

THE ANALYSIS OF PERSONNEL SUPERVISION FUNCTIONS APRON MOVEMENT CONTROL (AMC) EFFORTS TO REDUCE THE RATE OF VIOLATION OF GROUND SUPPORT EQUIPMENT (GSE) VEHICLE SPEED LIMITS ON THE SERVICE ROAD AT SAM RATULANGI INTERNATIONAL AIRPORT, MANADO

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Abstract

This thesis examines performance issues concerning the supervision of AMC personnel on the Service Road of Sam Ratulangi International Airport Manado. The issue under discussion is the prevalence of Ground Support Equipment (GSE) exceeding the stipulated speed limits, which poses a potential hazard. Additionally, the service road at Sam Ratulangi International Airport Manado serves as a pathway for passengers embarking or disembarking from aircraft, making the situation more critical due to insufficient supervision by AMC personnel regarding orderliness on the apron. This research aims to optimize the performance of Apron Movement Control (AMC) unit personnel related to the supervision of Ground Support Equipment (GSE) order. The theoretical framework for this research is based on Manual Of Standard CASR – Part 139, Volume I, Chapter 9, Point 9.6.6, which covers The Duties of Apron Movement Control (AMC) Personnel, and SKEP 140/VI/1999, which outlines Requirements and Operational Procedures of Vehicles on Air Side, particularly Chapter IV addressing the Code of Conduct of Traffic On Air Side. This research uses a qualitative combination method and data collection techniques using observation, interviews, documentary studies, and questionnaires. The findings of this study highlight the importance of adhering to the AMC Standard Operating Procedure (SOP) in terms of comprehensive supervision. To address the identified issues, it is recommended to implement coaching sessions and conduct regular and scheduled Ramp Safety Campaigns."

Keywords: Apron Movement Control Personnel, Ground Support Equipment, Sam Ratulangi Manado Airport, Supervision, Service Road

that time in Mapanget. Then during the Peristiwa upheaval, Central Army troops named the airport as

INTRODUCTION

An airport is an area on land or water that has certain boundaries and is used as a location for aircraft to land and take off. It is also used to take care of the process of boarding and alighting passengers, loading and transferring goods, as well as a transfer point between various types of transportation modes. This area is equipped with facilities to maintain aviation security and safety, as well as other basic and auxiliary facilities [1] [2]. Airports are special areas on land or water that include building structures, installations, and equipment, which function either fully or partially for the arrival, departure, and movement of aircraft [3] [4].

Sam Ratulangi Airport was originally built by the Japanese army in 1942 with a runway length of 700 meters and a width of 23 meters. The airport was originally named as Mapanget Airfield because of its existence at

Tugiman Airfield in memory of a soldier Sergeant Major Tugiman who died during a battle in Mapanget. The airport was later renamed Mapanget Airfield. As time went on, there was another change in the name of the airport to A.A. Maramis Airfield, which was also used as the name of the highway from Manado to the airport. Finally, in memory of the Indonesian National Hero who came from Minahasa, North Sulawesi, Dr. Gerungan Saul Samuel Jacob Ratulangi, the airport was named Sam Ratulangi Airfield by the government which is then known today as Sam Ratulangi Airport. Sam Ratulangi International Airport Manado is one of the airports with heavy flight traffic in Indonesia, so the number of movements in the Movement Area is crowded by aircraft movements, Ground Support Equipment (GSE) vehicle movements and people movements. This situation greatly

affects the activities on the air side, especially on the Service Road.

Service Road serves as a road used by Ground Support Equipment (GSE) vehicles to or from servicing an aircraft. This will make the traffic intensity on the Service Road busy with vehicles. The increasing intensity of the passage of Ground Support Equipment (GSE) vehicles on the Service Road will have the potential for accidents to occur in the Service Road environment [5] [6].

Based on the author's observations in the field at Sam Ratulangi International Airport Manado, violations were found in the operation of Ground Support Equipment vehicles. There are still many drivers who drive on the Service Road at speeds above the maximum limit that has been determined. Ground Support Equipment (GSE) vehicles themselves have rules and regulations that have been established, one of which is about the speed limit for driving in the movement area, especially those traveling on the Service Road. Article 28 states that the driving speed limit in the Service Road area is 25 km/h. The rules that apply within the scope of Sam Ratulangi Manado International Airport refer to the Apron Movement Control (AMC) Standard Operating Procedure (SOP) [7].

