

---

## Process of Unloading Sugar From the Dancewood SW Ship to Trucks at PT. PBM Gelora Perkasa Belawan

Bayu Reza Juliansyah<sup>1</sup>, Yusnidah<sup>2</sup>

<sup>1,2</sup> Politeknik Adiguna Maritim Indonesia, Medan, Indonesia

[bayurezaj@gmail.com](mailto:bayurezaj@gmail.com)

**Abstract.** *This study aims to find out more clearly how the process of unloading sugar from the Dancewood SW ship to the truck by PT. PBM Gelora Perkasa Belawan starts from before the unloading process until it is finished. The stevedoring company is a unit of activity carried out at the port, especially the Ujung Baru Belawan port. PT PBM Gelora Perkasa Belawan as a company engaged in the field of stevedoring plays a very important role in the activities at the Ujung Baru Belawan port. Government agency officers related or associated with the activities of ships entering and leaving the port organized by the shipping company are the Belawan Man Harbormaster's office, Port Authority, immigration, PT Pelindo, Customs and Excise. This aims to find out about the process of unloading sugar from the Dancewood SW ship to the truck at PT. PBM Gelora Perkasa Belawan, and also to find out the obstacles found during unloading at the Ujung Baru Belawan port. The method used by the author in completing this paper is Field Research to make it easier for the author to complete this paper and Library Research, the author obtains material or paper materials and books in the library or other reading sources related to the topic of discussion taken.*

**Keywords:** *Demolition, crane, maintenance*

### 1. INTRODUCTION

A port is a place consisting of land or land with certain boundaries as a place for government activities and business activities that are used as a place for ships to dock, anchor, disembark passengers and load and unload goods equipped with shipping safety facilities and port supporting activities, as well as a place of transportation. The port is also a country's gateway for the entry and exit of various flows of export and import goods. With the increasing development of sea transportation traffic, loading and unloading technology increases inter-island and foreign trade. This requires ports to improve the quality of their roles and one of their functions as a link, meaning that the port is the link in the process of transporting cargo from the producer area (origin of goods) to the recipient or consumer area. Therefore, each country tries to build and develop its ports according to the level of traffic and type of trade accommodated by the port.

Based on the service business activities at the port as a support for sea transportation activities, one of them is the activity of unloading goods. "According to article 1 paragraph 14 of the Government Regulation of the Republic of Indonesia No. 20 of 2010 concerning transportation in the port, the activity of unloading goods is a business activity engaged in the field of unloading goods from and to ships at the port which includes stevedoring, cargodoring, receiving/delivery activities".

The progress or decline of a deep sea port in supporting economic growth is highly dependent on the readiness of the dry bulk activities, the volume of ship visits, tanker and cargo ship containers and adequate port facilities to encourage loading and unloading activities from and to ships are commodities that sell well in the domestic and foreign markets. Unloading activities at the Ujung Baru Belawan port in the field of providing and servicing dock services for dry bulk unloading activities, the port provides unloading equipment, terminal services, and unloading service activities.

Every business certainly has risks and responsibilities in its implementation, as well as the company loading and unloading goods that have high risks in the implementation of its activities. In practice in the field, problems in the unloading process still often occur and cause losses that are not small. for example, the owner of the goods does not want the incident that occurred in the field so that the owner of the goods does not want to see the damage that occurred.

## **2. LITERATURE REVIEW**

### **a. Definition of Process**

According to the Great Dictionary of the Indonesian Language, a process is a series of changes (events) in the development of something, a series of actions, deeds, or processing that produces a product. In general, it can be concluded that a process is a series of stages or activities that aim or have a purpose for a certain result. This process exists in all human activities where it is a stage to achieve a predetermined goal.

### **b. Definition of Unloading**

Based on the Regulation of the Minister of Transportation of the Republic of Indonesia No. PM 152 of 2016 concerning the organizer and management of unloading from and to ships, Article 2 paragraph 1 states that business activities engaged in the field of goods from and to ships in the port include Stevedoring, cargodoring, and delivery/receiving activities.

