

# The Role of Apron Movement Control Unit Officers in Handling the Movement of Cargo Planes at the Tjilik Riwut Palangkaraya Airport Apron

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## Abstract

Stefanus Leonardo Sandan. 2023. The Role of Apron Movement Control (AMC) Unit Officers in Handling the Movement of Cargo Planes on the Tjilik Riwut Palangkaraya Airport Apron. The purpose of this research is to examine; (1) What are the roles of AMC officers in handling the movement of cargo planes on the Tjilik Riwut Palangkaraya Airport apron?; (2) What are the obstacles encountered and the solutions for AMC officers in handling the movement of cargo planes on the Tjilik Riwut Palangkaraya Airport apron? The research method used is a qualitative method with an interview and observation approach. The research results show that; (1) The role of AMC officers in handling the movement of cargo aircraft on the Tjilik Riwut Palangkaraya Airport apron is as follows: (a) Regulating the movement and placement of aircraft so that they do not collide with other aircraft. (b) Regulating the movement and placement of aircraft so as not to collide with or be obstructed by obstacles on the apron and its surroundings. (c) Arranging the placement of aircraft in parking stands based on the type and size of the aircraft. (d) Regulate the entry and exit of aircraft from the apron (parking stand) to the maneuvering area or vice versa. In this case, coordination must be carried out with the Aerodrome Control Tower unit in advance. (e) Ensure the safety and smooth movement of vehicles and the regularity of other activities on the apron. (2) The obstacles faced by AMC officers in handling the movement of cargo planes on the Tjilik Riwut Palangkaraya Airport apron include; (a) Lack of personnel or human resources, (b) Lack of quality and quantity of CCTV compared to the area of the apron, (c) Not having remote areas for all types of aircraft, (d) Parking stand constraints on unscheduled flights, (e) Lack of Communication in AMC Officer Shift Changes. Solutions to the obstacles faced by AMC officers in handling the movement of cargo planes on the Tjilik Riwut Palangkaraya Airport apron, including; (a) Additional personnel or human resources, (b) Increasing the quality and quantity of CCTV in proportion to the area of the apron, (c) Determination of remote areas for all types of aircraft, (d) Increasing the Readiness of Officers in dealing with unscheduled flights, (e) Improving coordination and AMC unit communications.

**Keywords:** Role, Officer, AMC, Plane, Cargo, Apron, Tjilik Riwut Palangkaraya Airport.



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## INTRODUCTION

In the world of the aviation industry, which is growing day by day, there are many types of flights provided and one of them is an airplane that serves cargo flights or flight activities that only transport goods on board. (Maria, 2022). The progress of the industry will certainly depend on the large number of consumers who use the services that have been provided. Therefore, the airport has a very vital role as a bridge to create smooth flight activities (Department of Transportation, 2015). Airport is an area on land and/or waters with certain boundaries that is used as a place for aircraft to land and take off, take off passengers, load and unload goods, and place for intra and intermodal transportation, which is equipped with aviation safety and security facilities. , as well as basic facilities and other supporting facilities (Flight, 2009). Meanwhile, airports are everything related to the operation of airports

and other activities in carrying out the functions of safety, security, smoothness and orderliness of the flow of aircraft, passenger, cargo and/or postal traffic, intra and/or intermodal movement places and increasing economic growth. regional national (Angkasa Pura II, 2020).

The role of the airport is as a node in the air transportation network which is described as the location point of the airport which becomes the confluence of several flight networks and routes according to the airport hierarchy. As a place of activity for switching modes of transportation, in the form of interconnections between modes at transportation nodes in order to meet the demands for an integrated and continuous increase in service quality which is described as a place for transferring modes of air transportation to other modes of transportation or vice versa. In addition, the airport also plays a role as a driver and support for industrial, trade and/or tourism activities in driving the dynamics of national development, as well as integration with other development sectors, described as an airport location that facilitates air transportation in the surrounding area. (Indonesian National Standard 03-7095-2005).

The land side is the area of the airport that is not directly related to flight operations and the air side is part of the airport and all its supporting facilities which are non-public areas where every person, goods and vehicle that will enter it must go through a security check and/or have a special permit. (Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 77 2015). Aviation is a unified system consisting of utilization of airspace, aircraft, airports, air transportation, flight navigation, safety and security, environment, as well as supporting facilities and other public facilities. (Law No. 1 of 2009). Tjilik Riwut Airport is an airport located in the city of Palangkaraya, Central Kalimantan, Indonesia. This airport itself is the only airport in the city of Palangkaraya that serves flight activities in the city. In addition to serving commercial flights, this airport also serves cargo flights where cargo flights are flights that use aircraft that have been modified in such a way that they can be devoted only to transporting freight and/or postal services. (Rizki & Damanik, 2015a).