Airside supervision is carried out by the Apron Movement Control (AMC) unit. The Apron Movement Control (AMC) unit is one of the units under the Airside Operations Service. The Apron Movement Control (AMC) unit has the task of being responsible for flight operation service activities on the ground, supervision of aircraft movement, vehicle traffic, goods, people and cleanliness on the air side, supervision of wild animals on the air side, setting and supervising the placement of Ground Support Equipment (GSE) equipment as well as recording flight data and distributing flight data to commercial units [8].

Sam Ratulangi International Airport Manado has been equipped with markings and signs, but there are still many violations on the air side. One form of violation is drivers who exceed the maximum speed limit, therefore to support the performance of the Apron Movement Control (AMC) unit in supervision a breakthrough is needed in order to create a good work system. Therefore, the researcher conducted a study with the title "Optimizing the Supervision of Apron Movement Control (AMC) Personnel in an Effort to Reduce the Level of Violation of the Speed Limit of Ground Support Equipment (Gse) Vehicles on the Service Road of Sam Ratulangi International Airport Manado". This study aims to analyze the causes of speed limit violations by Ground Support Equipment (GSE) operators on Service Road, understand the factors that cause the supervision of the Apron Movement Control (AMC) unit to be not optimal for driving order on Service Road, and to evaluate efforts that

can be made to improve the performance of Apron Movement Control (AMC) unit personnel in supervising the orderly use of Ground Support Equipment (GSE).

METHODS

Research Design

The method used in this research is descriptive qualitative method. Descriptive research is research conducted to describe and describe the state of the object of research at the present time as it is based on facts [9]. This research is an attempt to reveal problems or circumstances or events as they are so that it only describes the facts. The results of the research are emphasized to provide an objective picture of the actual situation of the subject under study. Researchers will always ask questions with the question words "why", "what reasons" and "how it happened" [10].

Qualitative research methods or commonly called naturalistic research methods are research methods used to research on natural objects. The researcher is the key instrument. Data collection techniques are carried out by interview, data analysis is inductive, and qualitative research results emphasize meaning rather than generalization [11] [12]. This research was conducted using an interactive model proposed by Miles & Huberman Activities in qualitative data analysis are carried out interactively and take place continuously until completion, so that the data is saturated [13].

Activities in the analysis consist of data condensation, data presentation, and conclusion drawing/verification. The purpose of this descriptive qualitative research is to provide a systematic, factual and accurate description of a particular fact.

Population and Sample

There are several people interpreting the meaning of population but basically the same, so the author takes the understanding that population is a generalization area consisting of certain objects or subjects that have certain qualities and characteristics set by researchers to study and then draw conclusions. In this study the authors took the population from AMC personnel at Sam Ratulangi International Airport Manado.

The sample is part of the number and characteristics possessed by the population, the sample taken from the population must be truly representative or represent the population under study. In this study, the authors took a sample of 11 AMC personnel at Sam Ratulangi International Airport Manado.

Data Collection Technique

Observation

According to the Big Indonesian Dictionary, observation is a careful observation or review. Meanwhile, observation is the systematic observation and recording of the elements that appear in a symptom on the object of research [14]. Observation is a complex process, a process composed of various biological and psychological processes [15]. In this case the author made observations at PT Angkasa Pura I (Persero) Sam Ratulangi Manado International Airport Branch when the author carried out On the Job Training (OJT) activities from January to March 2023.

Interview

Interviews are conducted verbally face-to-face or without face-to-face to get more information about the problem or information under study. An interview is a conversation between an informant, who is considered to have and will provide important information about a

matter, and a researcher, who hopes to obtain information [16] [17]. In this case the author will conduct in-depth interviews with informants intensively, namely with 10 informants selected because of the and besides that, they are also Team Leaders of the Apron Movement Control (AMC) unit at Sam Ratulangi International Airport Manado. This interview aims to get as much information as possible. So as to strengthen the author's data, related to the performance of personnel in conducting surveillance of Ground Support Equipment (GSE) vehicles traveling at speeds above the maximum limit on the Service Road of Sam Ratulangi Manado International Airport.

Literature Study

Literature study is a data collection technique by conducting a study of books, literature, records, and reports that have something to do with the problem being solved [18]. In this case the author tries to explore the information contained in the aviation regulations and also the existing SOPs, including concerning Airport Rules and Regulations, Article 27 states that "The maximum speed allowed for vehicles moving on the apron is 25 KM/hour" [19].

