

## **The Effectiveness of the Implementation of the Garbage Management Plan on the UT Intrepid Ship**

Rosnani

*Makassar Maritime Science Polytechnic*  
E-mail: pipmks@pipmakassar.com

---

**ABSTRACT:** The increase in the number of ships operating at sea has an impact on the increase in the amount of waste generated from these ships. This can cause pollution of the marine environment if the garbage on board is not managed properly. This study aims to provide an overview of the handling of waste on the UT Intrepid ship to avoid pollution in the marine environment which has an impact on biota, natural resources, and the comfort of the marine ecosystem. This research is a descriptive type of research that is used to describe in detail the implementation of the garbage management plan on the UT Intrepid ship. The results of this study indicate that there are crew members who do not understand the procedures for handling waste onboard. This is due to a lack of understanding and awareness of the ship's crew regarding waste handling procedures in accordance with applicable regulations.

**KEYWORDS:** Effectiveness, Application, Garbage Management Plan, Pollution

---

Date of Submission: 06-03-2021

Date of Acceptance: 19-03-2021

---

### **I. INTRODUCTION**

Marine pollution is the entry or entry of living things, substances, energy, and or other components into the sea by human activities or natural processes so that their quality drops to a certain level causing the marine environment to no longer to conform to quality standards/or functions, i.e. (1) Pollution in the sea can have a negative impact on ecosystems, marine biota habitats, and a decrease in the quality of the coastal environment, and (2) Marine pollution can be caused by waste originating from land or from activities in the oceans.

Ships are a contributor to waste in the sea, both hazardous and toxic waste (B3) as well as organic waste that is easily biodegradable (Setrawan BR, Sitepu, 2018). Pollution originating from ships is generally routine disposal of waste carried out by ships in the form of oil waste, tanker cleaning, vessel leaks while sailing, ship accidents causing fuel spillage, (3) In addition, waste in the form of water that is deliberately put into the ship's hold for the balance of the ship is dumped into the sea, and (4) as well as garbage in the form of food waste.

The shipping company needs to pay serious attention to the implementation of garbage management plans on board, because there is often indiscriminate dumping of garbage like what happened on the UT Intrepid Ship on May 30, 2018, located at Lumut Port Perak. During the operation, one of the ship's crew dumped trash and used oil in the sea. This action is of course not in accordance with the rules that have been set.

There have been many regulations issued related to waste handling such as SOLAS Chapter IX concerning ship safety and prevention of pollution to the maritime environment. UU no. 32 of 2009 concerning environmental protection and management, MARPOL 73/78 Annex V, Revised MARPOL Annex V of 2011 concerning Prevention of Pollution from Waste. The essence of the whole regulation is to regulate waste disposal practices. The requirements for waste disposal according to Annex V of MARPOL 73/78 (1974) are as follows:

- a. At a distance of 3 miles from the nearest land, food scraps can be disposed of when they have been crushed and can pass through a 26 mm sieve.
- b. At a distance of 12 miles from the nearest land, food scraps can be disposed of at a distance of 500m from the platform, provided they have been destroyed
- c. At a distance of more than 12 miles from the nearest land, paper, cloth, metal, bottles, and food scraps can be discarded.
- d. At a distance of more than 25 miles from the nearest mainland, can dump *dunnage*, rope material, and floating packing.

Based on the requirements set out in MARPOL 73/78 Annex V that ships with a size of 400 tonnes or more carrying 15 or more passengers must carry out a Garbage Management Plan. The Garbage Management Plan describes how to collect and separate the trash on a ship, and a cleaning officer is appointed to implement the plan and maintain and maintain a garbage record book. The garbage record book contains records of each

implementation of disposal/incineration, which is signed by the master of the ship. Garbage record books must be maintained for a minimum of 2 years from the time the last record was created.

In order for the management of waste on board to be more effective so that it does not pollute the marine environment, it requires knowledge and responsibility from all parties involved in the shipping business, especially crew members who are directly involved in waste management practices on board.

