

## **Monitoring Analysis of the Apron Movement Control Unit for Ground Support Equipment Personnel at the Apron of Husein Sastranegara International Airport, Bandung**

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### **Abstract**

Apron Movement Control (AMC) is an airport personnel who has a license and rating to carry out duties as responsible for flight operations, vehicle traffic control, aircraft movement, cleanliness in the airside area, passenger control as well as recording of flight data on the apron. The AMC unit conducts oversight with the aim of creating work order and safety as well as creating a sense of discipline for airport service users, including discipline for ground handling personnel and GSE officers. The purpose of this research is to find out how AMC unit supervision of Ground Support Equipment (GSE) personnel as well as know what efforts were made by AMC officers in disciplining GSE personnel when they committed violations. This research is a descriptive qualitative research using primary and secondary data. Primary data includes results of observations during research and results of interviews with AMC officers, while secondary data includes Apron Movement Control (AMC) Standard Operation Procedure (SOP) documents. The results of this research can be concluded that the supervision and role of the AMC unit in disciplining GSE officers has been carried out properly and with strict actions in accordance with applicable procedures. This can be proven that almost all work procedures and indicators of work guidelines for the AMC unit have been implemented properly. The AMC Unit also gave warnings and directives directly to ground handling and GSE officers at the time of the violation. AMC personnel applies sanctions in the form of freezing the driver's license (TIM) or cutting the airport pass in the event of a major violation.

**Keywords:** Supervision, Apron Movement Control, Ground Support Equipment, Apron



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### **INTRODUCTION**

According to Djoko Warsito, the air transportation system in Indonesia has an important role to support economic growth in Indonesia, one of which is the movement of passengers or goods from one place to another. The current economic growth and progress of the Indonesian people regarding air transportation has made airports not only a place for aircraft to land and take off, but also as a driving factor for regional and national economic growth. The progress of the development of modes of transportation is also very influential in our lives, especially in terms of time efficiency and facilitating our activities in moving places with not too long travel time.

Recognizing the need for users of air transportation services and the importance of airports, airport managers need human resources to provide services to airport service users and form several divisions, agencies and units to be able to manage an airport in order to provide services that can ensure the safety, smoothness and safety of passengers. One of the units needed to serve flight activities at the airport is the Apron Movement Control (AMC) unit. This unit is under the auspices of the Airport Operations Service and is headed by the Air Service Assistant Manager. The establishment of the Apron Movement Control Unit (AMC) is

intended to be able to supervise all traffic movements of vehicles, people and cargo, supervise aircraft movements,

At the airport there are two parts, namely the land side (lanside) and the air side (airside). The land side is a public area that has unlimited access intended for aircraft passengers and non-passengers. The land side areas include the drop zone and pick-up zone, the departure and arrival terminal areas, vehicle parking areas and intermodal connecting facilities. Then for the air side is the airport area which is a non-public area where every person, goods and vehicle is required to undergo security checks and have a special permit. The airside area is also directly connected to the runway, namely aircraft take-off and landing activities. The runway is also directly connected to the apron area which is used for aircraft parking, aircraft refueling, boarding and disembarking of passengers, cargo and post. In order to be able to manage airports as the best service facilities, airport managers must pay attention to aspects of airside safety and security which can be carried out by the Apron Movement Control (AMC) unit.

In accordance with what is stated in Government Regulation no. 3 of 2001, concerning Aviation Security and Safety, it is stated that an airport is an airport used for landing and taking off of aircraft, boarding and disembarking passengers, and/or loading and unloading of cargo and/or post, as well as being equipped with aviation safety facilities and as place of movement between modes of transport. In order to realize flight security and safety, it is expected that the Apron Movement Control (AMC) Unit can provide good, safe and comfortable service and carry out their duties in accordance with the work procedures set out in the Apron Movement Control (AMC) Standard Operating Procedure (SOP) in managing, supervising, controlling aircraft movements and vehicle movements, people and cargo on the apron such as ground handling officers, Baggage Towing Tractor (BTT) vehicles, Passenger Boarding Star (PBS), Baggage Chart belonging to the ground handling company PT. Pratitha Titiannusantara and other activities that occur in the apron area.

