



Regular Research Article

Management of the Plant Quarantine Release Certificate in the Loading and Unloading Process at PT. Ciomas Ariya Samudera

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Abstract: This study aims to analyze the effectiveness of Plant Quarantine Release Certificate management in supporting the smooth loading and unloading process of dry bulk at PT Ciomas Ariya Samudera. Plant Quarantine Release Certificate are quarantine requirements that must be met for the import of plant-based feed commodities, such as soybean meal (SBM), into Indonesia. The research method used a qualitative case study approach through in-depth interviews, observations, and documentation studies of administrative and operational processes. The results show that internal Plant Quarantine Release Certificate management can be said to be effective because it has been carried out systematically through document requirement planning, implementation of procedures according to SOPs, and supervision of document storage. However, its effectiveness is still hampered by several external factors such as weather, as well as technical disruptions to the online system, so it requires revision, re-coordination, or manual alternatives so that the process is not hampered. These obstacles result in delayed loading and unloading processes, increased logistics costs, and the risk of losses for animal feed company partners. Therefore, it is necessary to increase synergy between the company and relevant agencies, strengthen integrated digital systems, and conduct regular training to improve responsiveness to policy changes.

Keywords: Plant Quarantine Release Certificate, Loading and Unloading, Marine Logistics

1. Introduction

1.1 Background

The loading and unloading process at ports is an essential activity in the logistics sector and global trade. In today's logistics systems, any delay in loading and unloading activities can affect operational costs and cargo delivery time. Based on Ministerial Regulation No. 152 of 2016, loading and unloading services include the activities of loading and unloading cargo from ships at the port, including the transport, receipt, and delivery of cargo.

Therefore, during the loading and unloading process, several documents are required to ensure smooth operations. One of the required documents is the Plant Quarantine Release Certificate. The Plant Quarantine

Release Certificate (SPKT) is an official document issued by the Agricultural Quarantine Technical Unit based on Ministerial Regulation No. 14/2016, serving as a requirement to release carriers, wood packaging, or fresh and processed plant products (PSAT), whether originating from abroad or inter-regional shipments.

In an international context Phytosanitary certification is used to attest that consignments meet phytosanitary import requirements and is undertaken by an NPPO. A phytosanitary certificate for export or for re-export can be issued only by a public officer who is technically qualified and duly authorized by an NPPO. Quarantine documents particularly plant quarantine release certificates serve as formal instruments that bridge national plant health

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interests with international trade needs. International standards issued under the International Plant Protection Convention (IPPC) and ISPM-12 define the components and procedures for issuing certificates so that NPPOs can attest that a consignment meets the requirements of the destination country. However, implementation at the national and regional levels shows significant variation: the European Union applies strict phytosanitary requirements and risk-based inspections, while countries such as the United States and New Zealand integrate electronic systems (e.g., PCIT, ePhyto) to expedite processes and strengthen audit trails. Developing countries, on the other hand, face administrative and technical capacity challenges that impact document reliability, which in turn can trigger trade disputes when actions are deemed inconsistent with WTO SPS

1.2 Problem Formulation

This study is formulated to examine the management process of the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera, particularly in relation to its role in supporting loading and unloading activities. The research focuses on how the certificate is processed, coordinated, and utilized across operational stages, including documentation flow, verification procedures, and inter-agency communication. In addition, this study identifies the main obstacles encountered in the practical use of the Plant Quarantine Release Certificate during loading and unloading operations, such as administrative delays, coordination issues, and compliance challenges. Furthermore, the effectiveness of certificate management is evaluated in terms of its ability to facilitate operational efficiency, minimize disruptions in cargo handling, and ensure regulatory compliance throughout the loading and unloading process at PT Ciomas Ariya Samudera.

1.3 Research Objectives

The objectives of this research are to describe the management process of the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera, particularly in its application within loading and unloading operations. This study also aims to identify the obstacles encountered in the utilization of the certificate during cargo handling activities, including administrative, procedural, and coordination-related challenges. Furthermore, the research

principles. (ISPM-12, FAO guidance, Permentan No. 14/2016; examples include EU regulations, APHIS, MPI).

According to Law No. 16 of 1992 concerning Animal, Fish, and Plant Quarantine, every item entering Indonesia must be accompanied by valid quarantine documents, including a Plant Quarantine Release Certificate. The results of pre-research interviews with PT Ciomas Ariya Samudera employees show that errors, input constraints, and delays in issuing the SPKT greatly affect the smoothness of port operations. Document delays cause postponed loading and unloading activities, increased vessel berthing time, higher operational costs, queues, and decreased productivity and customer satisfaction. Therefore, improving accuracy and speed in certificate management is crucial to minimizing these negative impacts.

seeks to evaluate the effectiveness of the Plant Quarantine Release Certificate in supporting the loading and unloading process by assessing its contribution to operational efficiency, regulatory compliance, and the continuity of cargo handling activities at PT Ciomas Ariya Samudera.

