

Increasing Flight Safety Through Implementation LOCA ATS Provider and Waterbased Operator

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Abstract — This study aims to examine the problems and impacts arising from the absence of renewal of the Letter of Operational Coordination Agreement (LOCA) document between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE, PT NEWMONT NUSA TENGGARA. The research was conducted at Perum LPPNPI Lombok Branch Office from September to December 2022 when the author conducted OJT APP PROCEDURAL. The research method used is a descriptive qualitative method with data collection techniques in the form of observation, unstructured interviews, literature study, and documentation. In the data analysis technique, the author uses Descriptive Analysis. Based on the analysis of the research data obtained as well as a study of existing provisions and theories, the author concludes that it is necessary to renew the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE PT AMMAN MINERAL to adjust to the provisions and theories.

Keywords— *LOCA, Letter of Operational Coordination Agreement, Renew, Aviation Safety*

I. INTRODUCTION

AirNav Indonesia, or Perusahaan Umum Lembaga Penyelenggara Pelayanan Navigasi Penerbangan Indonesia (Perum LPPNPI) is a State-Owned Enterprise (BUMN) established on 13 September 2012[1]. The company, which was established based on the mandate of Law Number 1 of 2009 and Government Regulation (PP) Number 77 of 2012[2] concerning Perum LPPNPI, is tasked with providing flight navigation services in Indonesian airspace. In addition to providing flight navigation services in 291 locations throughout the archipelago, AirNav Indonesia also provides flight navigation services in several other countries' airspace bordering Indonesian airspace.

Aviation safety[3] is a top priority in the aviation industry. Good cooperation between aviation operators and those who manage the airspace is essential to achieve this goal. A Letter of Operational Coordination Agreement (LOCA) is a formal document used in the aviation industry to regulate and coordinate various operational aspects between two or more entities involved in flight operations. LOCA aims to improve coordination, maintain flight safety, avoid conflicts, and ensure that all parties involved in flight operations have the same understanding of their duties and responsibilities based on based on the Regulation of the Minister of Transportation of the Republic of Indonesia Number PM 65 of 2017

concerning Civil Aviation Safety Regulations Part 170 concerning Flight Traffic Regulations.[4] LOCA between Perum LPPNPI Lombok Branch Office and Benete Water Base, PT Amman Mineral, and its impact on flight safety in this region.

On September 19, 2022 - December 18, 2022, the author carried out the second On the Job Training activity, namely Approach Control Procedural at the General Company of the Indonesian Aviation Navigation Organization (Perum LPPNPI) Lombok Branch Office located at Zainuddin Abdul Madjid International Airport Jl By Pass BIL Tanak Awu Central Lombok - West Nusa Tenggara. While undergoing On the Job Training activities at Perum LPPNPI Lombok Branch Office, the author found several problems which were then raised as the title of this journal. Some of the problems are as follows:

1. There is no renewal of the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE, PT NEWMONT NUSA TENGGARA. The Letter of Operational Coordination Agreement (LOCA) was made and ratified on October 12, 2015.
2. Potential aircraft conflicts while in the air between the Standard Instrument Departure (SID) PEBGU 1H Runway 13 on AIRAC AIP AMDT 112 which came into force on January 27, 2022, with the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE, PT NEWMONT NUSA TENGGARA in Chapter VII Coordination Procedure no 7.
 - The following is the content of the Standard Instrument Departure (SID) PEBGU 1H Runway 13 on AIRAC AIP AMDT 112[5] which came into effect on January 27, 2022:
"Take off RWY 13 at 2000 ft, turn LEFT heading 041° continue climb to 5000 ft intercept RDL 074 LMB to TOKEK then to PEBGU."

PEBGU ONE HOTEL DEPARTURE

Take off RWY 13 at 2000 ft, turn LEFT heading 041°
continue climb to 5000 ft intercept RDL 074 LMB to
TOKEK then to PEBGU.

Figure 1. SID PEBGU 1H Runway 13 AIRAC AIP
AMDT 112



- The following is the content of the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE, PT NEWMONT NUSA TENGGARA[6] in Chapter VII Coordination Procedure no 7:

"In case the aircraft is unable to contact with Lombok Tower. The aircraft shall maintain an altitude of 2000 feet or below, until establishing two-way communication with the destination aerodrome.

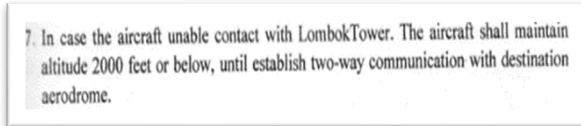


Figure 2. LOCA Chapter VII Coordination Procedure No. 7



Figure 3. Potential aircraft conflicts PEBGU 1H and LOCA Chapter VII Coordination Procedure No. 7

Several things underlie the author to raise the above issues. The basis for the above problem is :

- BENETE WATER BASE NEWMOUNT AMPHIBIOUS AIRCRAFT FACILITY PT NEWMONT NUSA TENGGARA has changed ownership to BENETE WATER BASE PT AMMAN MINERAL in November 2016.
- The applicable Letter of Operational Coordination Agreement (LOCA) violates the Regulation of the Director General of Civil Aviation. No KP 41 of 2020[7] concerning Technical and Operating Standards of Civil Aviation Safety Regulations Part 170-05 (Manual of Standard Part 170-05) Guidelines for the Preparation of Letter of Operational Coordination Agreement (LOCA) between Aviation Traffic Service Units (ATS Units) CHAPTER IV Transitional Provisions Article 17 which contains "Letter of Operational Coordination Agreement (LOCA) between Aviation Traffic Service Units that have been made and are still valid, must be adjusted to the provisions stipulated in this regulation no later than 2 (two) years from the enactment of this regulation". The above regulation was enacted on February 19, 2020. This means that the Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE, PT NEWMONT NUSA TENGGARA has violated this regulation because there has been no renewal for more than 2 (two) years.
- Point LABUHAN HAJI berada di Controlled Airspace Lombok yaitu Lombok CTR dan masuk ke dalam

klasifikasi kelas C yang harus memiliki komunikasi dua arah (two-way-communication) Based on UU No.1 of 2009 Article 265 paragraph 2 [8].