Requirements and Procedures for Operating Vehicles on the Airside, Chapter IV on Traffic Rules on the Airside, article 28a: Article 28a states that "Every driver of a vehicle in the movement area is prohibited from driving the vehicle in excess of the specified maximum speed", namely:

- a. Outside the Apron (Access Road) 40 km/h;
- b. On roads within the aircraft parking area (Service

Road) 25 km/h;

- c. In the Make-up / Break Down area 15 km / h;
- d. In the area of the aircraft parking environment (Apron) 10 km / hour.

Standard Operating Procedures (SOP) AMC Sam Ratulangi International Airport Manado written that "The maximum speed limit of vehicles moving in the Service Road area is 10 Km/hour" [20]. Apron Movement Control Operational Standards at Airports managed by PT Angkasa Pura I (Persero) in the AMC Manual of PT Angkasa Pura I (Persero) Sam Ratulangi International Airport Manado (2016).

RESULTS AND DISCUSSION

Research Results

Suboptimal supervision of Apron Movement Control (AMC) personnel causes violations of rules and regulations on the apron of Sam Ratulangi International Airport Manado by Ground Support Equipment (GSE) operators and operational vehicles, one of which is violation of the driving speed limit on the Service Road, this is due to the lack of intensity of supervision of Apron Movement Control (AMC) personnel [21].

When conducting supervision in the field, only one person goes to the airside, whether it is supervision at the domestic terminal, international terminal, or cargo terminal. Other personnel are more focused on inputting flight data into the computer which is carried out in the Airport Operation Control Center and Apron Movement Control Operation Room. This is considered less than optimal because to reach supervision in the Airside area of Sam Ratulangi International Airport Manado directly in the field according to the operational standards of Apron Movement Control at airports managed by PT Angkasa Pura I (Persero) in AMC Manual requires 2 personnel.

Although the supervisory function can be carried out indoors using CCTV, the more important thing is to conduct direct supervision in the field, especially according to the operational standards of Apron Movement Control at the Airport managed by PT Angkasa Pura I (Persero) in the AMC Manual stated in the method of supervising Ground Support Equipment (GSE) operational activities, both when providing services to aircraft and in storage, one of which is "supervision and order in the field must be carried out simultaneously once an hour to create order on the air side and prevent unwanted things from happening". It aims to maintain order in the airside area, especially the driving order of Ground Support Equipment (GSE) operators on the Service Road amid the many violations of the vehicle speed limit by GSE operators.

With the inclusion of the Manual of Standard (MOS) for Apron Movement Control (AMC) Personnel in the Regulation of the Director General of Civil Aviation, and the AMC SOP, it can be interpreted that the procedure is legal and must be implemented by Apron Movement Control (AMC) personnel, and Apron Movement Control (AMC) personnel are aware of the procedure, but according to the author's analysis, in its application the procedure cannot be implemented optimally by Apron Movement Control (AMC) personnel.

Discussion

Observation




Observation data collection technique is a data collection technique by going directly to the place that is used as a research site. Based on data collection techniques with Passive Observation, the authors made direct observations at Sam Ratulangi Manado

International Airport in the service road area following up on data on the level of violation of Ground Support Equipment (GSE) vehicles traveling above the maximum speed on the Service Road [22].

Based on the author's observations in the field, this causes frequent violations of discipline by Ground Support Equipment (GSE) operators, which often occur is found Ground Support Equipment (GSE) traveling above the specified speed in the Service Road area.

Based on Requirements and Procedures for Operating Vehicles on the Airside, Chapter IV on Traffic Rules on the Airside, Article 28a states that "Every driver of a vehicle in the movement area is prohibited from driving a vehicle exceeding the maximum speed specified", ie: on the roads in the aircraft parking area (Service Road) 25 km/h.