- a) Stevedoring is the process of lowering cargo from the ship's deck to the edge of the harbor (cade) using heavy loading and unloading equipment.
- b) Cargodoring is the process of carrying ship cargo that is already at the edge of the harbor to the port storage warehouse for storage.
- c) Delivery/receiving is the sending of ship's cargo that is already in the port storage warehouse to outside the port area for storage.

- d) According to experts, unloading activities are activities in which goods are transferred from a ship to a dock or directly taken to a warehouse or storage area, using unloading equipment available at the port where the unloading activity is carried out.
- c. Definition of sugar
- Through the ICUMSA (International Commission For Uniform Methods Of Sugar Analysis) standard, Raw sugar is raw sugar in the form of brownish crystals with raw materials from sugar cane. This sugar has an ICUMSA value of around 600-1200 IU5. This type of sugar is a "semi-finished" sugar production from sugar cane mills that do not have bleaching units, which are usually the type of sugar that is imported to be processed into white crystal sugar or refined sugar.
- d. Definition of ship
- Law No. 17 of 2008 concerning Shipping states that a ship is a water vehicle with a certain shape and type, which is moved by wind power, mechanical power, other energy, pulled or towed, including vehicles with dynamic support, underwater vehicles, and floating equipment and floating structures that are not moved. Thus, a ship is not just a container, but all types of equipment that function as a vehicle for transporting goods.

### **3. METHODS**

- **Field Research**

The author uses qualitative data collection techniques that are carried out directly for 6 (six) months through observations accompanied by recording of behavior or target objects. The author directly participates in carrying out all activities concerning the process of unloading sugar from the Dancewood SW ship to the Truck at PT. PBM Gelora Perkasa Belawan and the author also participates in a question and answer discussion by the Head of Operations and also workers at PT. PBM Gelora Perkasa Belawan, what are the obstacles in the activity of unloading sugar from the Dancewood SW ship to the truck in contacting agencies related to the activities of the ship, crew and cargo.

- **Library Research**

In addition to the field research method, the author also uses another method, namely through data collection methods carried out by reading books, journals, notes, which are related to the problems studied by the author, by searching for books in the library of the Adiguna Maritim Indonesia Polytechnic Medan campus, campus guidebooks and also via the internet to support the author's research in completing this paper.

#### **4. RESULTS AND DISCUSSIONS**

##### **A. Process Of Unloading Sugar From The Dancewood Sw Ship To Trucks At Pt. PBM Gelora Perkasa Belawan**

###### **1. Unloading Stages at the port**

The following is a more detailed explanation of each stage of unloading activities at the port.:

1) Before the ship docks at the pier

Documents that must be prepared by PBM before the ship docks at the pier:

- a. Document manifest
- b. Stowage plan
- c. Ship plan
- d. Loading list
- e. Handling order
- f. Shifting cargo list

2) When the ship docks at the pier

- a. Preparation of monitoring reports for cargo and container conditions.
- b. Monitoring and supervision of unloading operations.

###### **2. Preparation for dismantling**

The demolition activity can be realized as expected, the following is the preparation flow and explanation :

- a. The shipper sends a letter appointing the loading and unloading company, which explains the type of cargo, name of the ship, quantity of cargo and estimated time to arrive (ETA).
- b. The stevedoring company attended the Integrated Service Center (P2T) meeting at the KSOP office which was also attended by several related agencies including PT. Pelabuhan Indonesia PERSERO, Sea Freight Expedition (EMKL) and Agency Companies.
- c. The Loading and Unloading Company makes a letter of application for a loading and unloading permit to the Harbor Master and Port Authority.
- d. The Harbor Master and Port Authority's business division issues a letter of guidance for loading/unloading.
- e. The Loading and Unloading Company prepares the unloading equipment and submits a request for Loading and Unloading Labor (TKBM).

- f. The Loading and Unloading Company also plans an estimate of the realization of the dry bulk sugar unloading activity.

### **3. Documents at the time of dismantling**

A document is a written or printed letter that can be used as evidence of information. Likewise in the shipping world, especially in the field of loading and unloading, documents are very important in carrying out unloading activities. The supporting documents in carrying out unloading activities are as followst :

- a. Manifest

This is a document that contains all information relating to goods that have been shipped. This manifest is needed to find out the amount of cargo that will be unloaded at a port.