The increasing number of passengers and goods transported by aircraft has made the function of airports as aviation infrastructure very important, especially at large airports with high-altitude aircraft movements, which in operation must provide complete facilities in an effort to provide convenience and excellent service to prospective passengers and visitors. . The airport is a meeting place for many people from various places. In addition, it is also a gathering place for many people who carry out activities and work to support smooth, safe, comfortable and safe flight operations for both landing and taking off aircraft. (Rizki & Damanik, 2015a).

One of the supports in the smoothness and security of the airport is the Apron Movement Control (AMC) unit in handling the movement of cargo aircraft. Supervision on the air side (Apron) carried out by the Apron Movement Control (AMC) unit, which regulates the movement of aircraft, vehicles, passengers and goods in the air side area and controls and oversees the area on the air side. As referred to Apron Movement Control (AMC) are airport personnel who have a license and rating to carry out their duties as responsible for flight operations, supervision, aircraft movement, vehicle traffic, passengers and cleanliness supervision in the airside area and record flight data in Aprons. (Hernawan et al., 2016).

One of the airports that has become the object of research by researchers is Tjilik Riwut Palangkaraya Airport, which is managed by PT Angkasa Pura II (Persero), which is a state-owned company (BUMN), located in the city of Palangkaraya. Apron Movement Control (AMC) monitoring of the discipline of service users at Apron still needs to be improved, one example is Ground Handling (GH) officers who do not use complete safety equipment. After observing,

it was found that there were still problems in the apron area, especially for cargo planes, namely that there was no CCTV to monitor aircraft movements in the old apron area, so officers from the AMC unit had to go directly to the field to monitor and handle the service for the movement of the aircraft. Besides that, it is also often found that officers from the AMC unit are still not optimal on duty because several facilities have not been fulfilled at the airport, especially in the apron area. The aims of this research are as follows: To find out the role of AMC officers in handling the movement of cargo planes on the apron of Tjilik Riwut Palangkaraya Airport. To find out what are the obstacles faced by AMC officers in handling the movement of cargo planes at Tjilik Riwut Palangkaraya Airport

## **Theoretical Basis**

### **Tjilik Riwut Airport**

Airport is an area on land and/or waters with certain boundaries that is used as a place for airplanes to land and take off, take off passengers, load and unload goods, and place for intra and intermodal transportation, which is equipped with aviation safety and security facilities, as well as facilities principal and other supporting facilities (Azis & Dewantari, 2022). According to the Directorate General of Civil Aviation, an airport is an area on land and/or waters with certain boundaries that is used as a place for aircraft to land and take off, board passengers, load and unload goods, and place for intra and intermodal transportation, equipped with with aviation security and safety facilities, as well as basic facilities and other supporting facilities (Prasetyo & Pradana, 2022). Tjilik Riwut Airport is also known as Palangkaraya Airport, previously named Panarung airport. Tjilik Riwut Airport is also the largest airport in Central Kalimantan. This airport is also the embarkation for prospective pilgrims from Central Kalimantan. The runway at this airport was extended to 3,000 x 45 meters (10ft x 148ft) and a new Tjilik Riwut airport terminal was also built with an area of 20,553 square meters with two levels and can accommodate more than 1,000 passengers. (Angkasa Pura II, 2020)

### **Aprons**

What is meant by an apron is part of the aerodrome excluding the maneuvering area, the apron is used for loading and unloading of passengers and cargo, refueling, servicing, maintenance and parking of aircraft, movement of aircraft, vehicles and pedestrians with a specific purpose. (Jumlad & Fajrin, 2020). Based on the Regulation of the Director General of Civil Aviation Number: KP 39 of 2015 concerning Technical and Operational Standards of Civil Aviation Safety Regulations-Part 139 (Manual of Standard CASR – Part 139) Vol 1 Airports (Aerodromes) that the apron must be positioned so that the aircraft parked on it does not violate the obstacle boundary surface, and especially the transitional surface. In annex 14, aerodrome volume I states that the apron is a certain area on the ground of the aerodrome intended to accommodate aircraft for the purpose of loading and unloading passengers, mail or cargo, refueling, parking or aircraft maintenance. (Suradi & Hilal, 2022). An apron is an area or area at an airport that has been determined for placing aircraft, lowering and boarding passengers, cargo, refueling, parking and maintaining aircraft. The Apron Movement Control Unit or (AMC) functions to control the movement of aircraft to prevent incidents of aircraft accidents on other vehicles, regulate the entry of aircraft into the Apron and regulate aircraft leaving the Apron using the Aerodrome Control Tower and ensure safety and smooth movement and organize other activities (Ismail, 2022).