## II. THE METHODS

This research is a descriptive type of research, intends to describe in detail the effectiveness of implementing the garbage management plan on the UT Intrepid ship by using the survey method as a means of collecting basic data. Questionnaires were distributed to the entire population implementing the garbage management plan on the UT Intrepid ship. In addition to questionnaires, data collection through interviews, observation, and literature review was used to support the data in this study.

## III. DISCUSSION

### Waste Management on the UT Intrepid Ship

Based on observations on the UT Intrepid ship, waste management is not in accordance with the procedures stipulated in MARPOL 73/78 Annex V. Here are some examples of waste disposal practices at UT. Intrepid that doesn't comply with the rules:

- a. Processed food waste that is produced from the kitchen or leftover food is directly dumped into the sea.
- b. When the crew performs daily work on the deck or in the engine room, garbage from the results of maintenance on the deck or in machines such as rags, deck sweeps, paint residue, paint debris, rust, and engine debris are immediately dumped into the sea.
- c. When the ship is docked at the port or at anchor anchors, usually beverage bottles, coating materials, or packaging materials that can float just thrown into the sea.

The case example above shows that waste handling on UT Intrepid ships does not run according to the regulations stipulated by MARPOL 73/78 Annex V. This has a big potential to cause pollution of the marine environment.

### Understanding of Ship Crew members of the Rules for Disposing of Garbage on the Ship

In order for more effective waste handling onboard and not causing pollution in the marine environment, crew members need to understand how to handle waste based on MARPOL 73/78 Annex V. To see the level of understanding of crew members on UT Intrepid ships regarding waste disposal procedures can be seen in Table 1. Table 1 is the result of the respondents' questionnaire regarding the understanding of waste disposal procedures onboard, where each question is correct with a score of 10, with a total of 10 questions.

**Table 1.** Respondents' Responses Regarding Understanding of the Procedure for Disposing of Garbage onboard

No.	Subject	Value	Total Score	Percentage	Category
1	Master	8,5	85	85%	Very understand
2	Mualim I	8	80	80%	Very understand
3	Mualim Ii	8	80	80%	Very understand
4	Cadet Dek I	7	70	70%	Understand
5	Kkm	8	80	80%	Very understand
6	Masinis Ii	7	70	70%	Understand
7	Masinis Iii	7	70	70%	Understand
8	Cadet	6	60	60%	Understand
9	Mesin I	7	70	70%	Understand
10	Koki	4	40	40%	Not really understand
11	Pelayan	5	50	50%	Enough Understand
12	Bosun	4	40	40%	Not really understand
13	Juru Mudi	4	40	40%	Not really understand
14	Electricien Oiler	4	40	40%	Not really understand

**Source:** Results of data processing, 2018

Table 1 above shows the results of respondents' responses regarding the understanding of waste disposal procedures on board, with the following results:

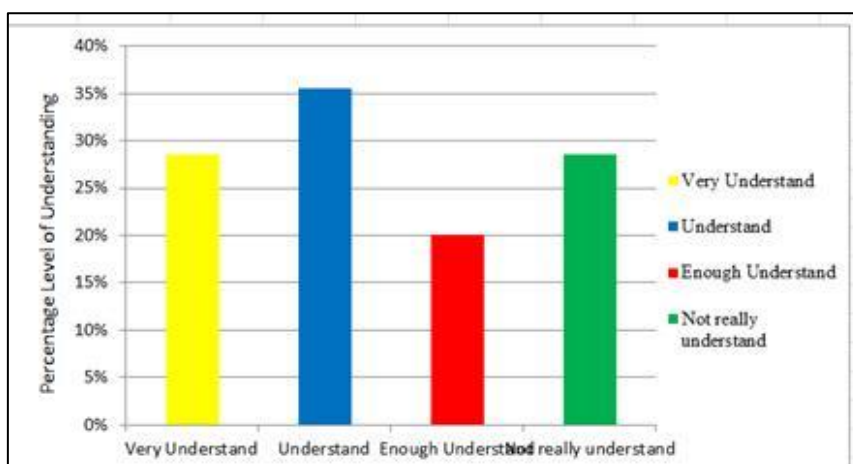
- a. 4 respondents answered 8 to 10 questions correctly, which were categorized as very understanding.
- b. 5 respondents who answered 6 to 7 questions correctly which were categorized in the understanding

category.

c. 1 respondent who answered 5 questions correctly was categorized as quite understanding.

d. 4 respondents who answered 3 to 4 questions correctly and were in the category of lack of understanding

Based on table 1, the percentage level of the crew's understanding of the waste disposal procedures on the ship is obtained, which is shown in Figure 1.



