

Operational Management of Repair Containers to Minimize Goods Damage During the Shipping Process

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Abstract

PT. Sricon Logistik Indonesia Semarang is one of the container depots in the city of Semarang that provides maintenance and repair (M&R) services. Its function is to repair container damages caused by large sea waves, improper container handling, and poor container quality. The container repair activities are considered essential for maintaining the quality of goods during the shipping process. The purpose of this study is to understand the management of activities in an empty container depot, particularly in the operational activities of maintenance and repair. The research method employed in this study is qualitative, utilizing observation, informant interviews, literature review, documentation, and triangulation. Based on the research conducted by the researcher, the operational management of container repair activities at PT. Sricon Logistik Indonesia Semarang has been fairly effective. However, there is a need to clarify policies regarding the process of survey image capture and the accuracy of cargo loading and unloading activities at the container terminal. Additionally, it is crucial to enhance the competence and skills of the company's human resources.

Keywords

Container, Depot Container, Maintenance and Repair

INTRODUCTION

The process of distributing goods from manufacturers to consumers can be carried out using various means of transportation. Supporting facilities for the distribution process can be achieved by selecting land, air, or sea transportation. Ships are one of the transportation methods that support the smooth flow of goods distribution. The Republic of Indonesia Law on Shipping No. 17 of 2008, Chapter I, Article (1) states that shipping activities are part of a system that includes water transport, ports, security, and safety, as well as the protection of the maritime environment. Shipping goods through sea routes using containers unavoidably carries various risks that can result in container damage. These risks include rough sea waves causing significant ship movements, mishandling of containers during the loading and unloading process, and poor container quality.

With the numerous factors and issues related to container damage, according to PM/53/2018 regarding Container Fitness and Verified Gross Mass, Article 3, Paragraph (1), every container used for goods distribution must meet the requirements for container fitness. Containers that do not meet fitness standards cannot be used for shipping activities as they may affect the quality of the goods during the shipping process. The presence of quality standards for containers in shipping activities necessitates container repair activities to address damaged containers. In addition to meeting the minimum fitness standards for containers, repair and maintenance activities can minimize damage to goods during the shipping process. With good container quality, the quality of the loaded goods will be ensured, and there will be no decrease in quality during transportation.

Maintenance and repair services are available at a container depot. According to the Minister of Transportation Regulation PM/83/2016 on the Organization and Operation of Container Depots, Article 1, Paragraph (2), a depot serves several functions, including maintenance and repair, storage and stacking, cleaning or washing, stuffing, stripping, and other activities that support the smooth handling of full containers. PT. Sricon Logistik Indonesia Semarang is a container depot company that provides maintenance and repair services for containers. Based on the statement, the researcher intends to conduct a study on the following issues: Operational management of container repair to minimize damage to goods during the shipping process at PT. Sricon Logistik Indonesia Semarang Depot. Challenges in the operational management of container repair to minimize damage to goods during the shipping process at PT. Sricon Logistik Indonesia Semarang Depot.

METHODS

The research method used in this study is the qualitative method. The research is conducted through field surveys or observations, and interviews with key personnel such as managers, Operational Supervisors, Maintenance and Repair Supervisors, Estimate of Repair Staff, and Surveyors. Additionally, the researcher also conducts literature studies related to the

research topic. The research object under review is the Container Depot of PT. Sricon Logistik Indonesia Semarang, located at Jl. Arteri Yos Sudarso, Tenggang, Tambak, Semarang City.

RESULT AND DISCUSSION

Operational management has a role in managing the company's production resources, including human resources, tools and equipment, raw materials, and others, to their maximum potential in order to produce the company's goods or services. Operational management is considered fundamental to the smooth running of a company. PT. Sricon Logistik Indonesia Semarang implements the following functions in its operational management activities:

1) Planning Function

In the planning function, PT. Sricon Logistik Indonesia's Depot make a plan that related to the development of depot work activity strategies, control policies related to company management to achieve effective and efficient operations, and decision-making for the company's improvement direction.

2) Organizing Function

The organizing function is applied to optimize the human resources of the company by placing employees or staff members according to their skills and the needs of the company, especially in the EOR staff and Surveyor departments.

3) Directing Function

Directing function is an implementation of the manager's role and responsibility to motivate employees to work in accordance with the assigned tasks and responsibilities.

4) Controlling Function

The controlling function is an effort by the company to minimize errors or losses. In this case, PT. Sricon Logistik Indonesia Semarang maximizes communication by fostering relationships among employees and selecting employees according to the company's needs.