2. Materials and Methods

This research uses a qualitative approach with a case study method applied to the research process, specifically intrinsic case study, in which problems or obstacles are studied due to interesting factors originating from the issues themselves [1]. The main variable in this study is the management of the Plant Quarantine Release Certificate. The management of this certificate is inseparable from the four aspects: Planning, Organizing, Actuating, and Controlling [2].

2.1 Data Collection Techniques

This study employed several data collection techniques to obtain comprehensive and reliable information regarding the management of the Plant Quarantine Release Certificate in the dry bulk loading and unloading process at PT Ciomas Ariya Samudera.

Interviews were conducted to gather in-depth and detailed information related to the procedures, coordination mechanisms, and practical implementation of the Plant Quarantine Release Certificate. The interviews were unstructured, allowing flexibility in the

formulation of questions so that they could be adapted according to the interview context, respondent responses, and emerging research needs.

Observations were carried out systematically by following standardized observation procedures [3]. The researcher applied participant observation by being directly involved in the operational environment while maintaining a visible role as an observer. This approach enabled the researcher to capture actual practices, workflows, and interactions occurring during the loading and unloading process.

The management of the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera is implemented through a structured managerial process based on the Planning, Organizing, Actuating, and Controlling (POAC) framework, which is closely integrated with dry bulk loading and unloading operations.

3.1.1 Planning

The dry bulk loading and unloading process at PT Ciomas Ariya Samudera consists of two main stages, namely unloading and delivery, as illustrated in Figure 1, which depicts the overall

Documentation was used to obtain supporting data in the form of official documents, archival records, operational reports, and other relevant written or visual materials [4]. These documents served to complement the data obtained from interviews and observations and to enhance the validity of the research findings.

3. Results

3.1 The Process of Managing the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera

flow of goods output [5]. During the unloading stage, the shipping agent initially registers the planned arrival of the vessel with the TPKS Ship Planning Division. Subsequently, no later than 24 hours before the vessel's arrival, the container unloading plan (BAPLIE) data are transmitted to TPKS through the Electronic Data Interchange (EDI) system to provide comprehensive information regarding the vessel and its cargo. The unloading process may only commence after TPKS receives the BC 1.1 document from the shipping agent, which serves as the legal basis for initiating cargo handling activities [6].

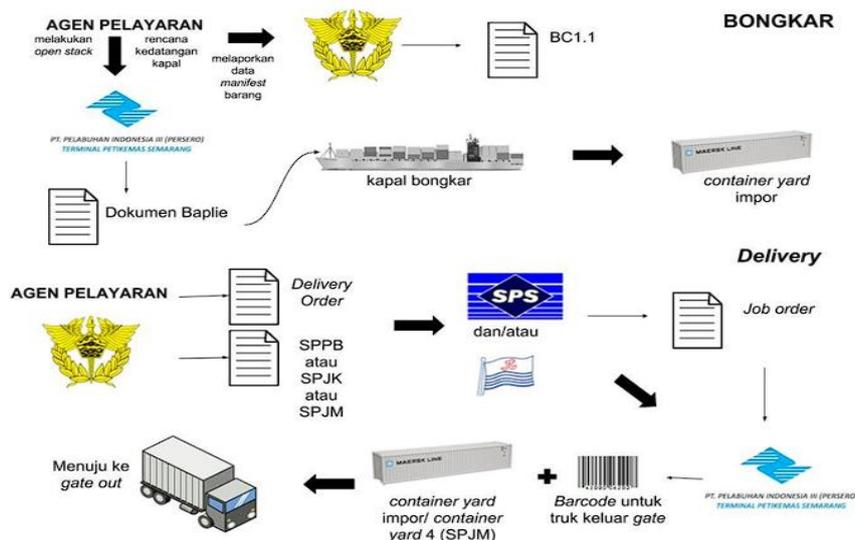


Figure 1. Flow of goods output [5]

Following the completion of unloading activities shown in Figure 1, the delivery stage begins, involving the release and handover of goods to the cargo owner or authorized recipient. At this stage, PT Ciomas Ariya Samudera applies systematic document planning to fulfill the requirements of the Plant Quarantine Release Certificate, particularly for

imported dry bulk commodities such as soybean meal. Supporting documents including KT-1, SP2MP, invoice, bill of lading, certificate of origin, and packing list are prepared and verified at least three days prior to the vessel's arrival. The effectiveness of this planning stage is further enhanced through the utilization of the SSm QC (Single Submission Quarantine) digital

system, which enables real-time document submission, monitoring, and transparency throughout the certification process [7].

