

OPTIMIZATION OF PASSENGER BOARDING AVIOBRIDGE SERVICES FOR EXCELLENT SERVICE AT TJILIK RIWUT PALANGKA RAYAAIRPORT

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ABSTRACT

The use of passenger boarding bridges is one of the revenue sources in airport management. According to PM 185 of 2015, the availability of passenger boarding bridges facilitates passengers boarding from the aircraft to the terminal. Therefore, all equipment operated requires regular maintenance, including passenger aviobridge, which must be maintained in accordance with the Decree of the Director General of Civil Aviation number SKEP/157/IX/2003 regarding guidelines for the maintenance of aviation electronics and electrical equipment facilities. Tjilik Riwut Airport has two units of passenger boarding bridges, but in this journal, the author examines this issue through a descriptive qualitative study, using data collection methods such as observation and interviews, as well as data analysis to find alternative solutions.

Keywords: Aviobridge, Maintenance of Passenger Boarding Aviobridge Facilities, Optimization

1. INTRODUCTION

Garbarata is an enclosed bridge that connects the passenger waiting area to the aircraft door, making it easier for passengers to board and disembark from the plane. As a service provider, PT. Angkasa Pura II at Tjilik Riwut Airport must enhance its service quality to ensure passenger comfort.

The presence of passenger boarding bridge facilities provides comfort for passengers when boarding the aircraft. Due to its enclosed design, passengers are protected from the heat of the sun and rain. Therefore, the passenger boarding bridge is an essential piece of equipment that must be available at every airport, including Tjilik Riwut Airport in Palangka Raya. Improving the quality of

maintenance is crucial to ensure that airport facilities operate optimally, which is also a key factor in assessing airport operational performance. The quality of passenger boarding bridge services not only affects the efficiency and comfort of travel but also impacts passenger satisfaction and loyalty towards the airline and the airport.

Tjilik Riwut Airport in Palangka Raya has 10 aircraft parking stands, with 6 stands located at the old terminal used for cargo operations and VVIP guests, while the remaining 4 stands are situated at the new terminal in positions D1, D2, D3, and D4. Parking stand D1 is not equipped with a passenger boarding bridge and is usually used by Wings Air, where passengers board and disembark using a manual ladder. Meanwhile, 3 passenger boarding bridges are located at parking stands D2, D3, and

D4, which are frequently used for domestic flights, helping to keep flight schedules orderly and prevent congestion.

The use of passenger boarding bridge facilities is an important aspect that needs attention, as their operational efficiency is still suboptimal. For example, at parking stand D2, there are issues such as service warnings or errors when adjusting the height and forward/backward movement of the boarding bridge, known as the automatic levelling system or auto-level, which is supposed to operate automatically.



Figure 1. Damage to the passenger boarding bridge canopy

In Figure 1, the passenger boarding aviobridge has a damaged canopy due to a broken cable caused by a mechanical error. At Tjilik Riwt Airport Palangka Raya, frequent errors occur that hinder the boarding and disembarking process for passengers, causing discomfort as they have to wait for the boarding bridge to be repaired.



Figure 1.2. AC di dalam garbarata bocor

In Figure 1.2, the condition of the passenger boarding bridge at parking stand D2 at Tjilik Riwt Airport Palangka Raya is depicted. The issue is that a leaking air conditioner causes water to drip onto the floor and soak the boarding aviobridge carpet, resulting in discomfort for passengers.



Picture 1.3. Passengers use a ladder

2. METHODS

Research methodology explains how research should be conducted using careful and comprehensive scientific techniques to collect, process, and analyze data, as well as systematically and objectively draw conclusions to solve problems or test hypotheses in order to obtain knowledge beneficial to human life. Research methods are the scientific approach to collecting data with specific goals and objectives.