Operational management in repair container activities make a role in handling the policies and strategies established by the company. With the establishment of policies and strategies applied to all operational activities within the Depot of PT. Sricon Logistik Indonesia, the company can minimize losses and achieve high productivity. With a high depot productivity level, activities can be carried out to their maximum potential. In the repair container activities, the following policies for the repair container process have been established as a reference:

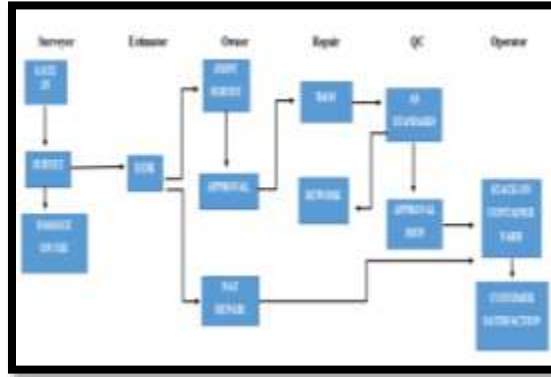


Figure 1 Repair Container Activity Flow

1) Gate In

The activity when a container enters the depot area and is subsequently unloaded from the top of a trailer truck is called a lift-off.

2) Survey

Surveys are conducted by expert surveyors in their field. Before the survey process, surveyor will check the document completeness and then the surveyor identifies the physical condition of the container and take a picture if they found any damages.

3) Estimate of Repair (EOR)

Estimator will receive data from the surveyor and create a cost estimation for the damages, including the items of container damage, which will be entered into the survey form along with attached images of the damages. The estimator will then proceed to label the damage images according to the container number.

4) Joint Survey

The shipping line can utilize the services of an independent surveyor for conducting surveys. In this case, the shipping line collaborates with SINSPEC as their chosen surveyor. The estimator's responsibility is to prepare the EOR (Estimate of Repairs), complete with documentation of the container damages, which will be sent to the independent surveyor. The stages involved in joint survey activities are as follows: a) Matching the container number stated in the documents with the physical container number. b) Ensuring the use of standard criteria for the repair process, in this case, the company follows the IICL (Institute of International Container Lessors) standards. c) Verifying the accuracy of the EOR with the actual physical condition of the container.

5) Approval

The shipping line has the authority to decide whether to approve or not approve the repair. When the shipping line responds with "Not Action Taken" (NAT), it means that the container does not require repair. The estimator will then update the container status from "damage" to

"available," and the container will be returned to the container stacking area and can be released for export or repo activities. However, when the response is "approval," the estimator will change the container status from "DM WA" (Waiting Approval) to "DM AP" (Approved). The container will then be placed in the repair area and handed over to the repairman for the repair work to be carried out.

6. Repair and Cleaning

This is the process of container repair conducted by the repairman. This process is carried out according to the instructions provided in the Estimate of Repair (EOR).

7. Quality Control (QC)

The inspection process carried out by the M&R (Maintenance and Repair) Supervisor when the container repair is completed. The M&R Supervisor will conduct a review and provide a completion statement if the repair match with the IICL (Institute of International Container Lessors) standards.

8. Billing of Repair

Bill of Repair is created to be sent to the Shipping Line. This document serves as an invoice for the container repair costs incurred by the Shipping Line. The depot will send the bill on a weekly or monthly basis, depending on the agreement.

The company has the authority to independently categorize the containers within its depot according to established standards. This classification of containers helps the container depot expedite the container retrieval process and ensure accurate tracking of the container inventory. PT. Sricon Logistik Indonesia Semarang classifies the containers in its depot into four categories:

Category A represents containers with the best quality or containers that have not undergone any repairs, thus having no damages. These containers are used for shipping food or food-grade products. Category B includes containers that have undergone previous repairs but are still in good condition and do not have severe damages that could affect shipping activities. These containers might have experienced issues such as rust, minor dents, or damage to the container floor. Category B containers can be used for shipping items like clothes, shoes, and other non-food items.

Category C refers to containers that frequently experience damage and have undergone multiple repair processes with significant levels of damage. These containers are typically used to carry heavy equipment or cargo that does not require special treatment, such as animal feed or fertilizers. After shipping, these containers may emit strong odors, rendering them unsuitable for transporting other goods that require special handling. Category D represents containers with severe damage. These damages are usually identified by surveyors, but the owner or shipping line decides not to proceed with the repairs. As a result, the containers are classified as "Not Action Taken" (NAT) repairs.