3.1.2 Organizing

The organizing stage of the Plant Quarantine Release Certificate management process is reflected in the clear division of roles and responsibilities across organizational units, as conceptually linked to the workflow presented in Figure 2. The primary responsibility is assigned to the Marketing, Planning, and Service Control Division, which manages document preparation, verification, and submission through the SSm QC system. This division also coordinates directly with the Agricultural Quarantine Authority to ensure that administrative and inspection requirements are fulfilled in accordance with established procedures [8].

3.1.3 Actuating

The actuating phase focuses on the execution of planned activities and operational coordination during cargo handling. As shown in Figure 2, unloading operations may only begin after the arrival of the dry bulk carrier and the completion of a physical inspection by Plant Quarantine Officers. Once the required documents are submitted via the SSm QC system, quarantine officers verify cargo conformity with the submitted documentation and applicable regulations.

The issuance of the Plant Quarantine Release Certificate, as indicated in the workflow in Figure 2, serves as the legal basis for releasing goods from the port to warehouses or end users. This certificate confirms that the cargo is safe for distribution and is attached to the delivery order and delivery note during the distribution process. After the distribution stage illustrated in Figure 1, PT Ciomas Ariya Samudera records the entire process using a digital reporting system, enabling real-time

tracking from document submission to the receipt of goods at their final destination [9].

3.1.4 Controlling

The controlling function plays a critical role in ensuring that all management activities are conducted in accordance with the established plans, organizational arrangements, and operational procedures. Control activities include monitoring document completeness, verifying compliance with quarantine regulations, supervising inspection outcomes, and evaluating operational performance to identify potential delays or deviations. Through continuous monitoring and evaluation, PT Ciomas Ariya Samudera ensures that the Plant Quarantine Release Certificate management process remains effective, compliant, and aligned with operational objectives.

Figure 2 illustrates the workflow of Plant Quarantine Release Certificate management at PT Ciomas Ariya Samudera. The process begins with the arrival of a vessel carrying imported dry bulk commodities, such as wheat, soybean meal, or corn, at an Indonesian port. The cargo owner or service user (PPJK), represented by PT Ciomas Ariya Samudera, reports the arrival of the carrier medium to the Plant Quarantine Officer, accompanied by essential documents, including the Phytosanitary Certificate from the country of origin.

Subsequently, Plant Quarantine Officers conduct a series of inspection activities, including document verification, physical inspection of the cargo to detect the presence of Plant Quarantine Pests (OPTK), and laboratory sampling if required. If the cargo is declared safe and free from OPTK, the Plant Quarantine Release Certificate is issued. However, if pests or other risks are detected, special quarantine measures such as fumigation are applied. Once the cargo is declared safe following treatment, the Release Certificate is then issued.

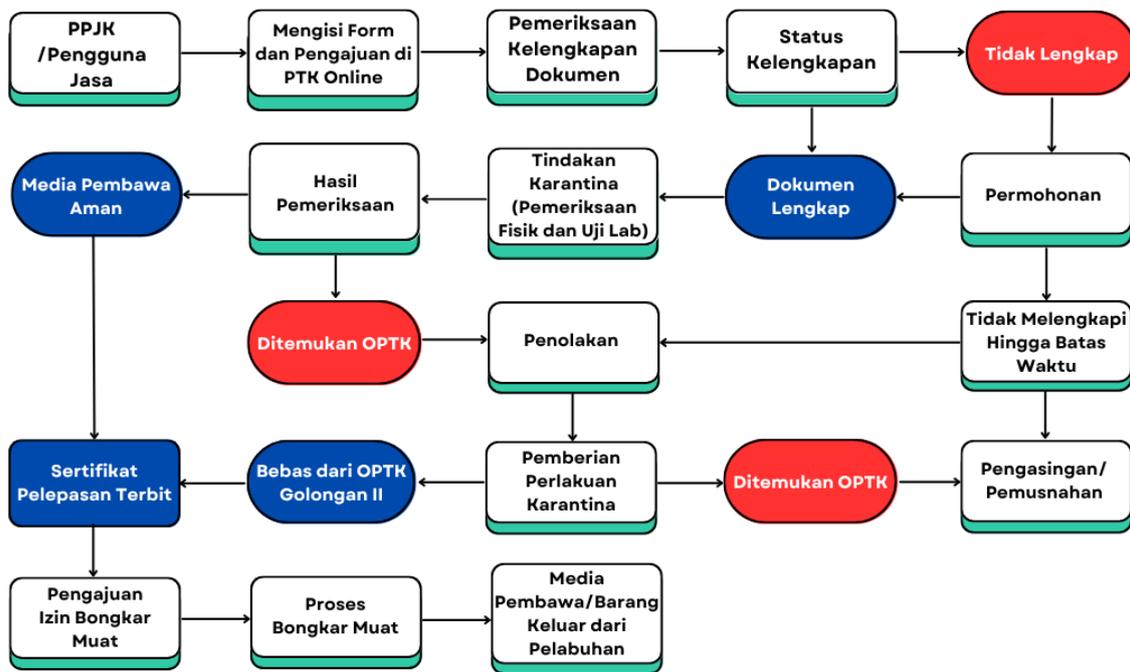


Figure 2. Workflow of Plant Quarantine Release Certificate

With the issuance of the Plant Quarantine Release Certificate, the cargo owner or ship agent may apply for loading and unloading permits from the Port Authority and Customs. This certificate serves as the primary requirement demonstrating that the cargo is safe for circulation within Indonesia. After all permits are obtained, the dry bulk loading and unloading process can be carried out safely and in compliance with applicable regulations.