2.1 Research Design

The method used in this research is qualitative descriptive, meaning that the data analyzed and the results are in the form of descriptions of phenomena, rather than numerical figures or coefficients about the relationships between variables. The collected data is in the form of words or images, not numbers. The research report contains quotations from the data collection to provide illustrations and support the report. [1]

2.2 Research Variables

In the research conducted, two variables can be identified: the quality of passenger boarding bridge services (X) and the excellent service of the boarding bridge according to user expectations (Y). [2]

2.3 Data Collection Techniques

Data collection methods include observation, questionnaires, and documentation. Observations The object of this research is the evaluation of the use of passenger boarding bridges in relation to excellent service at Tjilik Riwut Airport Palangka Raya, where issues such as inadequate maintenance and operational problems with the boarding aviobridges can lead to damage.[3][4]

2.4 Data Collection Techniques

The object of this research is the evaluation of the use of passenger boarding bridges in relation to excellent service at Tjilik Riwut Airport Palangka Raya, where issues such as inadequate maintenance and operational problems with the boarding aviobridges can lead to damage. [5] [6]

2.5 Data Collection Techniques

The data collection methods employed by the author aim to facilitate the gathering of data for research on optimizing passenger boarding bridge maintenance to improve flight services at Tjilik Riwut Airport Palangka Raya, as follows: [7]

2.5.1 Observation

Observations were conducted during On-The-Job Training (OJT) from December 2023 to February 2024 at Tjilik Riwut Airport Palangka Raya. The following indices were identified for observation:

- a. Availability of passenger boarding bridges, including the number of boarding bridges available
- b. Maintenance and operational use of passenger boarding bridges
- c. Passenger satisfaction and complaints related to the comfort and ease of using the passenger boarding bridges at Tjilik Riwut Airport Palangka Raya

- d. Efforts and improvements in the use of passenger boarding bridges to ensure they operate optimally.

2.5.2 Interview

The author conducted interviews with 6 staff members from the Apron Movement Control (AMC) unit, 4 staff members from the electrical mechanical facility unit, and 10 passengers at Tjilik Riwut Airport Palangka Raya. The interviews were aimed at gathering information about the role of passenger boarding bridges for passengers at Tjilik Riwut Airport Palangka Raya.

Table 1. Interview Results

Aspects	Question
Regular maintenance of passenger boarding bridge equipment	<p>- What are the main components of a passenger boarding bridge that require regular maintenance?</p> <p>- What are the consequences if regular maintenance of the passenger boarding bridge is not performed properly?</p> <p>- What are the consequences if regular maintenance of the passenger boarding bridge is not performed properly?</p>
Melakukan alternatif lain ketika garbarata mengalami kendala	- What is the first step to take if a passenger boarding bridge experiences problems during use?

	- How can you ensure that passengers requiring special assistance are safe when the passenger boarding bridge is malfunctioning??
Standard Operating Procedure (SOP) for the Use of Passenger Boarding Bridges	- What steps should staff follow to prepare the passenger boarding bridge before it is used by passengers?
The quality of passenger boarding bridge services provides ease for passengers when boarding and disembarking from the terminal	- Does the passenger boarding bridge provide adequate protection against adverse weather conditions? - How is the quality of cleanliness and maintenance of the passenger boarding bridge maintained?

2.6 Data Analysis Techniques

The data analysis used in this research involves qualitative descriptive analysis. The aim of this analysis is to systematically, factually, and accurately describe the facts and relationships between the phenomena being investigated. Analysis is conducted after the necessary data for this research has been collected. The data obtained pertains to the quality of the passenger boarding bridge.

2.7 Location and Timing of the Research

The research was conducted at Tjilik Riwt Airport Palangka Raya, Palangka Raya, Central Kalimantan. The study took place over a period of approximately 3 months, from December 10, 2023, to February 29, 2024

3. RESULTS AND DISCUSSION

According to SKEP/157/IX/2003 regarding the guidelines for the maintenance and reporting of aviation electronics and electrical equipment, Article 1 states: "Every airport operator is required to maintain aviation electronics and electrical facilities, and may collaborate with the Electronics Center - Directorate General of Civil Aviation if difficulties are encountered."