There are many types of repair activities, including the following:

a) Straighten

Straighten is a container repair that is carried out by not removing the parts of the container that are damaged so that the damaged parts are returned to their original shape either manually or automatically. Straightening is done by straightening damaged container components using a baking plate and hammer plate if done manually, but if done using hydraulic equipment then it is done using a jack.

b) Welding

Welding is the process of combining two metal or iron surfaces by burning or heating.

c) Weld and Straighten

the process repair container of combining two metal or iron surfaces by burning or heating

d) Insert

repairs container that carried out by removing or cutting the damaged part and replaced with new material to restore the damaged component to its shape and strength before the container was damaged.

e) Patching

Patching is a repair process that is almost the same as the insert, but the difference is in the size of the patching material used, which is significantly larger than the cut-out area. By using larger patching materials through plating, the repaired area gains increased strength and stability, allowing the container to be restored to a functional and reliable state

f) Section

The section is a method used when the damage cannot be repaired using patching or insert techniques. In this process, a portion of the container's element is completely cut out and replaced with a new section. During section replacement, the damaged section of the container is carefully measured and marked for removal. The affected area is then cut out entirely, including the full profile of the element. The removed section is replaced with a new piece of the same size and shape, which is welded or attached to the remaining structure of the container. Section replacement is typically employed when the damage is extensive or when the integrity of the container is significantly compromised. It allows for a complete and robust repair by completely replacing the damaged section with a new one, ensuring the container's structural integrity is restored.

g) Replace

Full replacement is a repair method where the entire damaged component of the container is replaced with a new one. During the full replacement process, the damaged section of the container is identified and assessed. The damaged component, such as a side panel, roof panel, or floor section, is completely removed. A new component of the same size and specifications is then installed and securely attached to the remaining structure of the container. Full replacement is typically employed when the damage is severe, extensive, or irreparable through other repair methods. It ensures that the entire damaged component is replaced with a new one, thereby restoring the structural integrity and functionality of the container.



Figure 2 Damage Straighten THRU6892393

One common type of damage is a pushed-in condition, where the container experiences damage to the side panel, causing it to deform inward. To repair this type of damage, the straightening repair method can be used. For example, let's consider a container with the number THRU6892393, which belongs to company ONE. It entered the gate-in area of PT. Sricon Logistik Indonesia Semarang depot on March 11, 2023, and was identified with panel assembly or pushed-in damage measuring 90 cm in length and 120 cm in width.

Based on the received data, the information will be received by the estimator, who will then create an estimate of repair document to be sent to the owner or shipping line as a notification of the container's damage and to seek approval for the repair. The decision to proceed with the repair will be made by the container's owner or shipping line. Therefore, the depot will await the decision provided by the shipping line regarding the handling of the container's repair.

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ESTIMATE OF REPAIR

Item	Revisi	Estimasi	Kategori	Tipe	Est. Date	Labour Est. (HR)
01010011 - Material	0	1000.000.000	ACI-BRM	DRK	2023-03-11	2023-03-11
02000000 - Manpower	0	1000.000.000	Material Type	Material	Estimate	010000000
03000000 - Labor	1.25	11	11	55	-	11.00
04000000 - 3RD Party Cost	0	0.00	0.00	0.00	0.00	0.00
05000000 - 4th Party Cost	0	0.00	0.00	0.00	0.00	0.00
06000000 - Material	0	0.00	0.00	0.00	0.00	0.00
07000000 - Manpower	0	0.00	0.00	0.00	0.00	0.00
08000000 - Labor	0	0.00	0.00	0.00	0.00	0.00
09000000 - 3RD Party Cost	0	0.00	0.00	0.00	0.00	0.00
10000000 - 4th Party Cost	0	0.00	0.00	0.00	0.00	0.00
Total						
Company	Damage	Manpower	Material	Labour	Material	Total
Owner/Client	11.00	0	0	0	0	11.00
Approved By	SRICON	SR	2023-03-11	Reference		

Notes:

Location	Equipment	Damage	Repair	Type	Panel	Length	Width	Height	Labour	Material	Cost
Responsible Party = Owner											
SRICON	PGA	01	02	0300	1	90	120	2.10	2.00	11.00	
Repair / Panel assembly / Painted in											

Figure 3 Estimate of Repair THRU6892393

The EOR document has been sent to the shipping line, and the response received from the shipping line is "Approved." As a result, the container's status changes to "Approval," and it is moved to the repair area for further processing.

Once the container has completed the repair process, the repairman will contact the SPV M&R (Supervisor Maintenance and Repair) to conduct a Quality Control check. The SPV will ensure that the repair has been carried out according to the instructions specified in the EOR document and in compliance with the depot's established standards, such as the IICL standard.

