



Overview of Garbage Management Plan On The MT B Star

Noor Sulistiyono¹, Bambang Setiawan² and Fahreza Kautsar Setyarso³

Abstract

On the MT B Star ship, there are still some crew members who are caught dumping garbage in the ocean, this is very unfortunate because it can pollute the sea. Even though there have been provided trash cans according to the type of waste that exists. After further review, there are several factors that cause this to happen.

The first factor is the lack of knowledge about MARPOL Annex v regulations by the crew. They seem to ignore the existing rules. The next factor is the small size of the trash can on the MT B Star ship. This causes the existing garbage to fill up very quickly.

The solution that the author can convey is counseling the crew about the existing regulations and the importance of not throwing garbage in the sea. For the second factor, the company must provide a bigger trash can.

Keywords: garbage management plant, garbage, MARPOL Annex v, pollution

1. Introduction

In the current era of development, sea transportation is increasingly developing and plays an important role in helping the smooth transportation of goods from one place to another, considering that sea transportation services are relatively cheaper than other transportation. With sea transportation services, the movement of goods and passengers both from one region to another, as well as from one country to another becomes easy, this is evidenced by the increasing number of ships operating in the ocean. All of them can affect the marine environment if there is pollution of garbage that is not in accordance with the handling procedures and regulations that have been set.

Many assume that the sea is an ideal trash can, both for domestic garbage disposal and industrial waste. The vast ocean is expected to be able to destroy or dissolve any materials thrown into the sea, but the sea also has a limited ability to decompose, in addition there are some materials that are difficult to decompose. With the addition of continuously without good control, it can cause increased pollution in the sea.

Marine pollution as a negative impact on the life of biota, natural resources and comfort of marine ecosystems and human health caused directly or indirectly by the disposal of waste into the sea derived from human activities including activities on board the ship, which resulted in the contamination of marine waters, contamination or addition of something from outside the sea waters that cause disturbed environmental balance and endanger the life of organisms and decreased the use value of these waters.

The amount of pollution at sea by garbage from ships so IMO (INTERNATIONAL MARITIME ORGANIZATION), issued regulations that are affirmed in MARPOL 73/78 Annex V on the Prevention of pollution by garbage which consists of 9 rules. And also in need of "Garbage Management Plan" on board with the intention of providing a systematic course of implementation and control of waste on board that has been regulated in MARPOL Annex V.

At the time of the author's sea practice, the author's ship carried out bunker operations in



African waters. There the regulations for the disposal and processing of waste are still underestimated. There are still some crew members who were caught by the author throwing garbage at sea. Though it is very contrary to the rules of Marpol Annex V.

This is very interesting for the author because basically marine pollution is also a responsibility by all crew members. Thus this is what makes the author interested in lifting the title of the final project with the title "Overview of Garbage Management Plan aboard MT B Star"

2. Research Methodology

In this study the author uses the comparison method by taking qualitative data, namely finding or comparing similarities and differences about procedures, work, about ideas to a work procedure or ideas. Then described with words or sentences and describe the problems that arise based on experience, observation, and interviews at the time of prola, to obtain conclusions.

a. Data Collection Methods

1) Field Research Methods

a) Observation

The authors carry out direct observation of the object of research is the handling of waste that is not in accordance with applicable procedures and rules.

b) Interview

The author conducted a direct interview to the mualim who were on board the ship about the object of research on waste handling procedures on board in accordance with the rules.

3. Results and Discussion

a. Result

Based on the observations made by the author during the implementation of marine projects at MT. B Star still a lot of garbage thrown into the sea from the ship, especially the crew on the ship MT. B Star that is not in accordance with waste handling procedures set forth in MARPOL 73/78 Annex V, which can cause marine pollution so that sea water quality drops to a certain level which causes the marine environment is no longer in accordance with the standard quality and function.

- 1) Food waste produced from the kitchen, or the remains of food thrown into the sea without observing the applicable rules.
- 2) When the crew performs daily work on deck or in the engine room garbage from the results of treatment on deck or in the machine such as rags, deck sweeps, remnants of paint, paint chips, rust, and engine debris are immediately thrown into the sea, regardless of applicable rules.