- b. Stowage Plan

This is a picture of the layout of all the goods loaded in the ship's hold.

- c. Daily Working Report

Report on the results of loading and unloading for one working day and the balance or remainder of loading and unloading.

- d. Time Sheet

Time Sheet is a daily report of loading and unloading activities, working hours, obstacles encountered, use of supervisory personnel, loading and unloading personnel, and loading and unloading equipment used.

- e. Cargo Outturn Report

Cargo Outturn Report is a list of all goods, noting the number of containers and their condition at the time of unloading.

- f. Statement of fact

Recapitulation of all time sheets used during loading and unloading activities.

- g. Tally Sheet

All goods unloaded on the ship are recorded in the tally sheet

### **4. Obligations of loading and unloading companies**

During the course of its business, the stevedoring company has obligations that must be fulfilled. These obligations are as follows :

- a. Implement the provisions stipulated in the business permit in this decision, and general government policies in the field of organizing loading and unloading activities from and to ships.

- b. Meet the minimum speed limits for loading and unloading goods that have been set at each port.
- c. Implement applicable rates according to regulations.
- d. Improve work skills.
- e. Responsible for goods while under their supervision
- f. Submitting periodic reports on business activities to:
  - 1) Local port administrator in the form of daily, monthly and annual reports.
  - 2) The Director General of Sea Transportation in this case is the Head of the Directorate of Sea Transportation Traffic and the Head of the local Sea Transportation Office in the form of monthly and annual reports.

#### **5. Agencies involved in the demolition process**

In the process of unloading dry bulk cargo, of course, several parties are involved in the unloading. Starting from before the ship is berthed, when the ship is berthed and the ship is ready to unload/load. The following are the parties involved in the unloading process:

- a. Harbor Master  
The Harbor Master has the task of carrying out supervision and law enforcement in the field of shipping safety and security.
- b. PT PELINDO  
PT. Pelabuhan Indonesia Persero is an Indonesian state-owned company engaged in logistics, especially port management and development.
- c. Transportation Management Services Company (JPT)  
A legal entity established specifically to carry out land transportation activities in the local work area.
- d. Customs Service Administration Entrepreneur (PPJK)
- e. PPJK carries out export document management activities as well as in the local customs area (Customs and Excise Office).
- f. Surveyor  
A person who is tasked with conducting examinations and identifying facts, analyzing facts based on knowledge and experience and recording the results of the analysis and presenting them in a written report.

g. Port Quarantine and Health Service

The Port Quarantine and Health Service is a law enforcement agency in the field of health for crew members and ships entering and leaving Indonesia through the relevant port.

h. Loading and Unloading Company

An Indonesian legal entity specifically established to organize and manage the loading and unloading of goods from and to ships using loading and unloading equipment and stevedoring workers.

i. Unloading and Loading Labor

All workers registered at the local port who carry out loading and unloading work at the port.

**6. Bulk cargo**

Ship cargo (Cargo) is an object of transportation in the sea transportation system, by transporting cargo a shipping company can earn income in the form of mining money (freight) which is very important in the survival of the company and financing activities at the port. Grouping of cargo based on the type of shipment is Bulk Cargo. Bulk Cargo is a cargo that is transported by sea in large quantities.

Bulk Cargo according to Sudjatmiko is a cargo consisting of an unpackaged cargo that is shipped at once in large quantities. It can be concluded that this Bulk Cargo does not use packaging and is generally loaded in large and homogeneous quantities. Bulk cargo is divided into several parts that we will now discuss, namely dry bulk cargo. Dry bulk cargo is a solid bulk cargo in the form of grains, powder, powder, granules and so on which in loading or unloading is done by pouring the cargo into the hold using special tools. Examples of dry bulk cargo include wheat seeds, soybeans, corn, sand, sugar and so on.