Apron Movement Control (AMC) supervision of ground handling personnel must be improved again and be able to act decisively in disciplining officers if there is a violation in the airside area. During field work practice at Husein Sastranegra International Airport, Bandung, officers found that officers committed violations when operating a Baggage Towing Tractor (BTT) by bringing ground handling personnel with a total of 3 (three) people in 1 (one) Baggage Towing Tractor (BTT) vehicle. ), placing the Passenger Boarding Star and Baggage Chart in the wrong place which can cause adverse events and disrupt the zipper crossing for passengers going to the plane or passengers going to the arrival gate. The objectives of this study are: To find out that the AMC unit's supervision of Ground Support Equipment (GSE) personnel has complied with the applicable SOP. Knowing what efforts were made by AMC officers in disciplining Ground Support Equipment (GSE) personnel when they committed violations.

## **Theoretical basis**

### **Monitoring the Movement of Ground Support Equipment on the Apron**

Monitoring the Movement of Ground Support Equipment (GSE) on the apron is the duty and responsibility of the Apron Movement Control (AMC) unit. This supervision is carried out to ensure the safety and smoothness of traffic on the apron and activities that occur in other airside areas. With the existence of various types of movement in the apron area, including the movement of Ground Support Equipment (GSE), the role of the Apron Movement Control (AMC) unit is very much needed in supervising and monitoring operational activities that occur in the apron area so that it runs according to the systems and procedures set out in already set. To avoid unwanted things, we need an appropriate monitoring system.

### **Apron Movement Control (AMC)**

Apron Movement Control (AMC) are airport personnel who have licenses and ratings to carry out supervision of flight operations activities, control of aircraft movements, control of vehicle traffic order, passengers and ground handling, maintain cleanliness in the airside area to avoid hazards, control of material spills fuel oil and oil, aircraft piloting services, raid activities in the airside area referred to as the apron area, as well as recording flight data, reporting logbook data, and reporting on the implementation of daily tasks. In general, the AMC unit is an airport service unit that plays an important role in supervising all traffic movements on the apron. After receiving the estimate time from the Aerodrome Control Tower (ADC) unit,

### **Ground Support Equipment (GSE)**

Based on the Regulation of the Director General of Civil Aviation Number 041 of 2017 concerning Operational Technical Guidelines for Civil Aviation Safety Regulations Part 139-11 (Advisory Circular CASR Part 139-11) Airport Personnel Licenses and/or Ratings. Ground Support Equipment (GSE) is aircraft service equipment prepared for the needs of aircraft on the ground upon arrival and/or departure, including for loading and/or unloading passengers, cargo, mail, and other aircraft operational needs. Ground Support Equipment (GSE) is owned by a company that specifically operates in the service sector, such as a ground handling company that has various kinds of airport service operational support equipment that can be used to serve aircraft while on the ground, namely on arrival and departure. In accordance with Ministerial Regulation 77 of 2015, GSE is grouped into two types, namely Motorized GSE and Non-Motorized GSE.

### **Definition of Airport**

Based on the Minister of Transportation Regulation concerning National Airport Arrangement Article 1 Ministerial Regulation 69 of 2013. An airport is an area on land 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 intra and intermodal movement of transportation, equipped with aviation safety and security facilities, as well as basic facilities and other supporting facilities.

### **Air Side**

According to the Regulation of the Minister of Transportation Number 77 of 2015 concerning Standardization and Certification of Airport Facilities. 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 must go through a security check and/or have a special permit. Some of the facilities available on the airside include: Runway configuration, slope or slope, and runway thickness. taxiways; Aprons  
Air Traffic Control (ATC); PKP-PK or Aviation Accident Aid and Fire Extinguisher.

### **Husein Sastranegara International Airport**

Husein Sastranegara International Airport is an airport located in the city of Bandung. This airport is located on Jalan Pajajaran Number. 156, Husein Sastranegara sub-district, Cicendo sub-district, Bandung City, West Java, Indonesia. Husein Sastranegara Airport was formerly named Andir (Luchtvaart Afdeling) airfield, which was established by the Dutch East Indies Government in 1921. This airfield was formerly functioned for the benefit of the Dutch Air Force. The handover of the Andir Air Base to Indonesia was during the Round Table Conference (KMB) which ended on November 2, 1949. At that time an agreement was reached