### **Apron Movement Control**

Apron movement control is the unit tasked with determining where to park the aircraft after receiving an estimate from the ADC (Tower) unit. Before determining the AMC unit aircraft parking stand, it must coordinate with the airline or operator so that the loading and unloading process runs smoothly. After determining the aircraft parking stand, the AMC unit immediately provides this information to the ADC (Tower) unit (Jumlad & Fajrin, 2020). The duties of the AMC unit in question are monitoring the movement of aircraft and vehicles on the air side, supervising and coordinating air side cleaning, monitoring fuel and oil spills, supervising and coordinating air side facilities, aircraft piloting services. experience an emergency, raid activities on the air side in question are in the apron area, and lastly the input of flight data, recording, reporting of log book data, and reporting (Setyawati & Aristiyanto, 2021)

### **Cargo Aircraft**

Cargo planes are planes that have been modified in such a way as to transport goods and/or post so that they can be sent to destinations in greater numbers compared to planes in general because cargo planes only transport goods but not passengers. (Muamar Sabilul muttaqin, 2022). Meanwhile, according to Law Number 1 of 2009 concerning Aviation that air transportation is any activity using an airplane to transport passengers, cargo and/or post for one or more trips. (Azis & Dewantari, 2022). Based on the explanation on the official website of the department of transportation, it is explained that around 70% of cargo aircraft are conversions from passenger airplanes to cargo aircraft, which are usually 15-20 years old. However, even though the age limit for cargo aircraft is long, this does not affect the safety factor of the aircraft. While cargo is goods that will be sent with a large load both via land, via sea, and via air with considerable distances, namely between cities, between provinces and also between countries. Currently, many shipping cargo services have been offered and have conditions that vary for each shipment (Sulthan Abdi Rahman Mafaza & Eny Sri Haryati, 2022)

### **Cargo Terminals**

Cargo Terminal Is one of the main service facilities at the airport to process the delivery and receipt of air cargo, domestically and internationally which aims to smooth the cargo process and meet aviation security and safety requirements (Majid & Warpani, 2009). According to Suharto Abdul Majid & Eko Probo D. Warpani (2009:95) cargo is simply defined as all goods sent by air (airplanes), sea (ships), or land (container trucks) which are usually traded, either between regions, / city within the country and between countries (international) which is known as export-import. Regardless of the type, all shipments except postal items and passenger baggage, whether traded (export-import) or for other purposes (non-commercial) and are accompanied by transport documents (SMU or Air Way Bill).

### **Previous Research**

**Table 1. Previous Research**

No	Name	Title	Research result	Comparison
1	Wlid Jumlad, Muhammad Fajrin, 2020	Performance Analysis of the Apron Movement Control Unit for Safety at Husein Sastranegara International Airport	The AMC unit has the main role as airside operations in carrying out surveillance on the air side to prevent ground collisions	Equation: AMC units. Qualitative Method. Differences: Safety research focus, while the author focuses on the movement of cargo planes

2	Deden Dwi Cahyo, 2022	Analysis of the AMC (Apron Movement Control) Unit Inspection Function in Supporting the Discipline of APRON Officers at Adi Soemarmo Boyolali Airport	The results of this study also indicate that the level of flight safety at Adi Soemarmo Boyolali Airport is classified as safe	Equation: AMC Units, Qualitative Methods. Differences: The focus of the research is Officer Discipline, while the author focuses on cargo
3	Kusno, Aulia Rizkyana Safitri, 2021	Monitoring Implementation Analysis Aprons personnel Movement Control (Amc) on Operator Performance Ground Service At Airside International Airport In Soemarmo Surakarta	AMC's supervision of the performance of ground service operators in the airside area, especially in the apron area of Adi Soemarmo International Airport, is not optimal	Equation: AMC units. Qualitative Method. Differences: The focus of the research is the Performance of Ground Service Operators, while the authors focus on the movement of cargo planes

## RESEARCH METHODS

### Research design

The qualitative research method is a research method based on the philosophy of postpositivism, used to research on natural object conditions, where the researcher is the key instrument, data collection techniques are carried out in triangulation, data analysis is inductive/qualitative in nature, and qualitative research results emphasize the meaning of generalization. This study uses qualitative methods to obtain descriptive data through interview results which aim to obtain solutions to problems regarding the role of the apron movement control unit in serving the movement of cargo aircraft at Tjilik Riwut Palangkaraya Airport.