Dry bulk goods such as Sugar (Raw Sugar) are identified as goods that are in the form of mountains or not tied or wrapped. This type of goods has different handling, Goods like this are sensitive to water, not allowed to be exposed directly to rain water or sea water. Ships carrying these goods must have hatches that can be closed and opened quickly and large hatch spaces.

**7. Tools used for the sugar unloading process**

The loading and unloading system is a combination of several tools operated and used for unloading activities from ship to dock or vice versa. The goal is to carry

out unloading as quickly as possible (productive), avoid the risk of damage to goods, equipment and work accidents as low as possible, carry out all unloading planning as stated in the stowage plan, produce safe ship stability, avoid long hatch, over hatch and long distance. In the loading and unloading system, the service is influenced by the type of cargo and the type of ship.

The following are the loading and unloading tools for dry bulk vessels carrying sugar (Dry Bulk Carrier):

a. *Ship Crane*

This tool is usually located in the middle of the ship, functioning to lift cargo from the ship's hold, then moved to the dock. The arm of the ship's crane must be long enough, so that it can move from the hold to the dock. The system used on ship cranes is similar to cranes in general, namely using steel cables, with motors as the drive.

b. *Land Crane*

Land Crane is a tool for loading and unloading goods from ships to docks or vice versa which is used on land or at docks.

c. *Loader*

Loader is a vehicle used in cleaning (cleaning the remains above the ship's hold) which functions to collect the scattered cargo inside the barge so that the cargo can be reached by the crane to be loaded into the hold. And this vehicle also functions to level the cargo inside the hold so that the loading space can be used optimally.

d. *Grab*

Grab is a tool that is moved by a crane often used for loading/unloading, especially dry bulk cargo. Which functions to take the load from the ship's hold and then move it to the hopper.

e. *Hopper*

Hopper is a complementary tool in the loading and unloading system that functions as a place to receive feed material from the grab which is then transferred to the truck for delivery of goods.

f. *Excavator*

Excavator is a heavy equipment used to move materials. During the loading and unloading process, this tool plays a role in the cleaning process when the load in the hold is small or to facilitate the grab in moving the load.



g. Sling

A sling is a cargo sling made from steel wire rope, used to transport cargo and heavy equipment from the ship's hold.

h. Transportation

Serves to transport cargo or dry bulk goods from the side of the ship's hull to the receiving warehouse. In unloading dry bulk goods such as sugar, trucks are very important supporting tools, because the availability of trucks greatly influences the speed or slowness of dry bulk unloading.

## **8. Laborers**

In the implementation of loading and unloading activities at the port, labor resources have an important role in supporting the smooth running of loading and unloading activities, namely dock workers. The term dock workers is generally also referred to as dock workers registered under the auspices of the TKBM cooperative at the local port. A dock worker gang is a group of dock workers in one work team or foreman, so what is meant by a dock worker gang is a group of dock workers who help in the unloading process at the port in 1 work team that works on board and on land, the number of which is adjusted to the equipment used.

In loading and unloading activities, the number of workers used is influenced by the following factors:

- a. The number of goods to be unloaded/loaded
- b. Available equipment
- c. Time or target

## **B. Port Worker Terms**

1. Stevedore
2. Chief Tally
3. Tally Clerk
4. Foreman
5. Unloading and Loading Labor
6. Operator Crane
7. Watchman

### **C. Obstacles faced in the dismantling process**

In carrying out an activity that has a specific purpose with the hope of obtaining maximum, efficient and effective and satisfactory results. However, it does not always get satisfactory results. The obstacles faced during the Sugar Unloading process are the delay in the estimated unloading which should have been completed for 3 (three) days to 5 (five) days of unloading. Every job must have obstacles faced, just like in unloading Sugar. The damage that occurs includes minor damage and also major damage. For example, minor damage is due to hot engines. For hot engines, it is common for cranes to work non-stop, because dry bulk cargo always takes days to unload per ship and routinely every month. For major damage, for example, from the Dancewood SW ship's hatch which is difficult to open or slow because the Dancewood SW ship is old. In addition, damage also occurs due to incorrect procedures.