regarding the regulations for the Air Force in Indonesia under Dutch command. After the inauguration of the recognition of the sovereignty of the Republic of Indonesia. Andir airport was the first airport handed over from the Dutch to the Indonesian Air Force (AURI) on January 20, 1950. After Indonesia's independence, the airfield was taken over by the AURI as a military base from 1969 to 1973. Until finally, in 1973 the airfield was used for commercial flights. In the end, the Andir Air Base was renamed Lanud Husein Sastranegara on August 17, 1952. The airport was named Husein Sastranegara because it was a form of respect for the TNI AU Military Pilot, Commodore Husein Sastranegara, who died while conducting flight training in Yogyakarta in 1946. the airfield was taken over by the AURI as a military base from 1969 to 1973. Until finally, in 1973 the airfield was used for commercial flights. In the end, the Andir Air Base was renamed Lanud Husein Sastranegara on August 17, 1952. The airport was named Husein Sastranegara because it was a form of respect for the TNI AU Military Pilot, Commodore Husein Sastranegara, who died while conducting flight training in Yogyakarta in 1946. the airfield was taken over by the AURI as a military base from 1969 to 1973. Until finally, in 1973 the airfield was used for commercial flights. In the end, the Andir Air Base was renamed Lanud Husein Sastranegara on August 17, 1952. The airport was named Husein Sastranegara because it was a form of respect for the TNI AU Military Pilot, Commodore Husein Sastranegara, who died while conducting flight training in Yogyakarta in 1946.

## Relevant Research

**Table 1. Relevant Research**

No	Name	Research Title	Year	Research result
1	Desmonda Rezon	The Oversight Role of the Apron Movement Control Unit for Ground Support Equipment Personnel at the Tjilik Riwut Palangkaraya Airport Apron	2021	The results of this study indicate that in the apron area of Tjilik Riwut Palangkaraya Airport Terminal there are still many violations by vehicle drivers. This is because the driver's awareness in understanding and obeying the rules of driving on the air side is still lacking, and there is a lack of supervision from AMC personnel, the apron being supervised is quite wide and the surveillance objects cannot all be supervised.
2	Widy, M. Isnant	Monitoring Analysis of Apron Movement Control (AMC) Officers on the Movement of Baggage Towing Tractor (BTT) Vehicles at Abdurachman Saleh Airport, Malang	2020	The results of this study indicate that for the Apron Movement Control (AMC) unit regarding supervision of Baggage Towing Tractor (BTT) vehicles and the efforts made by Apron Movement Control (AMC) regarding violations or errors driving Baggage Towing Tractor (BTT) transportation do not meet safety standards.
3	Tomy Fajar Fitriatmoko	Analysis of Handling of Ground Support Equipment Operator Work Discipline Violations at Yogyakarta International Airport Apron	2022	The results of the research obtained by AMC's actions giving warnings and directions to correct violations, for the obstacles faced by AMC in handling GSE work discipline were the lack of human resources from AMC employees so that supervision and handling were not optimal. There was a result of an increase in GSE work discipline after the provision of sanctions for violations committed by AMC in the apron area.

## RESEARCH METHODS

According to Sugiyono (2016) the research method is a scientific way to obtain data with specific purposes and uses. Based on this understanding, this section will discuss the time and

place of research, types of data, data collection techniques, data analysis techniques and steps in research.

### **Research design**

The type of research that will be used in this study is qualitative research. Qualitative research methods are used to develop data obtained through phenomena that occur in the field by presenting research results that are easy to understand so that they will build new knowledge and the best research results. Based on the previous statement, that the descriptive qualitative method is a method that is carried out by using triangulation techniques, namely observation, interviews, and documentation.

### **Time & Place of Research**

This research was conducted at Husein Sastranegara International Airport in Bandung, West Java, from October 1 2022 to November 30 2022. This research was conducted at the Apron Movement Control (AMC) unit at Husein Sasatranegara International Airport Bandung, West Java.

### **Data Types and Sources**

Based on the research design, the type of research used in this research is descriptive qualitative. Sources and types of data in this study using primary data and secondary data.

1. Primary data. Primary data is data obtained directly from informants (original sources) on the object to be studied. In this study, primary data was obtained from interviews and observations, which were supplemented with written notes or using a cell phone as a recording aid. In this study the authors obtained primary data from the results of interviews with AMC officers at Husein Sastranegara International Airport, Bandung. In addition, primary data was also obtained from observations during On Job Training (OJT) on events or objects that occurred at Husein Sastranegara International Airport, Bandung.
2. Secondary Data. Secondary data is data obtained through intermediaries or not directly obtained by the author. In general, secondary data comes from books, notes, reports, or other documents that support research. In this study, researchers took data in the form of Standard Operation Procedure (SOP) Apron Movement Control (AMC).

