

The Importance of a Letter of Operational Coordination Agreement (LOCA) Between Airnav and Police

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Abstract— Juwata Tarakan International Airport serves scheduled and unscheduled flights. The North Kalimantan Regional Police Helicopter is also an unscheduled flight that served by Juwata Tarakan International Airport, especially Perum LPPNPI Tarakan Branch. The police helicopter flies from MAPOLDA North Kalimantan located in Tanjung Selor to MAKOPOLAIRUD located in Tarakan and vice versa. The movement of the police helicopter can endanger the movement of aircraft traffic that is descent to circuit altitude to land at Juwata Tarakan International Airport and can interfere with aircraft that will take-off from Runway 24. The purpose of this research is to review the importance of making a Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police in order to create aviation safety and security, especially in Tarakan Airspace. The research method used is a descriptive qualitative approach with data collection techniques through observation. The results revealed that the North Kalimantan Regional Police helicopter flight path was very dangerous for VFR flights passing through the VFR corridor of Tarakan Airspace, causing potential hazards. To overcome and prevent the potential occurrence of these hazards, the need to make a Letter of Operational Coordination Agreement between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police regarding flight procedures and safe routes to pass will ensure safety, security, efficiency, and regularity of flight traffic on Tarakan Airspace.

Keywords— Police, LOCA, Tarakan Airspace

I. INTRODUCTION

In providing air traffic services, an Air Traffic Controller (ATC) must have a basis and purpose, which refers to the five main objectives of providing air traffic services. In accordance with ICAO Annex 11 on Air Traffic Service, these five main objectives are referred to as the 5 Objectives of Air Traffic Services, which contain:

- Prevent collisions between aircraft;
- Prevent collisions between aircraft on the maneuvering area and obstructions on that area;
- Expedite and maintain an orderly flow of air traffic;
- Provide advice and information useful for the safe and efficient conduct of flights;

- Notify appropriate organizations regarding aircraft in need of search and rescue assistance, and assist such organizations as required.[1][2]

To achieve the 5 Objectives of Air Traffic Services, the contribution of various stakeholders is needed to ensure that all aspects of the flight are well coordinated and prepared. At Perum LPPNPI Tarakan Branch, there are still aspects of aviation that have not been well prepared, namely the absence of a Letter of Operational Coordination Agreement between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police. In fact, the police helicopter flew in Tarakan Airspace where the area is controlled airspace. Not only that, the police helicopter also did not carry out flight procedures properly.

Controlled Airspace is an airspace with specified dimensions where air traffic control services are provided in accordance with the airspace classification. Controlled airspace is a general term that includes ATS Class A, B, C, D, and E airspace as described in Annex 11.[1] This type of airspace is provided with air traffic control services, flight information services, and alerting services. All flight activities that pass through controlled airspace must communicate with the ATC Unit located in the area and the ATC Unit is required to provide flight traffic services (Air Traffic Control Service). Training area conditions must meet the following conditions, namely having a Ground Visual Reference Point as a reference and not being above densely populated areas, high seas and or homogeneous areas, mountainous areas, prohibited air areas; and danger air areas. The condition of the surrounding airspace must be within Indonesia's controlled airspace and uncontrolled airspace and does not interfere with scheduled and non-scheduled commercial air transportation activities.

Flight Plan is information about the flight plan containing destination data, flight type, and aircraft type prepared for the air traffic service unit. A flight plan form based on the model in Appendix 2 must be provided and must be used by the operator and air traffic service unit in order to complete the flight plan. The operator and air traffic service unit shall comply with:

- The instructions for completing the flight plan form and the recurring flight plan list form given in Appendix 2; and
- Any constraints identified in the relevant Aeronautical Information Publication (AIP).[2]

Each operator before executing a departure shall:



- Ensure that, where the flight is intended to operate on a route or in an area where an RNP type is specified, the aircraft has the appropriate RNP approval, and that all conditions applicable to that approval will be met;
- Ensure that, where operations in vertical separation minimum (RVSM) airspace are planned, the aircraft has the necessary RVSM approval; and
- Ensure that, where the flight is intended to operate where an RCP type is specified, the aircraft has the appropriate RCP approval, and that all conditions applicable to that approval will be met.[2]