### Time and Place of Research

This research conducted in Tjilik Riwut Airport Palangkaraya unit Apron Movement Control in November - December 2022.

### Research Subjects and Objects

The subjects in this study were AMC officers at Tjilik Riwut Palangkaraya Airport. And the object of this research is the AMC Unit in dealing with the movement of cargo aircraft at the Tjilik Riwut Palangkaraya Airport Apron.

### Research Data Sources

1. Primary data. According to Sugiyono (2016) Primary data is a data source that directly provides data to data collectors. Primary data in this study is data obtained from the results of interviews with sources and direct observation at the location.
2. Secondary Data. According to Sugiyono (2016) Secondary data is a data source that does not directly provide data to data collectors, for example through other people or documents. Secondary data sources are complementary data sources that function to complement the data required by primary data. Secondary data in this study used document data obtained from the AMC unit such as work SOPs.

### Data collection technique

1. Observation. According to Sugiyono (2016) Observation as a data collection technique has specific characteristics when compared to other techniques, namely interviews as an example. Because interviews always communicate with people, observations are not limited to people but also other natural objects. So in this study it will contain an observation sheet as a reference for data that is more accurate according to conditions in the field.

2. Interview. According to Esterberg in Sugiyono (2016) an interview is a meeting conducted by two people to exchange information or an idea by way of question and answer, so that it can be narrowed down into a conclusion or meaning on a particular topic. This study used a semi-structured interview technique, namely interviews conducted to find problems in a more open manner, where the parties invited to the interview were asked for their opinions and ideas. The basis for the researcher choosing to conduct semi-structured interviews is to make it easier for the researcher to develop familiarity with the respondent so that it will make it easier for the researcher in the data collection process. Interviews will be conducted with officers from the AMC unit at Tjilik Riwut Palangkaraya Airport.

## **RESEARCH RESULTS AND DISCUSSION**

### **Tjilik Riwut Airport, Palangkaraya**

According to the provisions of Law Number 1 of 2009 concerning Aviation, air transport is a commercial air transportation business entity, holder of a commercial air transportation activity permit that carries out commercial air transportation activities based on the provisions of this law and/or business entity other than a commercial air transport business entity. that draws up commercial air transportation agreement contracts. Airline as a mode of air transportation that has quite a lot of passenger levels, needs to periodically evaluate the value of each airline. So that every airline can provide services to passengers with good quality. Airline is a private or government-owned company that specifically provides air transportation services for general passengers, both scheduled (scheduled service/regular flight) and non-scheduled (non-scheduled & service). Airline or airlines are airlines that issue flight documents to transport passengers and their baggage, shipments (cargo), and postal items (mail) by airplane. (Junaedy & Kusrianto, 2014)

### **Palangkaraya Tjilik Riwut Airport Apron**

According to Law Number 1 of 2009 concerning Aviation, an airport is an area on land and/or waters with certain boundaries that is used as a place for aircraft to land and take off, board and drop passengers, load and unload goods, and place for intra and intermodal transportation, equipped with aviation safety and security facilities, as well as basic facilities and other supporting facilities. Tjilik Riwut Airport, which previously had the name Panarung Airport, is an airport in Palangka Raya, Central Kalimantan, Indonesia. This airport is the largest airport in Central Kalimantan, this airport is also the Embarkation of Candidates for the Central Kalimantan Hajj Pilgrimage. Now Tjilik Riwut Airport is under construction for the Lion Air Hangar and the Lion Air flight school managed by Lion Air (PT Angkasa Pura II, 2017). Airports are mostly used for commercial purposes but there are some airports that serve as military airstrips. Detailed airport planning guidelines are contained in 9 regulations issued by the FAA (Federal Aviation Administration) and ICAO (International Civil Aviation Organization), in Indonesia itself these rules are included in the Government Regulation of the Republic of Indonesia Number 70 of 2001 concerning Airports. and Regulation of the Minister of Transportation No. KM 44 of 2002 concerning National Airport Arrangements. Airports are mostly used for commercial purposes but there are some airports which function as military airstrips. Detailed airport planning guidelines are contained in 9 regulations issued by the FAA (Federal Aviation Administration) and ICAO (International Civil Aviation Organization), in Indonesia itself these rules are included in the Government Regulation of the Republic of Indonesia Number 70 of 2001 concerning Airports. and Regulation of the Minister of Transportation No. KM 44 of 2002 concerning National Airport Arrangements. Airports are mostly used for commercial purposes but there are some airports which function as military