**Figure 1.** Level of Understanding of Ship Crew members of the Waste Disposal Procedure on the UT Intrepid Ship

**Source:** Results of data processing, 2018

Figure 1 shows the understanding of the crew on waste handling as much as 35% and is the highest number, there are 28% who do not understand and quite understand as much as 7%. This shows that the crew's understanding of the waste handling procedure on the UT Intrepid ship still needs to be improved.

In an effort to prevent pollution of the marine environment caused by garbage, every ship currently operating must meet the requirements regarding waste handling procedures stipulated by IMO in MARPOL 73/78 in Annex V. records the activities in the waste handling process, from collecting, burning to disposal. This must be done in accordance with the established SOP. So that the careless disposal of garbage from the ship continues, this in turn causes pollution in the sea.

#### **IV. CONCLUSION AND RECOMMENDATION**

Implementation of the Garbage Management Plan on board the UT Intrepid ship is not in accordance with the procedures stipulated by the Police Force 1973/1978 Annex V, this is because there are still crew members who do not understand the procedures for handling and disposing of garbage into the sea as many as 4 people or 12.5%.

There is a need for training for ship crews on procedures for handling and disposing of garbage into the sea. There should be a mark on the drum for the garbage, according to the type and classification of the waste, and there should be instructions on the operation of the garbage processing equipment onboard in an effort to prevent marine pollution.

It is recommended that the ship pay attention to the use of the ship's garbage disposal logbook which is the ship's document so that it can be accounted for.

#### **REFERENCE**

- [1]. Government Regulation of the Republic of Indonesia Number 19 of year 1999 (19/1999) concerning Control of Sea Pollution and/or Destruction.
- [2]. Directorate General of Marine Space Management. Article 2 October 2020. Marine Pollution. <https://kkp.go.id/djprl/artikel/23631-pencemaran-laut>. (Last accessed on February 17, 2021)
- [3]. Sehtrawan Br. Sitepu, ETTY Riani, and Syaiful Anwar, 2018. Sustainable waste management strategies at Arar Port in Sorong Regency. *Journal and Tropical Marine Technology*. Vol.1 No. 1. 167-177. <http://journal.ipb.ac.id/index.php/jurnalikt>. DOI: <http://dx.doi.org/10.29244/jitkt.v10i1.18989>. (Last accessed on February 12, 2021)
- [4]. Johny Malisan. 2011. Study of Marine Pollution from Ships in the Context of Implementing Government Regulation Number 21 Year 2010 concerning Protection of the Marine Environment. *J. Pen Transla*. Vol. 13. Number 1. Pages 1-77. Web address: <https://scholar.google.com> (Last accessed on February 7, 2020).

- [5]. Verdinand Robertua, Bryan Liberto Karyoprairo, Gloria Nathalia Hana Dhea. 2019. Criminal Reasoning-Implications of Waste Result from Ship Operations on Marine Ecosystems in the Malacca Strait. *Journal of Asia Pacific Studies*. Vol 2 No.2: pp. 193-205. <https://doi.org/10.3354/japs.v3i2.1347>. (Last accessed on February 17, 2021).
- [6]. SOLAS Chapter IX Concerning Ship Safety and Prevention of Pollution in the Maritime Environment.
- [7]. Law No. 32 of 2009 concerning Environmental Protection and Management
- [8]. MARPOL 73/78 Annex V Regulations on the Prevention of Pollution Caused by Litter from Ships
- [9]. Revised MARPOL Annex V of 2011 concerning Prevention of Pollution from Garbage

Rosnani. "The Effectiveness of the Implementation of the Garbage Management Plan on the UT Intrepid Ship." *IOSR Journal of Humanities and Social Science (IOSR-JHSS)*, 26(03), 2021, pp. 61-64.