3.1 Optimization of Passenger Boarding Bridge Services

At Tjilik Riwt Airport, there are 3 passenger boarding bridges, but only 2 of them are operational, located at parking stands D3 and D4. The airport has approximately 10 flights per day, but not all flights use the boarding bridge facilities, such as Wings Air. With the damage to the boarding bridge at parking stand D2, not all flights can utilize these facilities.

Due to closely scheduled flights, some aircraft may not be able to use the boarding bridges. According to information from interviews with personnel from the Apron Movement Control (AMC) unit, the aircraft that lands first will be allocated the boarding bridge.

The analysis reveals that regular maintenance of the boarding bridges is crucial. Without proper maintenance, the performance of the boarding bridges can be compromised, affecting the quality of service and preventing optimal performance.

3.2 Discussion of Issues

Based on the analysis of the problems described above, the author concludes that the damage to the passenger boarding bridge is caused by insufficient attention to maintenance by the personnel from the Electrical and

Mechanical Facility Unit. This lack of thorough maintenance leads to equipment malfunctions, resulting in the temporary suspension of the boarding bridge's operation

3.3 Problem-Solving

3.3.1 Repairs on Passenger Boarding Bridge Equipment

The passenger boarding bridge (aviobridge) is a facility at the airport that provides a more efficient way for passengers to board and disembark from aircraft. However, when the aviobridge is out of operation, it diminishes the value of the airport facilities for passengers.

It has been explained that the aviobridge is unusable due to a malfunctioning air conditioner. To restore its functionality, several repairs are required:

1. Replace the damaged axle shaft and the old PLC output
2. Replace equipment that is no longer serviceable to ensure the garbarata can be operational again, such as replacing the peeling wheels and the damaged canopy, among other things
3. Promptly repair and replace garbarata components when damage is discovered to prevent ongoing damage.

3.3.2 Improving the Performance of the Passenger Boarding Bridge

Maintenance of the passenger boarding bridge (garbarata) has a significant impact on its performance. Proper maintenance is essential for improving the garbarata's performance and enhancing the quality of service at Tjilik Riwut Airport. Therefore, maintenance of the garbarata at Tjilik Riwut Airport in Palangka Raya should be improved and aligned with SKEP 157/IX/2003.

To enhance the maintenance of garbarata equipment, several steps can be taken::

1. Perform routine maintenance on both the exterior and interior of the garbarata, avoiding the use of harsh chemicals that could damage its surfaces or components.
2. Keep the garbarata equipment dry and free from dust. Moisture and dust can lead to corrosion and component damage.
3. Conduct regular inspections of the garbarata equipment, such as checking power cables, connections, and components. If signs of

damage or wear are observed, promptly repair the faulty components

4. Protect the garbarata equipment from extreme temperatures and environmental conditions. Keep it away from excessive heat sources or direct sunlight
5. Schedule periodic maintenance in addition to routine care, involving experienced technicians. This may include deep cleaning, performance checks, and minor repairs

4. CONCLUSION

The following conclusions can be drawn from the study and discussions presented:

- a. The condition of the passenger boarding bridge (garbarata) at Tjilik Riwut Airport in Palangka Raya requires repair, given that passenger service is a critical aspect of airport service providers. According to PM 185 of 2015, one such service is the garbarata facility. The garbarata service at Tjilik Riwut Airport must be timely and always available when needed. Repairs are necessary, such as fixing the damaged axle shaft at Parking Stand D2, replacing the old PLC output, replacing worn-out equipment to ensure the garbarata can be operational again, such as replacing peeling wheels and fixing the damaged canopy at Parking Stand D4, and replacing garbarata components when damage is found to prevent ongoing issues.
- b. Maintenance of the garbarata at Tjilik Riwut Airport must be improved and adhere to SKEP 157/IX/2003. Operational activities of the garbarata should be recorded and entered into a logbook as per KP 22 of 2015. Maintenance and operational use of the aviobridge facility play a role in enhancing its performance and improving passenger service quality at Tjilik Riwut Airport. To address these issues, routine inspections by mechanical and facility staff should be conducted regularly, preventive maintenance should be performed, and adequate spare parts should be available to allow for quicker and more efficient repairs.

c.

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