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### **The Role of AMC Officers in Handling Cargo Aircraft Movement at Tjilik Riwut Palangkaraya Airport Apron**

Apron is a place for aircraft to raise and lower passengers, postal and cargo loads, refueling, parking and aircraft maintenance. lowering and boarding passengers. The apron which is on the airside directly intersects with the terminal building, taxiway and runway which of course has a big impact on the ability of the apron to serve aircraft that will park and carry out other activities. Increasing the movement of the apron greatly affects the parking stand capacity, especially when the aircraft operates during normal and peak hours. Where Apron Movement Control (AMC) officers pay attention to the type of aircraft, flight characteristics, ground time, parking stand capacity, which are available when making allocations for aircraft parking. So that, can avoid parking conditions piled up in one parking stand or diverting aircraft outside the parking stand which is far from the terminal. These problems can be in the form of increasing aircraft holding time in the air and resulting in delays in arrival and even departure schedules(Rizki & Damanik, 2015b).

The concept at Tjilik Riwut Airport uses a linear concept in its terminal design with an aircraft parking configuration using a nose-in system, which means that the position of the apron is parallel to the terminal and the nose of the aircraft parked on the apron faces the terminal. The advantage of the terminal concept and parking configuration used in the parking stands at Tjilik Riwut Airport is that they are efficient in the use of a minimum apron area, can have an optimal number of parking stands and are flexible in apron development. The capacity of the Tjilik Riwut Airport Palangka Raya apron according to the analysis is 6 parking stands, but in the field the number of parking stands is 10 parking stands, this is due to the previous addition of 4 parking stands. Aircraft movement during peak hours occurs at 06.01 – 07.00. 00 in the 5-year plan year (2026) there are 9 aircraft movements, while in the 10-year plan year (2031), there are 11 aircraft movements during peak hours. Movement in the plan year has exceeded the existing apron capacity. The number of parking stands needed in the 5-year plan year (2026) is 8 parking stands and for the 10-year plan year (2031) is 11 parking stands(Rizki & Damanik, 2015b)

### **Regulates the Movement and Placement of Aircraft So It Does Not Collide With Other Aircraft**

Aircraft movement on the air side is handled by the Apron Movement Control (AMC) unit, which is tasked with determining the position of the aircraft parking lot after receiving an estimate from the Aerodrome Control Tower (ADC) unit. For example, charter flights serve group passenger flights, cargo flights, and private flights at airports for various personal or

business needs. Many airlines operate charter flights. In this case AMC officers play a very important role in managing and providing the best service for aviation needs. Apron Movement Control is the unit tasked with determining where to park the aircraft after receiving an estimate from the ADC or Tower unit (Afen Sena/2008).

Procedures for handling the movement of cargo aircraft on the Tjilik Riwut Palangkaraya Airport apron are carried out by: Arranging the allocation of aircraft parking as best as possible with the distance between aircraft, between aircraft and the terminal building as close as possible for the loading and unloading process. This is intended for optimal utilization of the apron. Maintain sufficient distance between aircraft other than for loading and unloading activities, slightly apart from the terminal building to avoid obstacles on the apron. Provide sufficient parking space for the implementation of the best service for all aircraft. Assist aircraft in embarkation and disembarkation activities. Provide facilities for refueling. Provide transportation from the aircraft park to the terminal building if the distance is relatively long. Provide space for inspection of aircraft, passengers, crew and luggage. Based on Regulation of the Director General of Civil Aviation Number: KP 21 of 2015, that Aircraft Movement Control Personnel (Apron Movement Control/AMC) are airport personnel who have a license and rating to carry out supervision of order, safety of traffic movement on the apron and determining parking. aircraft.

The duties of the AMC unit in question are monitoring the movement of aircraft and vehicles on the air side, monitoring and coordinating air side cleaning, monitoring of fuel and fuel spillages, monitoring and coordinating facilities on the air side, aircraft piloting services, raid activities on the air side in question are in the apron area, as well as input of flight data, recording, reporting of log book data, and reporting of task implementation. As for the junior AMC's authority, such as supervising and regulating traffic movement on the apron, making arrangements for aircraft parking on the apron, ensuring cleanliness on the apron, guaranteeing the facilities on the apron are in good condition, guaranteeing the safety of the movement of people, equipment and aircraft on the apron.