### **D. Efforts to overcome problems in the process of unloading sugar from the Dancewood SW ship to trucks**

1. The use of loading and unloading equipment on the Dancewood SW ship is very important, especially the crane, therefore you need to pay attention to its maintenance and use.
2. Lack of awareness of the crew who have very minimal understanding in the maintenance of ship cranes, as well as companies that do not see the readiness of their fleet that will be used. So if something happens it can hinder the unloading and the company itself will experience losses due to small profits.
3. Replace damaged or old equipment with new or spare equipment. If equipment availability is limited, repairs should be carried out as quickly as possible.

## **5. CONCLUSION**

The process of unloading sugar from the Dancewood SW ship to the truck at PT. PBM Gelora Perkasa Belawan has generally worked well and correctly. The obstacles faced are due to damage to the ship's crane which works non-stop and also the old ship, because the sugar cargo always takes days to unload and routinely every month.

In order for the sugar unloading process from the Dancewood SW ship to run smoothly, maintenance should always be carried out on this old ship, especially for unloading equipment such as cranes, which must be carried out routinely, not waiting until the equipment is damaged first, resulting in delays and losses for the shipping company. And also should increase the

awareness and understanding of the ship's crew so that having a good performance crew will improve the performance of the unloading equipment itself.

## 6. REFERENCES

- Antoro, Dwi, dkk. Factors Causing Low Ship Crane Function on the Loading and Unloading Process of MV. Madison. Marine Dynamics. Semarang, No. 1. 1745-1759. 2017.
- Brilian, Sugiyono. Raw Sugar Loading and Unloading Services by PT. Delta Bahari Nusantara on MV. Gladiator at the New Terminal Port of Probolinggo. Written Work 2020.
- Regulation of the Minister of Transportation of the Republic of Indonesia NO PM 152 of 2016 Concerning Organizers and Business of Loading and Unloading
- Republic of Indonesia Government Regulation No. 20 of 2010 concerning Transportation in Peraran
- Pakpahan, S. L., & Sabila, F. H. (2023). Implementation of the ISM code for MV ships. Eastern fair at PT Pelayaran Multi Jaya Samudera Belawan. *Jurnal Rimba: Riset Ilmu Manajemen Bisnis dan Akuntansi*, 1(3), 329-340.
- Priyohadi, Nugroho Dwi, dkk. Number of Labor Gangs and Equipment Capacity on Dry Bulk Loading and Unloading Performance. *Baruna Horizon Journal*. Surabaya, No 1, 1-10. 2019.
- Sabila, F. H., & Cahyadi, W. D. Y. (2024). Analysis of Existing Constraints During Loading and Unloading of Goods at Belawan Port by PT. Gelora Perkasa. *Applied Business and Administration Journal*, 3(03), 15-22.
- Saragih, R. R., Ridho, S., Danilwan, Y., & Sabila, F. H. (2024). Proses Penanganan Clearance Out Kapal Ternak Berbendera Asing Dengan Inaportnet Oleh Pt. Pelayaran Semesta Sejahtera Lestari Belawan. *Globe: Publikasi Ilmu Teknik, Teknologi Kebumihan, Ilmu Perkapalan*, 2(1), 140-146.
- Sianturi, P. S., & Sabila, F. H. (2024). The Influence Of Manual System Port Services To Inaportnet On Users Of Belawan Port Services At PT. Adhigana Pratama Mulya Belawan. *Jurnal Pajak dan Analisis Ekonomi Syariah*, 1(1), 17-28.
- Sinaga, I. D., Nst, M. M., & Sabila, F. H. (2024). Procedure For Using The Customs Manifest Application In The Inward Manifest Issuance Process At PT. Naval Global Trans Belawan. *Kalao's Maritime Journal*, 5(1), 72-83.
- Suparman, & Aritonang Safira. Bulk Cargo Unloading Process From MT. Sunrise Hope Ship At Kabil Port At PT. Pasada Artha Cargo Batam. *Journal of Maritime and Education (JME)*. Medan, No 2, 278 – 283. 2021.
- Susono, H. B. Port Management & Import Export Realization: Andi 2021.
- Law no. 17 of 2008 concerning Shipping.