and prepare backup lights in case of sudden disruptions.
8	Filling out the guard duty log book	Recording is done at each shift change, but is mostly administrative in nature and does not include details of minor incidents such as warnings to passengers or the results of patrols.	Improve record keeping accuracy by including patrol times, special incidents, and actions taken during guard duty to strengthen documentation.

Source: Researcher Documentation

Based on the summary of the conclusions drawn, it can be seen that the implementation of port watch duties on board the KM AWU has generally been carried out well and in accordance with applicable procedures. Several aspects, such as inspections of the anchorage and moorings, monitoring of ship stability, and monitoring of berthing lights and signals, demonstrated a high level of effectiveness because they were implemented consistently and in accordance with operational standards.

However, there is still room for improvement in several other aspects, such as patrols and general supervision, securing ship entry and exit, inspecting gutters and tanks, and completing the guard duty logbook. Furthermore, passenger and baggage security requires further attention to minimize the potential for loss or security breaches.

Efforts to improve security and safety that can be carried out include: improvement These include increased patrol intensity during critical hours, optimized use of surveillance systems, tightened access for ships to enter and exit, and increased accuracy in guard logbooks. These efforts are expected to support the creation of safe and controlled conditions for ships while in port.

Thus, based on the overall results of the analysis, it can be concluded that implementation The port watch service on the KM AWU is considered quite effective in maintaining ship security and safety, but several aspects still need improvement to achieve optimal effectiveness.

IV. DISCUSSION

The effectiveness of the implementation of port guard duties in maintaining security and safety on board ships

The effectiveness of the implementation of port watch duties in maintaining security and safety on board the KM. Awu can be analyzed through the implementation of watch duties. during The ship is moored. The port watch department plays a crucial role in ensuring the ship remains safe, stable, and free from potential security threats and safety risks.

Based on observations and interviews conducted during the sea practice, port watch duties were carried out in accordance with established procedures. Watch officers routinely conducted patrols, inspected the condition of the docks and moorings, monitored vessel stability, and ensured the proper functioning of the berthing lights and signals. From a technical operational perspective, these activities demonstrated that the vessel monitoring system during berthing was operating in a structured manner.

Regarding ship stability monitoring, including draft, trim, and ballast conditions, no deviations that could potentially compromise ship safety were detected. Regular inspections of the anchorage and moorings

are also conducted to ensure the vessel remains secure against changes in currents and tides. This demonstrates that, from a technical safety perspective, the port watch operation can be categorized as effective.

However, several conditions requiring attention were identified regarding passenger and baggage monitoring. Patrol intensity at certain times has not been fully increased, particularly during embarkation and disembarkation of large numbers of passengers. Furthermore, records in the guard duty logbook are still administrative in nature and do not fully reflect a situational analysis of potential risks.

Based on these findings, it can be concluded that the effectiveness of the port guard service on the KM AWU is considered quite effective. This means that the duties were carried out according to procedures and were able to maintain the overall stability and safety of the vessel. However, improvements in preventive supervision are still needed to minimize potential security disturbances.

Efforts to improve security and safety on board the KM. Awu

Efforts to improve security and safety on board the KM. Awu ship are strategic improvements to improve the implementation of the existing port guard service. These improvements are not only oriented towards compliance with procedures but also towards strengthening the monitoring system to be responsive to potential risks.

Based on the analysis, several measures can be implemented. First, increase the intensity of patrols during critical times, particularly during passenger embarkation and disembarkation. More active and situationally scheduled patrols will strengthen the preventive surveillance function.

Second, optimize supervision of ship entry and exit through tighter gangway security. Access supervision is a crucial element of a ship's security system, so it needs to be supported by adequate personnel deployment according to operational conditions.

Third, increase the active and integrated use of electronic surveillance systems such as CCTV. Continuously monitored surveillance systems will accelerate early detection of potential security breaches.

Fourth, improve the quality of records in the guard duty logbook. Recording that is not only descriptive but also analytical will assist in periodic evaluations and the development of anticipatory measures in the event of an emergency.

Fifth, a briefing is held before the start of watch duty to ensure good coordination between officers and an understanding of the ship's actual condition while docked. Effective coordination is a crucial part of a ship's safety management system.

Overall, these efforts demonstrate that improving security and safety depends not only on the existence of procedures, but also on the consistency of implementation, personnel awareness, and the system's ability to prevent risks early.

Thus, by strengthening preventive oversight aspects, optimizing the security system, and improving the quality of watch management, it is hoped that the implementation of port watch on the KM AWU can achieve a more optimal level of effectiveness in maintaining the security and safety of ships while in port.

V. CONCLUSION

Based on the results of the research that has been conducted, it can be concluded that the implementation of port watch duty on KM. AWU has generally been carried out in accordance with applicable procedures and provisions. From a technical safety aspect, activities such as inspection of tugs and mooring lines, supervision of ship stability (draft, trim, and ballast), and checking of lights and berthing signals have been carried out consistently so as to maintain the ship's safe condition while in port. However, there are still several aspects that need to be improved, especially in the preventive supervision of passengers and luggage, especially during the embarkation and disembarkation processes in large numbers. In addition, recording in the watch duty logbook also still needs to be improved to be more detailed and systematic. Overall, the effectiveness of the implementation of port watch duty on KM. AWU can be categorized as quite effective because it has been able to maintain ship safety, although it still requires improvement in the supervision aspect.

Improving security and safety on board the KM. AWU can be achieved through several efforts, including increasing patrol intensity during critical times, tightening supervision of ship entry and exit, and optimizing the use of surveillance systems such as CCTV. Improving the quality of recording in the watch duty logbook is also necessary as part of more accurate and systematic operational documentation. In addition, conducting briefings before watch duty begins and improving coordination between officers are important steps in strengthening the surveillance system while the ship is in port. With consistent implementation of these steps, it is hoped that the implementation of port watch duty will not only fulfill procedural requirements but also be able to improve the surveillance system to be more effective, responsive, and preventative in maintaining ship security and safety.

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