



Premium Type Fuel & Pertamina on the MT Ship. Long / P.1033

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Abstract: Transport Loss is the depreciation of cargo caused by the journey from the loading port to the unloading port. The goal in shipping is to minimize the occurrence of transport loss. In achieving this goal, it can be found from the factors that influence the transport loss of cargo and how to minimize the occurrence of transport loss. The method used by researchers to overcome these problems is a qualitative descriptive method so that researchers can present the results of the research obtained. Data collection through documentation, observation and interviews. Interviews were conducted by researchers with the chief officer as the ship's party and the loading master as the land party, the researcher made direct observations on the MT ship. In length, the researcher also took documentation to support the validity of the research data. The results showed that the factors that cause transport loss are due to the lack of accuracy in measuring and calculating cargo, non-standard measuring instruments, differences in weather and evaporation. And the way to minimize transport loss is by carrying out loading and unloading in accordance with procedures, calibrating measuring instruments and carrying out maintenance on loading and unloading suggestions. From the research results it can be concluded that transport loss is caused by several factors that must be minimized to the tolerance limit that has been determined by a shipping company. And the way to minimize transport loss is by carrying out loading and unloading in accordance with procedures, calibrating measuring instruments and carrying out maintenance on loading and unloading suggestions. From the research results it can be concluded that transport loss is caused by several factors that must be minimized to the tolerance limit that has been determined by a shipping company. And the way to minimize transport loss is by carrying out loading and unloading in accordance with procedures, calibrating measuring instruments and carrying out maintenance on loading and unloading suggestions. From the research results it can be concluded that transport loss is caused by several factors that must be minimized to the tolerance limit that has been determined by a shipping company.

Keywords: Payload Depreciation, Transport Loss, Premium & Pertamina

PRELIMINARY

Depreciation control (*Loss Control*) is monitoring of the reduced volume of oil in each movement of the oil from or to ships. This control aims to increase the company's profit by

reducing, maintaining, overcoming and controlling oil depreciation from the specified depreciation tolerance. When loading RON 92 (Pertamax) in Pengerang, Malaysia, namely on May 8, 2021 Voyage 8/L/P.1033/V/2021 where the ship calculation results (*Ship's Figure*) 96005,162 Barrels while the calculation results *Bill Of Lading* is 95,960,000 Barrels cargo experienced a shrinkage of 0.240%. Another fact that was found by researchers on the ship during sea practice was when they wanted to disassemble (*discharge*) premium at Tg. Sented on June 18, 2021 Voyage 12/L/P.1033/VI/2021 where the ship calculation results (*Ship's Figure*) is 61,829,933 Barrels. The results of the calculation of the load before unloading experience a significant difference from the results of the calculation after loading, where there is shrinkage (*Losses*) on the cargo while the calculation results at the loading port (*Bill Of Lading*) is 61,754,316 Barrels cargo experienced a shrinkage of 0.194%. This exceeds the tolerance limit given by PT. Pertamina International Shipping is 0.07%.

LITERATURE REVIEW

Understanding / Operational Definition

- a) *Transport loss*: shrinkage of cargo caused by the journey from the loading port to the unloading port.
- b) *Loading Master*: a person who is responsible for loading and unloading operations in the compartments on land tanks and on ships
- c) *Shore Figures*: the amount of cargo calculation from the terminal or land side.

Theory

According to Soemantri (2006:5) depreciation or *losses* can be interpreted as depreciation or a reduction in load. according to Hadi Suwignyo (2016:2), *losses* can be interpreted as losses lost due to changes in the quality of reduced volume in the calculation of the quantity of fuel oil. Transportation Control *Losses* in the Pertamina Shipping Tanker Fleet (2006:7), depreciation (*losses*) is the difference between the quantity of crude oil and product less due to transfer activities from one place to another. According to Capt. Arso Martopo (2004: 7), the cargo of fuel oil is the cargo of oil products either liquid or gas.

RESEARCH METHODS

Time and Place of Research

a) Research time

In obtaining more detailed data and information, it was obtained when the author underwent marine practice on the MT ship. The length is October 20 2020 to August 20 2021.

b) Research place

This research was conducted on board the MT. The length of the Indonesian flag.

Approach Method

The approach method that the author uses in this study is a qualitative descriptive method. Qualitative descriptive is a method of exposure by analyzing data. The analysis used in the qualitative research method is descriptive analytic, meaning that the interpretation of the contents is made and arranged systematically obtained in the field, with measuring tools in the form of theories that are relevant to the problem under study, so that the cause of the problem is found.

Data collection technique

The data collection technique used in this study consisted of the following techniques:

- a. Observation Techniques Observation or observation techniques are by selecting or directly observing the loading and unloading process on board the MT. Long to obtain descriptions of

the occurrence of conditions that can lead to depreciation of premium and Pertamina fuel oil, and to record matters pertaining to this material in the form of deviations or such actions. Interview Techniques Interview techniques are data collection techniques that are carried out through a question and answer process orally and directly to the research target who knows about the source of the data and the existing problems. Documentation. This technique is carried out by collecting all documents and data relevant to the problem under study. Among the documents obtained are in the form of data on cargo, these documents can provide data regarding the course of the loading and unloading process. Literature review; Literature study is a data collection method that is directed at searching for data and information through documents, both written documents, photographs, images and electronic documents that can support the writing process.