Table 3.1 Observation Result

No.	Field Study (Observation Time)	Analysis	Causes	Solution
1.	(January 15, 2023, 11:00 am)  Figure 4.1 Baggage Towing Tractor	In the <i>Service Road</i> area an operational vehicle from one of the <i>Ground Handling</i> companies was found traveling at a speed above the maximum limit plus the vehicle was in a condition where the <i>Steady Yellow</i> light was damaged (cracked).	The driver of the vehicle argued that he was in a hurry to catch up with the <i>On-Time Performance</i> because the plane they were about to serve would immediately land at Sam Ratulangi Manado International Airport.	<i>Apron Movement Control</i> (AMC) personnel must follow up on this so that it does not become a habit for violators.
2.	(February 10, 2023, 17:00 Wita)  Figure 4.2 Aircraft Towing Tractor	In the <i>Service Road</i> area of the domestic terminal, operational vehicles from the Gapura company were found traveling at speeds above the maximum limit.	Vehicle drivers are in a hurry to catch up with <i>On Time Performance</i> because the airplane they will serve needs to be pushed back.	<i>Apron Movement Control</i> (AMC) personnel should reprimand directly and be processed according to KP 41 Year 2017 rules, namely sanctioning
3.	(March 18, 2023, 14:00 Wita)  Figure 4.3 Baggage Towing Tractor	The incident found in the <i>Service Road</i> area of the domestic terminal is that the <i>Ground Support Equipment</i> (GSE) vehicle was found to be traveling over the speed limit when returning from filling passenger luggage on the plane.	The driver has no reason to commit such violations, which means that the driver of the vehicle is indeed lacking discipline in carrying out his work and lack of understanding of the rules on the air side.	Personnel (AMC) should give a direct warning and be processed according to KP 41 Year 2017 rules, namely sanctioning violators on the air side.

In a period of one month, 5 violations of the driving speed limit were recorded on the Service Road, proving that driving speed limit violations are very high. The importance of supervision of Ground Support Equipment (GSE) users to prevent violations and accidents. The number of tasks that must be carried out with a limited number of personnel causes the supervisory function by the Apron Movement Control (AMC) unit to not be fully optimized.

Literature

Based on the literature study conducted by the author from the regulations, the following results were obtained, requirements and Procedures for Operating Vehicles on the Airside, Chapter IV on Traffic Rules on the Airside, that the supervision of Apron Movement Control (AMC) officers on the orderly driving of Ground Support Equipment (GSE) drivers on the airside, especially regarding vehicle speed limits, is considered less than optimal because there are still GSE drivers who violate.

This should be a special concern considering that according to the Standard Operating Procedures (SOP) Apron Movement Control (AMC) of Sam Ratulangi Manado International Airport it is written that "The maximum speed limit of vehicles moving in the Service Road area is 10 Km/hour", this provision is different from other airports related to the non-fulfillment of the distance provisions between the Apron and the terminal at Sam Ratulangi Manado International Airport.

The author also examines based on the Operational Standards of Apron Movement Control at the Airport managed by PT Angkasa Pura I (Persero) in the AMC Manual of PT Angkasa Pura I (Persero) regarding the needs of Human Resources (HR) personnel of the Apron Movement Control (AMC) unit. The need for the number of Human Resources (HR) AMC unit personnel is divided into 3 components of the work area, namely:

1. Airport Operation Control Center (AOCC) Airport Operation Control Center (AOCC) consists of 3 (three) Work Stations, namely:
 - a. Team Leader;
 - b. Plotter;
 - c. Planner.
2. Apron Movement Control Operation Apron Movement Control Operation Room consists of 3 (three) Work Stations, namely:
 - a. Team Leader;
 - b. Aviobridge coordinator and supervision;
 - c. Airline & Ground handling operational coordinator.
3. Follow Me Car Operations and Field Supervision

- a. Team Leader;
- b. Apron Supervision.

Based on the literature, it states that the cause of the implementation of the main duties and functions of AMC unit personnel is less than optimal in overseeing order and all activities in the airside area because there are some personnel who are not in their main duties and functions, such as the number of personnel in the AOCC totaling 2 people. This happens because AMC personnel must also fill in flight data on the AMC Sheet, which should not be the main task of AMC personnel whose main tasks are Plotter, Planner, airline operations coordinator and Ground Handling. There should be a separate officer to focus on the data input part.

Interview

Based on interviews that have been conducted, it is found that at Sam Ratulangi Airport Manado, Ground Support Equipment (GSE) drivers often drive at speeds above the maximum that has been determined due to the lack of optimal supervision of Apron Movement Control (AMC) personnel on order on the air side, especially in the Service Road area [23]. With this incident, it is feared that an accident will occur which can harm many parties, so that many efforts are made by Apron Movement Control (AMC) personnel in reducing violations and preventing bad risks that will occur by Ground Support Equipment (GSE) drivers who drive above the maximum limit that has been determined.