### **Regulating the Movement and Placement of Aircraft So as Not to Collide or be Obstructed by Obstacles in the Apron and Surrounding Areas**

In addition, there are senior AMC authorities such as supervising and regulating traffic movement on the apron, making arrangements for aircraft parking on the apron, ensuring cleanliness on the apron, ensuring the facilities on the apron are in good condition. ensure the safe movement of people, equipment and aircraft on the apron, analyze all activities and facilities on the apron, plan aircraft parking arrangements in emergency conditions, evaluate and coordinate operational activities on the apron. The Apron Movement Control Unit (AMC) is an implementing unit within PT (Persero) Angkasa Pura II which is under the Airport Operations Service division and is tasked with providing services in the airside area, not only services but the Apron Movement Control (AMC) unit also has a monitoring function in the airside area of all traffic movements of vehicles, workers and passengers who are in the airside area. In its daily activities, the Apron Movement Control (AMC) task force at Tjilik Riwut Palangkaraya Airport assigns four personnel to the Apron Movement Control unit which consists of two Angkasa Pura II employees, namely executors and Supervisors. Apron Movement Control (AMC) unit personnel are on duty for 12 hours every day, taking turns (shifts) starting at 07:30 to 19:30, and 19:30 to 07:30. In its daily activities, the Apron Movement Control (AMC) task force at Tjilik Riwut Palangkaraya Airport assigns four personnel to the Apron Movement Control unit which consists of two Angkasa Pura II employees, namely executors and Supervisors. Apron Movement Control (AMC) unit personnel

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### **Arranging the Placement of Aircraft on Parking Stands Based on the Type and Size of the Aircraft**

The Apron Movement Control (AMC) Unit at Tjilik Riwut Airport in Palangkaraya has the following tasks: Plotting the parking stands of aircraft making landings. Recording the movement of incoming and outgoing aircraft on the Apron Movement Sheet (AMS). Inform the parking stand location plan to ground handling and tower. Supervise the movement of vehicle traffic operating in the airside area. Supervise personnel conducting activities in the airside area. Carry out marshalling activities for VIP/VVIP and Non-VIP charter aircraft. Carry out guide activities for aircraft that wish to reposition from North Apron to South Apron or vice versa using the Follow Me Car. Carry out inspections in the apron area so that it is always orderly and regular by controlling the movement of vehicles, ground support equipment (GSE), and people carrying out activities in the apron area, and taking action if a violation occurs. To arrange for the movement of aircraft not to experience problems, proper apron management services are needed.

Meanwhile, the purpose of this apron management service is to: Manage movement with the aim of preventing collisions between aircraft and between aircraft and obstacles. Collaborate with the Aerodrome Control Tower to manage the incoming and outgoing flow of aircraft to and from the apron. Ensuring the safety and smooth movement of vehicles for other official activities. Based on ICAO in Annex 14 Aerodrome, Volume I, Aerodrome Design and Operations, 2004: 107 that the Apron Management Service can be formed and implemented by ATS units located at the airport in question. The role of the Apron Movement Control (AMC) unit at Tjilik Riwut Airport in Palangkaraya is as follows: Manage the movement and placement of aircraft so that they do not collide with other aircraft. Regulates the movement and placement of aircraft so as not to collide or be obstructed by obstacles on the apron and its surroundings. Arranging the placement of aircraft in parking stands based on the type and size of the aircraft. Manage the entry and exit of aircraft from the apron (parking stand) to the maneuvering area or vice versa. In this case, coordination must be carried out with the Aerodrome Control Tower unit in advance. Guarantee the safety and smooth movement of vehicles and the regularity of other activities on the apron

In general, recording flight data is one of the functions and duties of the AMC unit, recording flight data is done by writing it on the Apron Movement Sheet (AMS) and then applying it to the computer. The data includes, on block/off block time, aircraft registration, aircraft type, air, parking stand position, flight number, flight origin, flight destination and name of airline or ground handling company.

The procedure for recording flight data is carried out in this way, AMC personnel must supervise the movement of charter aircraft arriving and departing, AMC personnel must ensure and enter the recording of charter aircraft arriving and departing into the computer according to what is recorded in the Apron Movement Sheet (AMS) as aircraft registration, flight number, on block/off block time, parking stand, flight destination, flight origin, and airline or ground handling.