The Flight Plan must not be submitted more than 120 hours before the estimated time of the out-of-block flight. Unless other arrangements have been made for the submission of recurring flight plans, flight plans submitted prior to departure must be submitted to the air traffic service reporting office at the departure aerodrome. If there is no such unit at the departure aerodrome, the flight plan should be submitted to the unit serving or designated to serve the departure aerodrome. [2][3]

In the event of a delay of 30 minutes beyond the estimated off-block time for a controlled flight or a delay of one hour for an uncontrolled flight for which a flight plan has been submitted, the flight plan shall be amended or a new flight plan submitted and the old flight plan canceled, whichever is applicable.[2][3]

The first ATS unit to receive the flight plan, or amend it, shall:

- Check its conformity with the format and data conventions;
- Check its completeness and, as far as possible, its accuracy;
- Take action, if necessary, to make it acceptable to the air traffic service; and
- Indicate acceptance of the flight plan or any amendments thereto, to the originator.[2]

Juwata Tarakan International Airport is an airport located in Tarakan Island, North Kalimantan province that serves scheduled and unscheduled flights, both fixed wing aircraft and rotary wing aircraft (helicopters). The North Kalimantan Police Helicopter is also an unscheduled flight served by Juwata Tarakan International Airport, especially Perum LPPNPI Tarakan Branch.

Police helicopter with type B105 and callsign "P 1107" flies from MAPOLDA North Kalimantan located in Tanjung Selor (R193 33 NM "TRK" VOR) to MAKOPOLAIRUD located in Tarakan (R347 6 NM "TRK" VOR) and vice versa. In addition, the police helicopter also flew from MAKOPOLAIRUD to Juwata Tarakan International Airport. The police helicopter did not follow existing flight procedures.

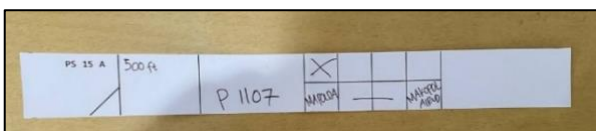


Fig. 1. P 1107 Flight Progress Strip

All flight operators should follow flight departure procedures in order to create a safe and smooth flight. The movement of the police helicopter can certainly disturb and endanger the movement of aircraft traffic that is making a

descent to circuit altitude to land at Juwata Tarakan International Airport and can interfere with aircraft that will take-off from runway 24. The movement of this police helicopter is dangerous because the police helicopter maneuver is direct (without going through the VFR Route) from MAPOLDA North Kalimantan (R193 33 NM "TRK" VOR) to MAKOPOLAIRUD (R347 6 NM "TRK" VOR) so that it must cross final runway 06 with an altitude of 500 ft which is very dangerous for runway 06 arrival aircraft and runway 24 departure aircraft, as well as endangering aircraft flying to or coming from Tarakan Harbor which is the entry or exit point of VFR aircraft.[2][3][4][5]



Fig. 2. P 1107 Route of Flight

Another problem related to aviation traffic services in Tarakan Airspace that has an impact on flight safety is the absence of a Letter of Operational Coordination Agreement (LOCA) between Airnav Tarakan Branch and the North Kalimantan Regional Police. The police helicopter operates in the area of MAPOLDA North Kalimantan located in Tanjung Selor (R193 33 NM "TRK" VOR) to MAKOPOLAIRUD located in Tarakan (R347 6 NM "TRK" VOR) and vice versa, and from MAKOPOLAIRUD to Juwata Tarakan International Airport. The police often do not follow existing flight departure procedures, resulting in a breakdown of coordination. Police helicopters fly without prior coordination with the relevant ATS Unit. In essence, coordination is very important in the world of aviation between one party and another so that flights can be carried out safely and smoothly.[3][4][5][6][7]

Based on the airspace of the Tarakan Approach area, it shows that police helicopter maneuvers from MAPOLDA North Kalimantan located in Tanjung Selor (R193 33 NM "TRK" VOR) to MAKOPOLAIRUD located in Tarakan (R347 6 NM "TRK" VOR) and vice versa are controlled airspace and are the area of responsibility of Tarakan Approach and Juwata Tower. Therefore, the flight operator concerned must carry out departure procedures such as making and sending flight plans and other procedures such as making contact with Tarakan Approach or Juwata Tower before making a flight.[3][4][5][6][8]

This is certainly not in accordance with CASR PART 170 Air Traffic Service 170.033, points 3 and 4, Operation of air traffic control service which states that a unit that guides air traffic must:

- Provide clearances as well as information for the purpose of preventing collisions between aircraft within its area of jurisdiction and expediting and maintaining the flow of air traffic;
- Coordinate the necessary clearances with other units where an aircraft may come into conflict with other

traffic and is still under the control of the unit, prior to the transfer of control of the aircraft to another unit.[4]

Without the approval of the guiding ATS Unit, the police should not have decided unilaterally to depart the helicopter because they did not know what the ongoing traffic conditions were in the Tarakan airspace. In the absence of an agreement between the police and the ATS Unit, an incident like this might happen again because there is no governing regulation such as a Letter of Operational Coordination Agreement (LOCA) or memorandum of understanding.[9]

With the level of traffic density every day that continues to increase at Juwata Tarakan International Airport and the Tarakan Approach area, we can conclude that a control unit has full responsibility for traffic operating on the ground and air area. In its service, the coordination of each - each traffic-related unit must be fulfilled, because coordination is one form of responsibility of a control unit for ensuring the safety and comfort of flight traffic. In realizing this guarantee, flight traffic guidance services have a legal basis regarding Flight Traffic Service Operations based on Annex 11 Air Traffic Services Chapter 3 Page 3-3 Responsibility for control which reads "Responsibility for a flight in terms of guiding air traffic, which must be under the control of an air traffic guidance unit within a certain time".[1] And also based on the Regulation of the Minister of Transportation of the Republic of Indonesia PM 65 of 2017 concerning Civil Aviation Safety Regulations part 170 Chapter II Coordination Procedures which reads "The aviation traffic service provider unit must make a Letter of Operational Coordination Agreement (LOCA) with the adjacent and other related traffic service provider units which include coordination procedures and transfer of control of aircraft from one unit to another".[4][5][6][9]

II. METHOD

This study has opted for a qualitative descriptive methodology as the most suitable way to conduct the research. This approach is ideal when the primary objective is to offer a straightforward and lucid explanation of a subject. With a qualitative descriptive approach, researchers concentrate on grasping the fundamental particulars: who was involved, what occurred, and where it happened. This methodology proves invaluable for obtaining a clear depiction of the subject.

When the aim is to provide a direct portrayal of a phenomenon, a qualitative descriptive approach becomes the preferred design. It is a valuable approach, particularly when researchers seek information about events, including who was engaged, what was implicated, and where these events unfolded.[10][11]

In this research, observational data collection techniques are employed, defined as the process of recording observations using instruments for scientific or other purposes. This process involves gathering impressions about the surrounding world based on the full range of human sensory capabilities.[12][13]

By embracing the qualitative approach and employing observational data collection, the study will yield a more profound comprehension and potential solutions. This methodology empowers the researcher to delve beneath the surface and attain a profound understanding of the subject

matter and maintaining the Integrity of the Specifications.[14]

III. RESULT AND DISCUSSION

From all the problems that the author has described, the author provides an appropriate alternative solution to overcome these problems. The problem can certainly occur because there is no coordination between the two parties, even though coordination in the world of aviation is something that is mandatory and must be done by each party in order to avoid a breakdown of coordination (BOC) that can endanger flight safety and security.[2]

Make a Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police

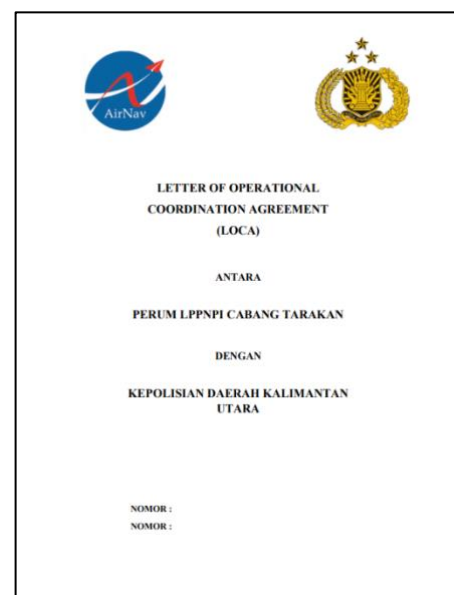


Fig. 3. LOCA's Draft Made by Author

In the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police, the author emphasizes several procedures that must be implemented by both parties in carrying out flights in order to create flight safety and regularity:

A. Flight Planning

Perum LPPNPI Tarakan Branch through the ATS Reporting Office Unit carries out the following matters:

- Receive and process Flight Plan (FPL) submitted by North Kalimantan Regional Police either through face-to-face, social media, or Web Based FPL (E-FPL);
- The ATS Reporting Office Unit reminds the North Kalimantan Regional Police of the expired FPL;
- Checking the Flight Plan (FPL) submitted by the North Kalimantan Regional Police by paying attention to the suitability of the Route Permit, Flight Approval (FA), Flight Clearance (FC), etc;
- If the Flight Operator of the North Kalimantan Regional Police has changed the EOBT for flights that are delayed under one hour of departure, the ATS Reporting Office officer must make delay news (DLA);

- If there is a change to the contents of the Flight Plan (aircraft type, route, alternate, etc.) the ATS Reporting Office officer must update the contents of the Flight Plan for the purposes of change news (CHG);
- ATS Reporting Office officers coordinate with the North Kalimantan Regional Police if there are obstacles in sending FPL through Web Based FPL (E-FPL);
- The ATS Reporting Office Officer informs the North Kalimantan Regional Police Flight Operator to submit FPL in the form of hardcopy if there is a failure in the Web Based FPL system.

The North Kalimantan Regional Police carry out the following matters:

- The North Kalimantan Regional Police must submit a Flight Plan (FPL) to the ATS Reporting Office Unit no earlier than 1 (one) day before departure (EOBT) and no later than 2 (two) hours before departure (EOBT) for scheduled flights and no later than 1 (one) hour for non-scheduled flights and must attach a Route Permit, Flight Approval (FA), Flight Clearance (FC), and other administration in accordance with applicable regulations;
- FPL can be submitted through face-to-face or through E-FPL and is filled by the Aviator or FOO who has a valid license and rating and is responsible for the correctness of the contents of the FPL;
- The North Kalimantan Regional Police must submit a new Flight Plan or E-FPL if there is a flight delay of more than 60 minutes after the ATS Reporting Office officer cancels (CNL) the previous FPL and gets a new slot time allocation;
- The North Kalimantan Regional Police must notify the ATS Reporting Office officer no later than 30 (thirty) minutes before departure (EOBT) if there are changes to the contents of the Flight Plan (aircraft type, route, alternate, etc.);
- North Kalimantan Police officers coordinate with ATS Reporting Office officers if there are obstacles in sending FPL through Web Based FPL (E-FPL);
- North Kalimantan Regional Police must submit FPL in the form of hardcopy to ATS Reporting Office officers if there is a failure in the Web Based FPL system.

B. Slot Time and Licensing Document

Perum LPPNPI Tarakan Branch through Briefing Office carries out the following matters:

- Processing slot time submissions from the North Kalimantan Regional Police and allocating them according to slot time availability;
- Checking Route Permit, Flight Approval (FA), Flight Clearance (FC), and other required documents;
- If the Flight Approval (FA) has not been sent by the North Kalimantan Regional Police, the Briefing Office officer will remind the North Kalimantan Regional Police;
- Ensure that the EOBT listed on the Flight Data uploaded in the slot time application (Chronos) is in accordance with the Route Permit or Flight Approval issued by DAU, the slot time issued by IASM and the approved slot time allocation;

- The Briefing Office Officer informs the North Kalimantan Regional Police to submit slot time requests manually and obtain slot time approval from the destination airport if there is a failure in the Chronos system.

The North Kalimantan Regional Police carry out the following:

- The North Kalimantan Regional Police must notify the Briefing Office officer of changes to EOBTs that experience departure delays of more than 15 minutes for flight times of less than 3 hours and more than 30 minutes for flight times of more than 3 hours and attach the slot time that has been approved by the relevant parties;
- The North Kalimantan Regional Police must notify the Briefing Office officer if there is a change in departure earlier than 15 minutes before EOBT;
- The North Kalimantan Regional Police must inform the Briefing Office officer of new route permit data if the route permit is not valid and include a Flight Approval (FA) if flying outside the provisions of the route permit;
- North Kalimantan Regional Police must show Flight Approval (FA), Route Permit, Flight Clearance (FC) and other permits in accordance with applicable regulations in hardcopy or softcopy;
- The North Kalimantan Regional Police immediately send FA in hardcopy or softcopy to the Briefing Office officer for flights that require FA;
- The North Kalimantan Regional Police must submit a manual slot time request and obtain slot time approval from the destination airport to the ATS Reporting Office officer if there is a failure in the Chronos system.