Problem Solving

Short-term

Reformulate the work system of Apron Movement Control (AMC) personnel at Sam Ratulangi International Airport Manado in accordance with the Operational Standards of Apron Movement Control at Airports managed by PT Angkasa Pura I (Persero) AMC Manual which explains that "supervision and order are carried out simultaneously once an hour to create order on the air side and prevent unwanted things from happening" and readjust based on tasks and work environment in accordance with the calculation of the formula for the number of Human Resources (HR) requirements for Apron Movement Control (AMC) unit personnel which are divided into 3 components of the work area [24]. Apron Movement Control (AMC) unit personnel in carrying out their main duties and functions must be in accordance with the Apron Movement Control (AMC) Operational Standards, not only focusing on service activities, in this case personnel are more focused on inputting flight data into the computer which is carried out in the Airport Operation Control Center room, but must be balanced with direct supervision activities in the field, so as not to override the supervisory function of all

activities in the airside area so that order and safety on the airside can be optimally realized.

Long-term

The Apron Movement Control (AMC) unit in charge of field supervisors, therefore there are still many violations that occur in the area, including violations of Ground Support Equipment (GSE) vehicles traveling above the speed limit that has been determined on the Service Road.

In order for the implementation of supervision of Apron Movement Control (AMC) unit personnel in supervising order and all activities in the airside area to be more optimal in carrying out their main duties and functions, it is better if the need for the number of Human Resources (HR) personnel of the Apron Movement Control (AMC) unit is adjusted to the Operational Standards for Apron Movement Control at Airports managed by PT Angkasa Pura I (Persero) in the AMC Manual, namely by increasing the number of Apron Movement Control (AMC) unit personnel on duty as field supervisors [25].

With the realization of short-term and long-term solutions, it is hoped that the Apron Movement Control (AMC) unit can carry out maximum supervision and reduce the potential for violations that often occur, so as to create an orderly Service Road condition, where vehicles passing on the Service Road can go at a predetermined speed so as not to have the potential to become a Hazard and not interfere with the smooth running of other operational activities.

CONCLUSION

After conducting research related to the title and problems above which the author can describe in the previous chapter, the authors draw the following conclusions:

1. The lack of discipline of Ground Support Equipment (GSE) operators in obeying speed limit regulations coupled with the lack of supervision of Apron Movement Control (AMC) personnel in conducting surveillance in the field causes many violations of driving speed limits. This should be a special concern considering that Sam Ratulangi International Airport Manado has a different driving speed limit rule on the Service Road from other airports which generally have a maximum driving speed limit on the Service Road of 25 km/h. The provision of driving speed limits on Service Road according to the Standard Operating Procedures (SOP) Apron Movement Control (AMC) of Sam Ratulangi Manado

International Airport "The maximum speed limit of vehicles moving in the Service Road area is 10 km/h" due to the procedure of limiting the movement and use of vehicles on Service Road related to the unfulfilled distance between the Apron and the Terminal Building.

2. Simultaneous direct supervision in the field of Ground Support Equipment (GSE) vehicle movements in accordance with the AMC Standard Operating Procedure (SOP) has not been carried out optimally because supervision is mostly carried out through CCTV in the office. Another thing that is a problem in not maximizing the main tasks and functions of the Apron Movement Control (AMC) unit is that the implementation of the main task is less than optimal because the Apron Movement Control (AMC) unit personnel also do work outside their main task, namely by participating in inputting flight data.
3. In accordance with the operational standards of Apron Movement Control (AMC) at airports managed by PT Angkasa Pura I (Persero) in the AMC Manual contained in the method of supervision of Ground Support Equipment operational activities, both when providing services to aircraft and in storage, one of which is supervision and order in the field must be carried out simultaneously to create order on the air side and prevent unwanted things from happening ". And also conduct counseling to Ground Handling personnel regarding the rules that must be obeyed during duty.

Based Based on the results of the research and the conclusions that the authors put forward above, the authors provide suggestions, namely Increasing supervision of the orderly traffic movement on the Service Road of Manado Sam Ratulangi International Airport by carrying out supervisory functions in accordance with the AMC Standard Operating Procedure (SOP) related to simultaneous supervision of flight safety can be achieved properly so as to minimize violations in the Apron area, especially Service Road "conducting guidance on equipment / vehicle personnel and aircraft on the Apron". As well as the holding of Ramp Safety Campaign on a regular and scheduled basis. Counseling can be done by means of joint seminars.

It is hoped that further research can provide good ideas and innovations so that they can be used as suggestions to improve the supervisory function and reduce the number of violations on the air side, especially violations of driving speed limits.

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