



## Evaluation Of Life Safety Equipment At Kmp. Powder On A Cross Hunimua-Waipirit In Central Maluku District Maluku Province

Surnata<sup>1</sup>, Sri Kelana<sup>2</sup>, dan Jeri Family Lubis<sup>3</sup>

### Abstract

*The Hunimua-Waipirit crossing route connects Ambon Island with West Seram Island in the travel time of 1.5 hours and on this route there is a KMP. Terubuk with the life safety equipment that is not in accordance with the rules regarding conditions and numbers. Inadequate equipment in the form of lifeboats, lifejackets, lifebuoys, and need the maintenance on the liferaft.*

*The collection of inventory data for life safety equipment is carried out by observing at the KMP Terubuk, in order to obtain clear information regarding the condition and number of life safety equipment that do not comply with existing regulations.*

*The results of the survey at KMP. Terubuk show that life safety equipment such as life jackets, lifebuoys, lifeboats had damaged and insufficient numbers and liferafts need to be checked and maintained. Owners need to increase the number of life jackets, lifebuoys, lifeboats and the captains need to check and maintenance schedule for life safety equipment. Because if the condition and number of life safety equipment are in accordance with the rules, if an accident occurs it can reduce the risk of the number of fatalities.*

*Keywords: condition and number of life safety equipment, lifeboats, life jackets, Liferaft, KMP. Terubuk*

### 1. PRELIMINARY

Transportation can be interpreted as an activity of physically moving goods or passengers from one place to another, with transportation distribution of goods and products can be distributed evenly throughout the region, which in turn will increase regional income and open isolated areas and increase income. for the local area and country in general.

In the implementation of transportation, comfort, security and safety are highly favored as a form of providing good services. Safety is intended not only for service users, but also for ships and their crews. In practice, the Ambon branch of PT ASDP Indonesi Ferry (Persero) ship operators paid little attention to ship safety equipment which could result in ship accidents. According to Hanok Mandaku (2012), the causes of ship accidents include human factors, technical factors, and organizational factors where:

- a. Human factors are the biggest factors which include:
  - 1) carelessness in running the ship,
  - 2) The inability of the crew to master various problems that may arise in ship operations
  - 3) Loading of ships which exceeds the capacity of the vessels.
- b. Technical factors are usually related to lack of maintenance when the ship is in operation resulting in damage to the ship or ship parts that cause the ship to experience an effect



such as a leak in a disclosure.

- c. Organizational failure is usually related to mistakes that the organization makes as the initial defense of the defense system, not directly related to the occurrence of ship accidents but is a trigger that leads to other failures leading to ship accidents.

Sailing safety is a condition in a safe condition. In order to achieve this, supervision of the ship operator can be carried out, while shipping safety is defined as a condition where safety and security requirements are met while conducting a voyage.

Maluku Province has many crossing routes, one of which is the Hunimua-Waipirit crossing which has 3 ships managed by PT. ASDP Indonesia Ferry (Persero) Ambon Branch as for the name of the ship operating on the Hunimua-Waipirit crossing, namely KMP Terubuk, KMP. Inelika, KMP. Rokkatenda. The role of ferry ships in Maluku is still predominantly focused on strengthening accessibility and opening up isolated areas. This is because the geographical condition of Maluku itself is an archipelago separated by the sea and the South.

This crossing route has high passenger productivity, this is because the Hunimua crossing port is a means of connecting Ambon Island to West Seram Island. The transportation used for this research is the Ro-Ro type of transportation mode. At the Hunimua-Waipirit crossing there is 1 (one) type of Ro-Ro type, namely KMP. Terubuk.

Based on the results of a field survey, the KMP life safety equipment including Lifeboat, Lifejacket, Liferaft, Lifebuoy is still incomplete in terms of the number and condition of the equipment that is not good. Meanwhile, the mental safety equipment is very important to support transportation safety.

## 2. METHOD

Primary data is data obtained by conducting research and direct observation at the research location. The method used in primary data collection is in the form of observations made by the author to obtain data on life safety equipment in KMP. Terubuk is the number, condition and placement of the life safety equipment. The types of soul equipment in question include lifejacket, lifeboat, lifebuoy, liferaft. Regarding the condition of the life safety equipment, it is documented in the form of photos, while the number of equipment is recorded manually using a survey form.