From some of the above shows a lack of understanding of the crew of MT. B Star about marine waste disposal procedures, so it is not in accordance with the procedures for handling and disposal of waste based on MARPOL 1973/1978 Annex v. Knowing the suitability of handling and disposal of waste on the ship MT B Star based on MARPOL 1973/1978 Annex v . From observations and interviews that have been done can be seen that the inappropriate handling and disposal of garbage on the ship MT B Star. This happens because of the lack of understanding of the crew of the garbage management plan.

So based on the data shown above about the understanding of waste disposal procedures crew MT. B Star is incompatible with the handling and disposal of waste



under MARPOL 1973/1978 Annex v. Waste disposal procedures according to MARPOL 73/78 Annex V has been set in MARPOL 73/78 on marine pollution which consists of VI Annex amended in 2005, namely: translated into Indonesian into regulations for the Prevention of pollution by oil, the remaining oil to be disposed of kadarya Sea does not exceed 15 PPM. Translated into Indonesian into regulations for the Prevention of pollution by toxic liquid materials, such as the disposal of destructive liquid materials such as Category A, B, and C materials can be disposed of outside the special area and category D materials in all areas.

Which is translated into Indonesian into regulations for the Prevention of pollution by harmful substances transported by sea in the form of packaging, wrapped, loose tanks or tank cars, and tank cars. Which is translated into Indonesian into regulations for the Prevention of pollution by dirt from ships. Which translated into Indonesian into regulations for the Prevention of pollution by garbage from ships. Which is translated into Indonesian into Air Pollution Prevention regulations.

Factors affecting pollution at sea due to non-implementation of waste handling and disposal procedures based on MARPOL 1973/1978 Annex v on MT B Star ship. B Star about marine waste disposal procedures, so the need to apply the garbage management plan in an effort to prevent marine pollution. Which only has a capacity of 0.12 L so that the existing garbage can be quickly filled and make the crew not throw garbage in its place. Based on the exposure of Interview data, the following table of research findings can be made:

Table 1. Research Data Analysis

No	Research Focus	Research Findings
1	Appropriate waste handling and disposal procedures are set out in Marpol Annex V at MT B Star.	<ul style="list-style-type: none"> a. food waste is still dumped in the sea. b. waste from the daily work of the crew is still dumped at sea.
2	Factors affecting crew members not complying with the garbage management plan	<ul style="list-style-type: none"> a. lack of understanding of existing regulations b. the small trash can on the MT B Star ship makes the trash full quickly. c. the crew of MT B Star has never attended training on garbage management plan.
3	Efforts made against the above findings	<ul style="list-style-type: none"> a. explain to the crew about the rules of the garbage management plan b. affix posters or appeals regarding garbage disposal requirements in accordance with applicable regulations c. carry out waste disposal procedures in accordance with applicable rules. d. replacing existing bins with larger capacitors e. implement safety meetings to improve understanding of the garbage management plan.



b. Discussion

Based on the formulation of existing problems can be seen that the lack of understanding of the garbage management plan of the crew of MT B Star, so that there is a mismatch of waste disposal procedures. The crew is often caught not throwing garbage in place which is not in accordance with the garbage management plan MARPOL 1973/1978 Annex V.

Factors that influence the actions of the crew of MT B Star is a lack of understanding of waste disposal regulations listed in MARPOL 1973/1978 Annex v, in addition to the small volume of trash belonging to MT B Star. The volume of the MT B Star trash can is only 0.12 L, this can cause the accumulation of existing garbage because the garbage in the trash can will be full quickly, resulting in the crew lazy to dispose of garbage in its place. The last factor is that the crew of MT B Star does not have a training provision for garbage management plan. This can create a sense to dispose of garbage not in accordance with existing regulations and procedures.

Each ship in operation must meet the requirements regarding the procedures for handling pollution in this case pollution is caused by garbage. As appropriate and prescribed by IMO in MARPOL 73/78 in Annex V.

On the ship must have a waste logbook in order to record activities related to waste handling process problems ranging from shelter to disposal everything must be done in accordance with established procedures and listed in the rules because if at the time of handling is not done in accordance with good procedures then most likely garbage disposal can occur in any place from aboard wherever the ship is.