### **Data Collection Technique**

1. Interview. The interview is a question and answer process between the interviewer and the informant through a meeting to discuss a certain topic so that later the writer will get the expected information. This interview is intended to collect data directly to Apron Movement Control (AMC) officers using a semi-structured interview method with open questions so that the questions and answers obtained will be broad and very flexible.
2. Observation. The Observation Method is a data collection technique by making direct observations of research objects to see the activities carried out and obtain an overview of an event to answer research questions later. Basically this observation method aims to observe and understand behavior, groups and individuals in certain circumstances. In this study the observation method was carried out through observing the activities of ground handling officers in operating Ground Support Equipment (GSE) equipment and vehicles which were directly supervised by officers from the Apron Movement Control (AMC) unit at Husein Sastranegara Airport, Bandung. This observation sheet is explained through the guidelines contained in the Standard Operation Procedure (SOP) Apron Movement Control (AMC) of PT.

3. Documentation. Documentation is a complement to the use of observation and interview methods in this qualitative research. In this study the authors will collect documentation data in the form of books, journals, the internet and photos taken based on the activities that have been carried out and the information obtained related to activities at the apron of PT. Angkasa Pura II (Persero) Bandung Husein Sastranegara International Airport in early October to the end of November 2022.

## **RESEARCH RESULTS AND DISCUSSION**

### **The AMC Unit Supervision of Ground Support Equipment (GSE) Officers is in accordance with the applicable SOP**

Supervision carried out by the AMC unit is an approach that aims to support aviation safety and security as well as the smooth movement of air traffic in the apron area. Supervision carried out by Apron Movement Control (AMC) on Ground Support Equipment (GSE) officers is one of the tasks that has been attached to the AMC unit's work SOP. In carrying out its duties and functions, Apron Movement Control (AMC) is expected to carry out its functions and duties in accordance with the work SOP that has been stipulated in Presidential Decree No. 21 of 2015 concerning PKPS operational technical regulations section 139-11 airport personnel license. Work SOPs for the AMC unit are very important because they can serve as a guideline for AMC personnel in carrying out their duties during airport operating hours.

At Husein Sastranegara International Airport in Bandung, the operational division of Angkasa Pura II Bandung branch applies work SOPs for AMC unit personnel so that in carrying out their duties the AMC unit continues to carry out its performance by continuing to implement security and safety in the airside area. at Bandung Husein Sastranegara International Airport. The following are some aspects of the SOP on the AMC unit at Bandung's Husein Sastranegara International Airport as follows: Aircraft parking stand allocation; Apron Management Service; Aircraft piloting services; Non-aircraft piloting services; Aircraft marshaling services; Controlling driving license signs (TIM); Check the readiness of vehicles & ground support equipment; Supervision of aircraft movement areas; Supervision of cleanliness of the air side; Supervision of refueling (BBM); Supervision of fuel and oil spills (fuel/oil spillage); Supervision of facilities on the air side; Supervision and control of people on the air side; Handling of incidents and accidents on the air side; Air raid activities; Supervision of vehicles and ground support equipment; Updating notice of airport (NAC); Flight data input; Logboo report recording; apron safety management; Flight time approval

Based on the research that has been done and based on the SOP of the AMC work unit that has been obtained. Apron Movement Control (AMC) at Husein Sastranegara International Airport, Bandung, has carried out its duties and supervision in the apron area as it should. From all the points attached to the AMC work unit SOP, AMC personnel have carried out their duties and responsibilities properly and always prioritize safety and security aspects in carrying out operational activities at Bandung's Husein Sastranegara International Airport.

The research results obtained can be proven, among others, that AMC officers supervise the cleanliness of the apron by inspecting the apron by looking, picking it up and reporting if there is trash or a hazard that can disrupt flight operations later. Apart from that, AMC officers supervise the movement of aircraft on the air side by going directly to the field or monitoring from monitors installed with CCTV and monitoring and controlling of vehicles/GSE on the air side by monitoring ground handling activities and GSE drivers and giving warnings or directions if they have make a mistake. The supervision is carried out in order to create a sense of security and comfort at Husein Sastranegara Bandung International airport. Supervision of aircraft movements, both on the apron and in the hangar, can be done visually and also using