Secondary data is data obtained indirectly, but already exists in every related agency. The secondary data referred to in this research is in the form of ship particular data, the organizational structure of PT ASDP Indonesia Ferry (Persero) Ambon Branch. The data was obtained by the writer by requesting a hard file from PT. ASDP Indonesia Ferry (Persero) Ambon Branch. Apart from the above method, the author uses the literature method, namely data collection and information based on reference books and existing regulations related to the research conducted. From this method, we get the laws regarding safety equipment on board by searching for references via the internet.

## RESULTS AND DISCUSSION

The safety aspects that will be written in the analysis related to mental safety equipment include 4 (four) safety equipment, namely:

### a. Analysis of the existing lifeboat (lifeboat) and rescue raft (liferaft)

Referring to the Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12 Chapter IV in Article 80 that ships with a GT of 300 to less than 500 must meet the following provisions:



1) Complete with 1 rescue boat.

**B. Complete with an Inflatable LifeRaft category C with a capacity of not less than 125% of the total number of sailors.**

Table 1 Conditions of Lifeboats and Liferrafts at KMP

Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12	KMP. Terubuk	Information
a. Must be completed with 1 savior bag.	Has been equipped with 1 savior savior which has: <ul style="list-style-type: none"> <li>a. Length 4 M</li> <li>b. Width 1.5</li> <li>c. Capacity 6 people</li> <li>d. Dewi - dewi 1 unit with sling needs to be replaced</li> </ul>	In terms of the number of lifeboats KMP.terubuk has met the applicable regulations but the conditions of the existing lifeboats the state is leaking
b. Equipped with a category C Inflatable Life Raft that meets the requirements of the Indonesian Flag Non-Convention Vessels Standard Chapter IV Section 6 clause 6.3.1 with a capacity of not less than 125% of the total number of sailors	<ul style="list-style-type: none"> <li>a. Bloating Relief Raft at KMP. Terubuk totaling 13 units with a capacity of 25 people / unit.</li> <li>b. Liferaft equipped with hydrostatic discharge device</li> <li>c. Rescue rafts were placed on both sides of the ship</li> </ul>	Has met the applicable regulations

From the survey results above, it can be seen that the teakoci and Liferrafts in KMP. It has fulfilled the requirements of Director General of Sea Transportation Regulation No: UM.008 / 9/20 / DJPL - 12 Chapter IV article 80.



Figure 1. Lifeboat Condition



Figure 2. Condition of the Liferaft

### c. Analysis of Existing Helper Buoy (Lifebuoy)

Referring to the Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12 Chapter IV in Article 80 that a ship measuring 15 meters or more but less than 45 meters must meet the following provisions:

- a. Must be equipped with 6 life buoys, with 50% of the number of life buoys equipped with self-lit lights and the other 2 units equipped with a floating rope.
- b. Helper buoys that meet the requirements of the Indonesian Flag Non-Convention Vessels Standard Chapter IV Section 9 clause 9.1.

Table 2. Condition of Rescue Buoy at KMP.Terubuk

Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12	KMP. TERUBUK	information
a. Must be equipped with 6 life buoy units with 4 of the total life buoys equipped with self-lit lights and 2 units equipped with a floating rope.	It has been equipped with 10 auxiliary buoys but not equipped with floating ropes and lights.	Do not comply with applicable regulations
b. Rescuers that meet the requirements of the Indonesian Flag Non-Convention Vessels Standard Chapter IV Section 9.1	The conditions of the helper buoys at KMP. Terubuk are: <ul style="list-style-type: none"> <li>a. Color no striking</li> <li>b. Ropes already rotten</li> <li>c. Not given a reflective material</li> <li>d. The letter of writing the name of the ship and the port of registration is not clearly written</li> </ul>	Do not comply with applicable regulations



Based on the Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12 Chapter IV in Article 80 that the lifebuoy at KMP.Terubuk does not comply with the applicable regulations both in terms of quantity and conditions.



Figure 3. Lifebuoy condition

#### d. Analysis of Existing Helper (Lifejacket)

Referring to the Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12 CHAPTER IV In Article 80 that for all sizes of ships, it is necessary to meet the following provisions:

- 1) The category A auxiliary suit that meets the requirements of Chapter IV Section 10 of the Standard for Non-Convention Vessels with Indonesian Flags equipped with lights, whistles and light-reflecting ribbons.
- 2) 100 percent of the total number of sailors for adults plus 5 percent of reserves.
- 3) A minimum of 10 percent of the number of passengers, for children.