### **Regulates the entry and exit of aircraft from the apron (parking stand) to the maneuvering area or vice versa**

AMC personnel must also record charter flight activities in the log book. Before carrying out flight handling activities, there are steps that are carried out by all Apron Movement Control (AMC) personnel, namely receiving information from Ground Handling regarding: Schedule of flight departures or landings, Type of aircraft used, Who are the passengers on the flight (regular charter passengers or VIP/VVIP charter passengers), Readiness of ground handling to reposition aircraft from the south apron to the north apron or vice versa, The need for aircraft guidance services (marshalling).

The AO Officer of Tjilik Riwut Airport also provided an overview regarding the implementation of direct supervision using a follow me car as follows: "For personnel on duty in the field with complete supporting equipment in daily operational activities. However, there are constraints on the provision of a non-standard number of personnel on duty in the field, for example follow me car service to control in the field at least 2 and also 2 follow me car vehicles to carry out field control or inspection, then for plotting parking stands at least 3 personnel and 1 team leader behind". AMC officers supervised aircraft up to the parking stand as explained by AMC SPV Tjilik Riwut Airport that aircraft movements were sometimes scheduled and unscheduled. Unscheduled aircraft movements require the role of the Apron Movement Control (AMC) unit to be carried out as best as possible. AMC unit responsible for assigning parking spaces. While the area that requires attention is the remote apron section, the role of the AMC Unit officer has a role in providing unscheduled aircraft parking stands as aircraft movement supervisors, providing parking stands, marshalling, cleaning FOD, recording daily movements and monitoring of people (passengers), vehicles and movements cargo and baggage of passengers passing by on the apron.

### **Ensuring the Safety and Smooth Movement of Vehicles and the Regularity of Other Activities on the Apron**

The AMC unit plays a role in ensuring the safety and smooth movement of vehicles and the regularity of other activities on the apron, both from the land and air sides as well cleanliness control on the apron that is carried out includes monitoring of foreign object damage. (FOD), waste, and fuel spills. Cleaning the apron from objects such as oil spills, cigarette butts and food leftovers is an absolute must. Because it could be, these little things can trigger flight disruptions. Because of that, the apron, which is the aircraft parking area, is always monitored at all times. Airport Security Facility or Airport Security is a facility used for good security which functions as a tool for airport security personnel in carrying out inspections of prospective aircraft passengers including their luggage (cabin, baggage and cargo) quickly without opening the packaging.

### **Obstacles to AMC Officers in Handling the Movement of Cargo Planes at the Tjilik Riwut Palangkaraya Airport Apron**

1. Lack of personnel or human resources. There are constraints on the provision of a non-standard number of personnel on duty at Tjilik Riwut Airport in Palangkaraya, for example follow me car service to control in the field at least 2 and also 2 follow me car vehicles to carry out field control or inspection, then for plotting parking stands at least 3 personnel and 1 team leader behind.
2. Lack of Quality and Quantity of CCTV. The lack of CCTV both in terms of quality and quantity made researchers see a lack of facilities, which caused AMC officers to be unable to provide parking stands immediately. The researcher also used the results of interviews with AMC officers 3 and 4, namely

interviews in which AMC officers could not immediately provide parking stands because they had to look out of the apron first to confirm their condition.

3. Not yet have remote areas for all types of aircraft. When conducting research, the first thing that got the researcher interested was the issue of placing parking stands in remote areas where there were no markings. makes researchers want to know more about how the AMC unit plays a role in parking stand placement. then the researchers conducted interviews with AMC officers 4 and 5 and obtained the results of the interviews that the researchers processed again. AMC (Apron Movement Control) officers, before providing a parking stand, must know the type of aircraft (wings and body length), aircraft classification and know the distance between aircraft, because there are no markings in the remote area, the AMC Unit uses concrete boxes as a benchmark for parking. aircraft in remote areas.
4. **Unscheduled flight parking stand.** Unscheduled flights are a problem for all airports including Tjilik Riwut Airport. Unscheduled flights are an obstacle because the stipulation of parking stands for unscheduled flights does not have a fixed schedule for take-off, so AMC (Apron Movement Control) officers cannot calculate the time and for example when there is full capacity future planes cannot enter while unscheduled flights Don't have a definite time to leave yet.
5. **Lack of Communication in AMC Officer Shift Changes.** The last obstacle that researchers saw was the lack of communication when the AMC unit was on duty. There are two morning and afternoon work shifts, the morning shift starts from 06.00 to 13.00 and the afternoon shift starts from 13.00 to 19.00 if there are additional flights or extend the afternoon shift officers who will be on duty. With the shift of work shifts but no reports or directions from the previous shift, the AMC officers have to observe again the condition of the apron and previous movements.