RESULTS AND DISCUSSION

Research Chronology

a) First incident

On May 8, 2021 at the port of Pengarang, Malaysia, a hissing sound was found when loading *deck seal cargo oil tank* No. 3

b) Second incident

On June 21, 2021 when the ship unloaded at the port of Tg. Wangi, the land party asked to do a UTI test after checking that the UTI sensor could not distinguish between water and oil, so the land party asked the ship to take a backup UTI, and the UTI sensor was still working properly.

Data analysis

Based on the data that has been described in the occurrence of the problem above, the author can analyze it as follows: Errors in measurement and calculation of fuel oil during loading and unloading, Occurrence *transport loss* (load shrinkage) can be caused, one of which is measurement and calculation errors due to inaccuracies in measuring and calculating loads. an error in taking the temperature, value *density* and value taking *ullage* effect when in the port of unloading. Load calculation errors usually also occur due to inaccuracy in reading tank tables or ASTM tables. In measuring the load, it is inseparable from the role of standard and calibrated measuring instruments to support the calculation of the amount of payload.

Evaporation due to impermeability *deck seal cargo tank*. Fuel oil loads are susceptible to evaporation, not impermeable *deck seal* is one of the factors that causes shrinkage of cargo when it arrives at the unloading port.

Alternative Problem Solving

Error in measurement and calculation of fuel oil during loading and unloading

1) Supervise loading and unloading operations

demolition

a) Supervision during loading and unloading

In carrying out loading or unloading the officer on duty must supervise the ship's crew during loading and unloading activities. In order to avoid depreciation, procedures are prepared under supervision, such as the amount of oil flow *Loading Rate* or *Discharge Rate* recorded by the officer on duty every 1 hour.

b) Supervision at the completion of loading and unloading

At the time of loading oil into the ship's tanks, the duty officer measures the liquid level (*Ullage*) for each tank.

2) To do

Measurement of the liquid level was repeated 5 times

3) Ensuring standard measuring tools on board

Evaporation due to non-tightening of cargo tank deck seals

Take care of *deck seal*. Perform regular maintenance on *deck seal* is one technique to reduce shrinkage due to evaporation on board. Rubber replacement *deck seal* which is already porous. So that evaporation does not occur due to rubber *deck seal*. If the rubber is porous or damaged, it must be repaired and replaced with rubber *deck seal*. procedures performed in the replacement of rubber *deck seal*. One of them is by making an official report to ask the company for spare parts.

Solution to problem

From the alternative problem solving that has been done before, based on the advantages and disadvantages of each alternative problem solving, the effective problem solving in overcoming the problems experienced by the author on board are:

Error in measurement and calculation of fuel oil during loading and unloading

Ensuring standard measuring instruments on board. The reason for choosing this alternative as a solution to the problem is because this method can help officers and crew members work more accurately in measuring and calculating cargo and also increase knowledge and add experience to officers and crew members themselves.

Evaporation due to non-tightening of cargo tank deck seals

Carrying out maintenance on cargo tank deck seal. The reason the author chose to solve this problem is to carry out regular deck seal maintenance to reduce the occurrence of damage to the deck seal packing.

CONCLUSIONS AND RECOMMENDATIONS

The occurrence of transport loss or depreciation of cargo that occurs on board ships is influenced by several factors, namely errors in measuring and calculating cargo, differences in weather and sea conditions in different places, measuring instruments that are not according to standards and exceeding the time limit for calibration and evaporation caused by unloading equipment. loading that does not work properly such as evaporation caused due to *deck seal* impermeable or damaged rubber *deck seal*.

How to minimize the occurrence of *transport loss* or depreciation of cargo that can be carried out is that the ship's crew, especially officers, must carry out tasks according to their respective responsibilities, the sounding process is carried out precisely and thoroughly, and carry out maintenance on *deck seal* cargo tanks, then so that the procedures for loading and unloading are carried out correctly and minimize errors in calculating the cargo on board, and the loading and unloading equipment must work properly.

Suggestion

The suggestions for solving the problem are to overcome or minimize load shrinkage, including:

To overcome the factors that cause *transport loss* preferably when loading and unloading takes place according to the principles and procedures, carry out measurements and re-calculations at least three to five times during loading and unloading, when loading and unloading takes place in accordance with the principles and procedures, calibrate the tank tables and ASTM tables and tools measure the load based on the current condition of the ship and carry out maintenance or replacement of rubber on deck seals that have been damaged.

In order to minimize the occurrence of shrinkage of cargo, it is advisable that before carrying out loading and unloading, measuring equipment must be prepared in advance and

checking the load figures on ships and cargo on land every time, so as to minimize the occurrence of further discrepancies than the tolerance figures set by Pertamina.

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