assistive devices in the form of Closed Circuit Television (CCTV) and binocular monitors. If there is a dangerous condition in the traffic area on the apron during supervision, AMC personnel can coordinate directly with the Bandung Aerodrome Control (ADC) unit (Husein Tower) through existing communication equipment. AMC is required to always monitor GSE/vehicle movements during operational hours, so as not to disturb the movement of aircraft on the apron that will taxi out to the runway or those who will taxi in to the apron to go to the parking stand. If there is a dangerous condition in the traffic area on the apron during supervision, AMC personnel can coordinate directly with the Bandung Aerodrome Control (ADC) unit (Husein Tower) through existing communication equipment. AMC is required to always monitor GSE/vehicle movements during operational hours, so as not to disturb the movement of aircraft on the apron that will taxi out to the runway or those who will taxi in to the apron to go to the parking stand. If there is a dangerous condition in the traffic area on the apron during supervision, AMC personnel can coordinate directly with the Bandung Aerodrome Control (ADC) unit (Husein Tower) through existing communication equipment. AMC is required to always monitor GSE/vehicle movements during operational hours, so as not to disturb the movement of aircraft on the apron that will taxi out to the runway or those who will taxi in to the apron to go to the parking stand.

### **The actions of the AMC unit in disciplining Ground Support Equipment (GSE) officers when committing violations**

Apron Movement Control (AMC) is a unit that manages all aircraft movements including controlling GSE equipment or GSE drivers in the airside area. If there is an Apron Movement Control (AMC) violation, they must act decisively and make decisions according to the applicable procedures. Based on the observations that have been made while carrying out research at Husein Sastranegara International Airport, several violations have been found that have been committed by ground handling officers and GSE officers. The violations committed were when the GSE driver operated the Baggage Towing Tractor (BTT) ground handling personnel participated with a total of 3 (three) people in 1 (one) Baggage Towing Tractor vehicle,

To overcome this, AMC personnel always try to discipline officers who commit violations by providing verbal directions and reprimands in order to provide a deterrent effect and a sense of responsibility for the mistakes that have been made. The other efforts made by the AMC unit are by holding internal and external meetings which are held twice a month. If a major or major violation occurs, as stated by Ulung Bayu Yudistira as the Airside Operation Officer (AMC Coordinator), then the personnel who committed the violation will be penalized by visiting the person concerned at the AMC office and making minutes which will later be reported to OTBAN (airport authority). The application of sanctions will be carried out in stages, namely warnings and freezing of the driver's license (TIM) or the logging of the airport pass owned by the violator. Revocation or suspension of the TIM will be carried out through a process of 3 (three) written warnings. If the revocation of the TIM has been carried out, the person concerned is not allowed to work in the airside area because it is considered to be a threat to flight safety.

### **CONCLUSION**

Based on the results of the research, discussion and descriptions in the previous chapter, regarding the AMC unit's supervision of Ground Support Equipment (GSE) officers, is it in accordance with the applicable SOP and what actions are taken by the AMC unit in disciplining Ground Support Equipment (GSE) officers? when committing an offense. The conclusions that

the authors can draw from this research are as follows: The AMC unit's efforts in supervising Ground Support Equipment (GSE) personnel at Husein Sastranegara International Airport Bandung have fulfilled the applicable SOP, namely by monitoring vehicles and Ground Support Equipment (GSE) directly in the field or by monitoring GSE movements and ground handling activities through CCTV monitors installed in the AMC office. Researchers found that the supervision carried out by the AMC unit was maximal, especially in operational activities on the airside, this can be seen when AMC personnel immediately found officers working on the air side committing violations and immediately went to the field to give direct warnings and directions. The actions taken were the duties and authorities of AMC personnel as Airside Operations at Bandung's Husein Sastranegara International Airport. The efforts of the AMC unit in disciplining Ground Support Equipment (GSE) officers when committing violations are by giving verbal directions and reprimands as well as holding internal and external meetings which are held twice a month.

**Suggestions for Companies:** There is a need for additional AMC personnel in order to improve performance and optimize supervision in areas that are the responsibility of the AMC unit. It is necessary to increase promotions related to occupational health and safety K3 for ground handling officers, GSE drivers and airlines with safety and risk units in order to create zero accidents on the air side. Always try to discipline airport personnel if they find violations, especially violations that occur in areas that are the responsibility of the Apron Movement Control (AMC) unit so that they always create a sense of security and safety at Husein Sastranegara International Airport, Bandung. **Suggestions for Education:** It is hoped that the results of this research on Supervision of the Apron Movement Control (AMC) Unit for Ground Support Equipment (GSE) Personnel can be useful for universities, especially those who will carry out similar research, and for future researchers to be able to add new problem formulations so that further research can grow even better.

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