### **Solution to AMC Officer Obstacles in Handling Cargo Aircraft Movement at Tjilik Riwut Palangkaraya Airport Apron**

1. **Additional personnel or HR.** To overcome these obstacles, coordination and communication must be carried out properly in terms of policies for determining personnel on duty in the field. As a whole, the obstacles at Tjilik Riwut Palangkaraya Airport are actually a lack of personnel or human resources.
2. **CCTV Quality and Quantity Improvement.** The AMC Unit at Tjilik Riwut Airport has a wide apron so AMC officers cannot see it thoroughly. Due to the poor quality of the CCTV in the AMC room, officers had to go down to the field to monitor movements so they could regulate aircraft movements and place aircraft parking stands. Therefore, it is necessary to increase the quality and quantity of CCTV in proportion to the area of the apron.
3. **Remote area assignment for all types of aircraft.** Determination of remote areas for all types of aircraft needs to be done. Before providing a parking stand, AMC (Apron Movement Control) officers must know the type of aircraft (length of wings and body), aircraft classification and know the distance between aircraft. In providing services, the AMC unit should specialize in all flights, regular or scheduled flights, non-scheduled flights, charter flights and cargo flights. The remote area is needed to determine the stopping point of the aircraft wheels, determine the safe distance between the wingspan, the distance to stop the aircraft after turning towards the marshaller is relatively short.
4. **Increase Officer Readiness in dealing with unscheduled flights.** Unscheduled flights are a problem for all airports including Tjilik Riwut Airport. The determination of the parking stand for unscheduled flights does not have a fixed schedule for take-off, so the AMC (Apron

Movement Control) officers cannot calculate the time and for example there is a full capacity future aircraft cannot enter while unscheduled aircraft do not yet have a definite time to depart.

5. Improve coordination and communication of AMC units. The last obstacle that researchers saw was the lack of communication when the AMC unit was on duty. There are two morning and afternoon work shifts, the morning shift starts from 06.00 to 13.00 and the afternoon shift starts from 13.00 to 19.00 if there are additional flights or extend the afternoon shift officers who will be on duty. With the shift of work shifts but no reports or directions from the previous shift, the AMC officers have to observe again the condition of the apron and previous movements.

## **CONCLUSION**

The role of AMC officers in handling the movement of cargo aircraft on the Tjilik Riwt Palangkaraya Airport apron is as follows: (a) Regulating the movement and placement of aircraft so that they do not collide with other aircraft. (b) Regulating the movement and placement of aircraft so as not to collide with or be obstructed by obstacles on the apron and its surroundings. (c) Arranging the placement of aircraft in parking stands based on the type and size of the aircraft. (d) Regulate the entry and exit of aircraft from the apron (parking stand) to the maneuvering area or vice versa. In this case, coordination must be carried out with the Aerodrome Control Tower unit in advance. (e) Ensure the safety and smooth movement of vehicles and the regularity of other activities on the apron. The obstacles faced by AMC officers in handling the movement of cargo planes on the Tjilik Riwt Palangkaraya Airport apron include; (a) Lack of personnel or human resources, (b) Lack of quality and quantity of CCTV compared to the area of the apron, (c) Not having a remote area for all types of aircraft, (d) Problems with parking stands for unscheduled flights, (e) Lack of communication during shift changes AMC officer. Solutions to the obstacles faced by AMC officers in handling the movement of cargo planes on the Tjilik Riwt Palangkaraya Airport apron, including; (a) Additional personnel or human resources, (b) Increasing the quality and quantity of CCTV in proportion to the area of the apron, (c) Determination of remote areas for all types of aircraft, (d) Increasing the Readiness of Officers in dealing with unscheduled flights,

Some suggestions that can be submitted based on research conclusions include; Supporting the expansion and class upgrade of Tjilik Riwt Palangkaraya Airport to become an International Airport. Improving Human Resources at Tjilik Riwt Palangkaraya Airport both in quality and quantity. Improvement of Adequate Facilities and Infrastructure. Improve coordination and communication of officers at Tjilik Riwt Palangkaraya Airport. Increasing the knowledge and skills of Tjilik Riwt Palangkaraya Airport Officers

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