Table 2. Comparison Of Conditions On Board MT B Star

No	Current Condition	Planned Conditions	Benefits
1	There are still some crew members of the second ship made garbage the remains of food directly into the sea	Food waste must be cut using a comminuter machine with a size <25mm so that it can be thrown into the sea with a distance of > 3 NM from the nearest island. If it is not cut using a comminuter machine then it must be discarded >12 NM from the nearest island	Reducing marine pollution due to food waste To prevent diseases that may be brought by food waste from foreign countries
2	There are still crew members who are caught making waste from daily work into the sea	The waste must be stored in a shelter because it includes operational type waste Garbage must not be taken into the sea and must be disposed of in port facilities	Reducing pollution at sea
3	The size of the bin volume in MT B	Bins in MT B Star must be updated with a larger size	Can make more garbage than before so that the trash can



	Star is very small so that the garbage becomes quickly full of trash in MT B Star must be considered with a larger size		is not full quickly
4	The crew did not understand the rules of MARPOL 1973/1978 Annex v	The crew must understand the rules of MARPOL 1873/1978 Annex v	Can carry out construction and Waste Management in accordance with MARPOL 1973/1978 Annex v

4. Closing

a. Conclusions

- 1) *Garbage Management Plan* has not been implemented yet so that the process of handling and disposing of waste is not in accordance with Marpol 1973/1978 Annex V about *Pollution by garbage from ships* on MT ships . B Star , where this is due to the understanding of the crew who do not understand the procedures for handling and disposing of waste into the sea .
- 2) The factors that led to the non-implementation of the *Garbage Management Plan* required by MARPOL 1973/1978 Annex v was the lack of understanding of the rules for the *garbage management plan*, so that the crew did not comply with the procedures for disposal and handling of waste in accordance with MARPOL 1973/1978 Annex . V about *Pollution by garbage from ships*
- 3) Another factor that the author can point out is the small volume size of the trash cans in MT B Star. So that the garbage becomes full quickly, making the crew lazy to throw garbage in its place and choose to throw it into the sea.

b. Suggestions

- 1) Need existence training and knowledge in children fruit boat about procedure handling and disposal rubbish to sea.
- 2) Should given sign type , classification to the place rubbish for type existing trash _ like painting on the garbage drum on the ship as well as instruction operation above tool _ boat in effort prevention pollution .
- 3) Recommended to parties ship to pay attention implementation use book notes disposal rubbish from ship which is document ship , in order to accounted for answer when there is inspection from instant related .
- 4) It is recommended to the ship to update the size of the existing trash bin, because the current trash bin has a small size, so it can't accommodate large amounts of garbage.
- 5) It is recommended to the crew of the MT B Star Ship to carry out the standard procedures that the author has stated in Figure. Because the procedure is in accordance with MARPOL regulations 1973/1978 Annex V on *Pollution by garbage from ships*.



5. References

- 1) Aditya, B. (2019). Application of MARPOL Annex v in waste management.
- 2) Andreas, B. S, (2007). Waste Management Manual
- 3) Cobert, J (2016). IMO MARPOL guide. Sweden: Completing The Meteorological Institute
- 4) Gapsari, F. (March 2017). Introduction To Corrosion. Malang: Universitas Brawijaya Press.
- 5) Michael, J. (2008, September 6). Waste Management Plan To Save The Ocean.
- 6) Munajat D. (2004:29). Tata Kelautan Nusantara in its law and history.
- 7) Musrid, S. (2003). Semarang Quality Research Methods: Semarang State University
- 8) Patil, H. (2005). Quality research methods: equipped with guidance on the use of quality analysis software CDC Ez-Text and Law No. 18 of 2002 on the National System, Research, Development, and application of Science and Technology.
- 9) Government regulation of the Republic of Indonesia number 19 of 1999 concerning the Control and design of the Sea. Jakarta
- 10) Government regulation of the Republic of Indonesia number 51 of 2002 concerning shipping. Jakarta
- 11) Salmaa. (2021, August 9). Scientific work of the author of the research subject: characteristics, functions and examples. Obtained from penerbitdeepublish.com
- 12) Surjaman, T. M. (1989). Qualitative research methodology. Indonesia. Remadja Works.
- 13) Valerina, D. (2009). Easy Green Life.