After the SPV M&R reviews the repair results and confirms that the repair has been performed as instructed, the SPV will sign the EOR document. The signed document indicates that the repair has been completed and aligns with the given instructions. This signifies the completion of the repair process.

When the container has completed the repair process and is returned to the Container Yard or storage area, the depot will generate a bill as an indication of the container repair costs. This bill, also known as the Bill of Repair, serves as an invoice for the repair expenses incurred by the depot. It will be sent to the shipping line on a weekly or monthly basis. By sending the Bill of Repair, the depot ensures that the shipping line is aware of the repair costs and can make the necessary payments. This helps maintain transparency and accountability in the repair process and ensures that the depot is appropriately compensated for the services provided.

Just like any other company, depot container activities also face constraints that can hinder depot operations. These constraints can arise from both internal and external factors within the company. Internal factors are those that originate from within the company itself, and during the research, the researcher identified some constraints arising from minor mistakes made by human resources while carrying out their tasks and responsibilities. The constraints caused by internal factors within the depot are as follows:

1. Errors in taking survey container images

Survey activity is a fundamental aspect of container repair as it serves as the basis for determining the next steps in the repair process. If errors occur during this activity, it can impede subsequent repair activities. One of the challenges identified by the researcher in this activity is related to the process of taking survey images. The quality of the survey images captured by a surveyor may be poor or unclear, making it difficult for the estimator to create an accurate estimate of repair. In such cases, the estimator usually requests the surveyor to retake the images to obtain clear data, enabling them to provide an estimation that aligns with the level of damage. Having clear and informative evidence not only helps the estimator but also enables the owner or shipping line to understand the information more quickly. This, in turn, expedites the decision-making process regarding whether the container should undergo repair or be released. Therefore, ensuring the quality and clarity of survey images is crucial to facilitate efficient and accurate estimation, decision-making, and subsequent repair activities.

2. Estimator Accuracy in Making EOR

The estimate of repair must be conducted with a high level of precision because it serves as crucial information for the shipping line's decision-making process regarding the repair status of the container. Additionally, the estimate of repair serves as the foundation for the repairs conducted by the repairman on the damaged container. If the estimate of repair does not accurately reflect the extent of the damage, the repair work may be considered unsuccessful. At Depo PT. Sricon Logistik Indonesia Semarang, estimators utilize software or applications available within the company to assist them in creating the estimate of repair. This helps minimize the occurrence of errors, keeping them within a small margin. By leveraging such tools, estimators can enhance the accuracy and reliability of the estimate, ensuring that the subsequent repair work aligns with the actual damage.

The next constraint is caused by external factors to the company. External factors are those that originate from outside the company but have a significant influence on the operational activities at Depo PT. Sricon Logistik Indonesia Semarang. In this case, the external constraint is related to the implementation of the Block System policy. The Block System policy involves dividing the container yard area into several blocks, each assigned an alphabetical name such as A, B, C, and so on. Within each block, multiple slots are provided. A slot refers to a longitudinal row within a block's stacking area, identified by sequential numbers like 01, 02, 03, and so on. TPKS Tanjung Mas allocates a three-hour time slot for each container to perform loading or unloading operations. If a container is not finished being loaded or unloaded within a slot, the depot must request additional slots until the loading and container retrieval processes are completed. This policy has caused the depot to experience delays in container retrieval on several occasions. The constraint arises because the availability of slots depends on the timing and duration of container loading and unloading activities. If these activities exceed the allocated time slot, the depot must wait for the next available slot, leading to delays in the repo activities.

CONCLUSION

- a. Operational management is an activity or process of managing the factors used in production, such as human resources (HR). Operational management functions are utilized to handle policies related to governance and the establishment of company strategies in making the best decisions for the organization. One of the functions of operational management in a company is to maintain and create harmonious relationships within the organization, which leads to effective communication. The function of actuating in management plays a role in mobilizing all members of the company who are involved in company activities according to their respective fields or departments in the best possible way. Actuation is a fundamental function in management as it strives for actions at all levels, from the lowest to the highest, to achieve the company's goals as planned and agreed upon.
- b. Operational management of container repairs at Depo PT. Sricon Logistik Indonesia Semarang has constraints include about unclear images or documentation from surveyors, resulting in difficulties for estimators in making estimates and interpreting data, requiring additional time for repeated image capture instructions. Secondly, the precision of estimators in creating estimates of repair needs to be improved to ensure accurate information or reports that will

be sent to the shipping line. Lastly, the policy of allocating slots by TPKS during the loading and unloading processes causes containers to wait for a long time for an available slot, causing delays.

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