To accelerate export and import service processes, the Agricultural Quarantine Agency has introduced policy measures through Decree Number 2471/Kpts/KR.020/K/11/2018 on the acceleration of export certification services and Decree Number 2523/Kpts/KR.020/K/11/2018 on the determination of in-line inspection system locations for plant quarantine measures. These policies aim to enhance service efficiency while maintaining effective monitoring and traceability throughout the quarantine process.

3.2 Obstacles in Managing the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera

The management of the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera faces various obstacles that affect the smooth input, monitoring, and tracking. In addition, regular training for operational and logistics staff is necessary to improve understanding of technical procedures, updated regulations, and import-export document management, thereby

issuance of the document. The main obstacles include incomplete supporting documents due to suboptimal internal coordination, differences in document formats between quarantine working areas, and delays in the submission of files from suppliers or third parties. In addition, delays in issuing recommendations from the Ministry of Agriculture (REKOMDEPTAN) can postpone the issuance of the certificate for several weeks, resulting in vessel detention, increased logistics costs, and financial losses for animal feed companies. Other external obstacles include sudden changes in inspection schedules due to bad weather or high port activity, technical disruptions in the online service system (internet connection, server issues, or application errors), as well as limited manpower during peak workloads. These issues slow down the loading and unloading process and delay certificate issuance. Specifically for dry bulk cargo, field-related problems include material buildup, delays in berth cleaning, and the risk of product mixing, which may affect the results of quarantine inspections. As a solution, the company recommends strengthening digital administrative systems integrated with the Quarantine Single Submission System (SSM QC) to accelerate document[10], [11] minimizing the risk of delays and enhancing the effectiveness of document management.

3.3 Effectiveness of Plant Quarantine Release Certificate Management in Supporting the Unloading Process at PT Ciomas Ariya Samudera

The effectiveness of managing the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera is analyzed using the POAC managerial framework (Planning, Organizing, Actuating, Controlling). In the Planning aspect, the company has aligned the certificate application workflow with the SSM QC system, arranged schedules prior to cargo arrival, and prepared the supporting documents completely. In the Organizing aspect, the division of tasks among departments is clear, although the technical understanding of some staff regarding the impact of data errors still needs improvement. In the Actuating aspect, the implementation of certificate submission is carried out in parallel with the loading and unloading process. However, it is often hindered by delays in verification by Quarantine Officers or discrepancies in laboratory test results[12]. In the Controlling aspect, supervision is conducted through digital tracking and manual checks

4. Conclusions

The management of the Plant Quarantine Release Certificate at PT Ciomas Ariya Samudera has been implemented in a structured and systematic manner in accordance with established Standard Operating Procedures (SOPs). The Plant Quarantine Release Certificate (SPKT), which is an official document issued by the Agricultural Quarantine Technical Unit based on Ministerial Regulation No. 14/2016, functions as a mandatory requirement for releasing carrier media, wood packaging, and

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fresh or processed plant products (PSAT), whether originating from international or inter-regional shipments. The management process encompasses planning, organizational structuring, technical implementation supported by digital systems, and supervision through document control and archiving mechanisms. The adoption of the SSM QC (Single Submission–Quarantine) system has strengthened planning effectiveness by enabling more efficient document submission, synchronization, and monitoring. In addition, the application of blockchain-based document security serves as an additional safeguard against document forgery, indicating that the company has performed its quarantine management functions effectively.

Despite these strengths, several obstacles were identified during the implementation process. These include incomplete supporting documents, unexpected changes in inspection schedules caused by weather conditions or port congestion, and delays in certificate issuance due to pending recommendations from the Ministry of Agriculture. Such constraints may lead to vessel detention and potential financial losses, particularly for animal feed companies that depend on timely cargo clearance.

Overall, the effectiveness of Plant Quarantine Release Certificate management at PT Ciomas Ariya Samudera can be considered good from an internal operational perspective. This is reflected in structured planning, integrated digital data management, well-defined workflows, and routine monitoring and archiving practices. However, the overall effectiveness of the system remains partially influenced by external institutional and environmental factors that are beyond the direct control of the company.

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