IV. AERONAUTICAL INFORMATION

Perum LPPNPI Tarakan Branch through the AIS Unit carries out the following:

- Providing Aeronautical Information services to Aviators or FOOs in the form of Pre-Flight Information Service, which is provided verbally briefing and self-briefing including AIP, AIP Supplement, NOTAM, Pre-Flight Information Bulletin, AIC, and flight maps;
- Receive Aviator reports through the Post-Flight Information Report regarding the condition of facilities, equipment, procedures, hazards and other important information;
- Delivering important and sudden New Current NOTAM information that affects flight operations;
- AIS Unit officers notify the new NOTAM to the North Kalimantan Regional Police and distributed through hardcopy or e-mail and other media that can be accounted for;
- AIS Unit officers coordinate with the North Kalimantan Regional Police by telephone if verbal briefing is required;
- AIS Unit officers coordinate with the North Kalimantan Regional Police if there is anything that

needs to be confirmed regarding the content of Post Flight Information.

The North Kalimantan Regional Police carry out the following matters:

- Receive Aeronautical Information Service in the form of Pre-Flight Information Service, which is provided by verbal briefing and self-briefing including AIP, AIP Supplement, NOTAM, Pre-Flight Information Bulletin, AIC and flight maps;
- Ensure that you have received the New Current NOTAM either by directly taking a hardcopy or softcopy through electronic media (E-mail, WhatsApp and other media);
- North Kalimantan Regional Police Officers can contact the AIS Unit if they need a New Notam;
- Submitting the Aviator's report through the Post-Flight Information Report regarding the condition of facilities, equipment, procedures, hazards and other important information;
- North Kalimantan Police officers coordinate with AIS Unit officers through face-to-face or telephone if verbal briefing is required;
- North Kalimantan Regional Police Officers coordinate with AIS Unit officers if there is confirmation regarding the content of Post Flight Information.

V. ABNORMAL SITUATION

Perum LPPNPI Tarakan Branch through ATS Unit carries out the following matters:

- ATS Unit officers immediately convey to the North Kalimantan Regional Police when getting a report from the flight crew about an aircraft experiencing flight disruption / Emergency (Hydraulic Problem, Engine on Fire / Failure, lack of fuel, etc.), unlawful interference, and urgency;
- ATS Unit officers deliver news and coordinate with the North Kalimantan Regional Police if there are aircraft experiencing Incerfa, Alerfa, and Detresfa conditions in the ATS Tarakan area of responsibility.

The North Kalimantan Regional Police carry out the following matters:

- North Kalimantan Regional Police officers immediately convey to the ATS Unit a report from the flight crew or FOO (Flight Operation Officer) about an aircraft experiencing flight disruption or emergency (hydraulic problem, engine on fire/failure, lack of fuel, etc.), unlawful interference, and urgency;
- North Kalimantan Police officers coordinate with the ATS Unit when obtaining information about aircraft experiencing Incerfa, Alerfa, and Detresfa conditions in the ATS Tarakan area of responsibility.

VI. FLIGHT ROUTE PROCEDURES AND PERMISSIONS

Perum LPPNPI Tarakan Branch through ATS Unit carries out the following matters:

- The Briefing Office may approve the flight route of the North Kalimantan Regional Police flight operator via the VFR Route, namely TANJUNG SELOR - TUNDUNG ISLAND - TANJUNG PASIR - OVH TRK VOR / DME - MAKOPOLAIRUD if the police helicopter is flying from MAPOLDA KALTARA and OVH TRK VOR / DME - TANJUNG PASIR - TUNDUNG ISLAND - TANJUNG SELOR - MAPOLDA KALTARA if the police helicopter is flying from MAKOPOLAIRUD;
- The responsible ATC Unit must instruct the North Kalimantan Regional Police flight operator to fly via the VFR Route, namely TANJUNG SELOR - TUNDUNG ISLAND - TANJUNG PASIR - OVH TRK VOR/DME - MAKOPOLAIRUD if the police helicopter is flying from MAPOLDA KALTARA and OVH TRK - VOR/DME - TANJUNG PASIR - TUNDUNG ISLAND - TANJUNG SELOR - MAPOLDA KALTARA if the police helicopter is flying from MAKOPOLAIRUD;
- The responsible ATC Unit must give additional instructions after giving clearance for landing, namely "Report on the ground" to every North Kalimantan Police flight operator who will land at a destination that is not visible from the Tarakan Approach or Juwata Tower.