Table 3 Condition of Helper at KMP.Terubuk

Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12	KMP. TERUBUK	Information
a. 100% of the total number of servants for adults plus 5% reserves	221 pieces of adult helper clothing	Based on the applicable rules, the minimum number of auxiliary clothes at KMP. The number of auxiliary clothes in KMP is 242 units for adults, so the number of auxiliary clothes in KMP.
a. Minimum 10% of the number of passengers, for children	56 pieces of children's helper clothes	The number of children's helper clothes at KMP.Terubuk has met the applicable regulations



Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12	KMP. TERUBUK	Information
b. Helmet category A that meets the requirements of the Indonesian Flag Non-Convention Ship Standard Chapter IV Section 10 equipped with lights, whistles and light-reflecting ribbons	Helper clothes at KMP.Terumbuk a. Not equipped with lights b. Not marked on the clothes of the helper c. Equipped with a whistle. d. Adult lifejacket is not equipped with reflective tape e. Kids Lifejacket comes with reflective tape	The condition of the auxiliary clothes at KMP.Terubuk did not meet the applicable regulations

Source: Author's analysis, 2020

From the results of the data analysis above, the number of adult Life jacket still does not meet related to the number and the child Lifejacket has met the requirements related to the number and both lifejackets still have not met the requirements related to the conditions regulated by the Regulation of the Director General of Sea Transportation No: UM.008 / 9/20 / DJPL - 12 Chapter IV in Article 80.



Figure 4. Lifejacket condition

### 3. CONCLUSION

Based on the results of the analysis of the conditions and the number of life safety equipment obtained from the author of this final project, which discusses the problem of evaluating the life safety equipment at KMP.Terumbuk

#### a. Lifeboat

The number of KMP lifeboats. Already in accordance with the applicable rules, but related to the condition of the lifeboat, it was not in accordance with the applicable regulations.

#### b. Lifejacket

1) Fittings for a life jacket at KMP. Terubuk is lacking in numbers.



2) Condition of life jacket in KMP. Terubuk is poorly maintained.

c. Lifebuoy

The condition of the helper buoy at KMP. Terubuk is not in accordance with the applicable regulations because Lifebuoy is not equipped with a floating rope, striking colors are the name of the ship and the port of registration.

d. Liferaft

Condition and number of liferaft equipment at KMP. Already in accordance with the rules and the auxiliary tool of the liferaft in the form of a hydrostatic release device, it is according to the rules.

#### 4. BIBLIOGRAPHY

- 1) 2008. Law Number 17 concerning Shipping.
  - 2) 2010. Government Regulation Number 20 Concerning Transportation in Waters.
  - 3) 2012. Technical Guidelines for Implementation of Indonesian Flagged Non-Convention Vessel (Standard Indonesian Flagged). Director General of Sea Transportation.
  - 4) 2009. Book of Non-Convention Vessel Standard Indonesian Flagged Chapter IV regarding safety equipment. Ministry of Transportation.
  - 5) Abubakar, Iskandar et al. 2010. Crossing Transportation, Jakarta: Director General of Land Transportation. Mandaku, Hanok. 2012.
  - 6) An Analysis of the Causes of KM Accidents. Putri Ayu, Maluku, Arika, 06 (2).
  - 7) Miro, Fidel. 2010. Transportation Planning, Jakarta: Erlangga.
  - 8) Rahju, Mohamad. 2019. Requirements analysis for Inflatable Liferaft on Pearl Alas III Motor Boat (Final Project). Surabaya: State Shipping Polytechnic of Surabaya.
  - 9) Santara, Adi Guna. 2014. Work safety equipment on slerek boats at PPN Pengambengan, Jembara Regency, Bali, 01 (1).
  - 10) Triadmodjo, Bambang. 2010. Port Planning, Yogyakarta: Gadjah Mada University.
- Wati, Kunco. 2016. The Effect of Lifeboat Maintenance and Lifeboat Lowering Training on Emergency Handling of Abandoning Ship (Abadone ship), 06 (2).