The North Kalimantan Regional Police carry out the following matters:

- Every North Kalimantan Police flight operator who will fly is required to make contact with the relevant ATC Unit of Perum LPPNPI Tarakan Branch, namely Juwata Tower to request engine start-up permission and mention the flight plan;
- After requesting engine start-up permission and mentioning the flight plan to Juwata Tower, every North Kalimantan Regional Police flight operator who will fly must make contact with the relevant ATC Unit of Perum LPPNPI Tarakan Branch, namely Tarakan Approach or Juwata Tower to request take-off permission;
- The North Kalimantan Regional Police submitted a flight route to the briefing office via VFR Route, namely TANJUNG SELOR - TUNDUNG ISLAND - TANJUNG PASIR - OVH TRK VOR/DME - MAKOPOLAIRUD if flying from MAPOLDA KALTARA and OVH TRK VOR/DME - TANJUNG PASIR - TUNDUNG ISLAND - TANJUNG SELOR - MAPOLDA KALTARA if flying from MAKOPOLAIRUD;
- The North Kalimantan Regional Police must follow instructions from the relevant ATC Unit to fly via VFR Route, namely TANJUNG SELOR - TUNDUNG ISLAND - TANJUNG PASIR - OVH TRK VOR/DME - MAKOPOLAIRUD when flying from MAPOLDA KALTARA and OVH TRK

VOR/DME - TANJUNG PASIR - TUNDUNG ISLAND - TANJUNG SELOR - MAPOLDA-KALTARA when flying from MAKOPOLAIRUD;

- The North Kalimantan Regional Police must follow additional instructions from the relevant ATC Unit after being given clearance for landing, namely "Report on the ground" and must do the report when landing at the destination.[15][16]

Exceptions to this agreement can only be made for aviation safety and security considerations and have received approval from Perum LPPNPI Tarakan Branch with the North Kalimantan Regional Police. Other matters that have not been listed in this Letter of Operational Coordination Agreement (LOCA) must be coordinated as well as possible while still prioritizing flight safety and security. This Letter of Operational Coordination Agreement (LOCA) will be evaluated and amended as needed through a mechanism agreed by each party concerned. This Letter of Operational Coordination Agreement (LOCA) is binding on the parties since it was signed. [15]

With the Letter of Operational Coordination Agreement (LOCA) that the author has made, it is hoped that it can be immediately implemented by both parties, both from Perum LPPNPI Tarakan Branch and from the North Kalimantan Regional Police so that the problems that often occur can be overcome, so as to create aviation safety and security, especially in the Tarakan airspace. It is hoped that both parties will immediately hold a meeting to discuss the problem and the Letter of Operational Coordination Agreement (LOCA) that the author made can be considered.

A. Meeting, Discussion and Socialization between Stakeholders

In addition, another solution that can be used as a problem solver on the problem is to immediately conduct meetings and discussions between Perum LPPNPI Tarakan Branch and the North Kalimantan Regional Police regarding Letter of Operational Coordination Agreement (LOCA), as well as conducting socialization to the North Kalimantan Regional Police regarding all flight procedures, so that problems that often occur can be resolved immediately, so as to create flight safety and security, especially in the Tarakan airspace and North Kalimantan.[17][18]

VII. CONCLUSION

From the research and discussion that has been done, the author can conclude that Perum LPPNPI Tarakan Branch in carrying out air traffic guiding services must be supported by supporting equipment and good and complete coordination procedures in order to work optimally. To create flight safety, comfort, security, and efficiency, legal procedures or documents must be provided in each unit or between two parties to know the limits and procedures that each unit must carry out.

The absence of incomplete documents or procedures such as Letter of Operational Coordination Agreement (LOCA) can have direct or indirect effects on flight safety, comfort, security, and efficiency which can result in

Breakdown Of Coordination (BOC), Breakdown Of Separation (BOS), incident or accident which is not in accordance with the 5 Objectives of Air Traffic Services.

To avoid this, the author can conclude that it is necessary to make a legal document called a Letter of Operational Coordination Agreement (LOCA) which contains an agreement on coordination procedures between related units which so far there are no clear boundaries and procedures when coordinating and the responsibilities of each unit.

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