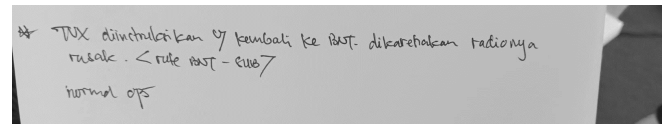


Figure 4. Aircraft case of communication failure from BNT – SBY

Suppose the BENETE WATER BASE PT AMMAN MINERAL aircraft does not establish two-way communication with the MADJID TOWER. In that case, it has violated UU No.1 of 2009 Article 265 paragraph 2 and will cause aircraft conflicts while in the air with Instrument aircraft using SID PEBGU1H.

II. METHOD

In this research, the author uses a qualitative descriptive method[9][10] with data collection techniques in the form of observation[11], unstructured interviews, literature study, and documentation. In the data analysis technique, the author uses Descriptive Analysis. Descriptive qualitative research method[12] is a research approach used to understand or describe phenomena in their natural context. This qualitative descriptive[13] does not aim to test hypotheses or explain cause-and-effect relationships but instead focuses on an in-depth understanding of a phenomenon, policy, process, or social experience. Observation data collection is one of the essential methods in research, where researchers systematically and thoroughly observe the behavior, events, or phenomena to be studied. This technique allows researchers to collect data from direct observation, without affecting or altering what is observed.

III. RESULT AND DISCUSSION

The results of this study are very important for every aviation stakeholder to implement the 5 (five) objectives of air traffic services listed in Annex 11 Chapter 2[14]. Not only that, against the above problems the authors suggest several solutions, namely:

A. Renewal of Letter of Operational Coordination Agreement (LOCA)

It is very important to renew the Letter of Operational Coordination Agreement (LOCA)[15] between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE PT AMMAN MINERAL because it is no longer by the Regulation of the Director General of Civil Aviation. No KP 41 of 2020 concerning Technical and Operational Standards for Civil Aviation Safety Regulations Part 170-05 (Manual of Standard Part 170-05) Guidelines for the Preparation of a Letter of Operational Coordination Agreement (LOCA) between Aviation Traffic Service Units (ATS Units) CHAPTER IV Transitional Provisions Article 17 which contains "The Letter of Operational Coordination Agreement (LOCA) between Aviation Traffic Service Units that has been made and is still valid, must be adjusted to the provisions stipulated in this

regulation no later than 2 (two) years after this regulation is enacted." The renewal of the Letter of Operational Coordination Agreement (LOCA) [16] between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE PT AMMAN MINERAL is by the Regulation of the Director General of Civil Aviation. No KP 41 of 2020 concerning Technical Standards and Operations of Civil Aviation Safety Regulations Part 170-05.

B. Changes to the rules in CHAPTER VII of the Letter of Operational Coordination Agreement (LOCA).

Regarding CHAPTER VII Coordination Procedure no 7 is changed to "If the aircraft is unable to make contact with MADJID TOWER. The aircraft shall maintain an altitude of 1000 feet and remain over the LABUHAN HAJI until establishing two-way communication with the MADJID TOWER. If the aircraft is still unable to establish two-way communication with the MADJID TOWER, the aircraft shall Return to Base.

C. Careful about regulatory updates

To every party involved in making documents such as the Letter of Operational Coordination Agreement (LOCA) and others, it is better to pay more attention and be careful if there are regulatory updates and adjust them to the current regulations[17].

IV. CONCLUSION

Based on the author's explanation above, the author can conclude that there is a Letter of Operational Coordination Agreement (LOCA) to improve flight traffic services and accelerate coordination between flight traffic service providers. The Letter of Operational Coordination Agreement (LOCA) between Perum LPPNPI Lombok Branch Office and BENETE WATER BASE PT NEWMONT NUSA TENGGARA was made and formalized on October 12, 2015, and there has been no renewal until now. Therefore, it is very important to adjust every document that already exists or is in the stage of making with the latest regulations. In addition, changes to the regulatory items in CHAPTER VII No. 7 of the Letter of Operational Coordination Agreement (LOCA) also need to be made to prevent potential aircraft accidents and improve flight safety if the aircraft belonging to BENETE WATER BASE PT. NEWMONT NUSA TENGGARA fails to establish 2-way communication with Perum LPPNPI Lombok Branch Office because both aircraft occupy the same altitude of 2000ft. It will cause conflict so that the altitude in CHAPTER VII No. 7 Letter of Operational Coordination Agreement (LOCA) is changed to 1000ft.

REFERENCES

- [1] N. P. Sari, "Profil Perusahaan Airnav Indonesia," *Anugerahmustika.Com*, 2018.
- [2] Pemerintah Indonesia, "Peraturan Pemerintah (PP) tentang Perusahaan Umum Perum Lembaga Penyelenggara Pelayanan Navigasi Penerbangan Indonesia," no. 176, pp. 1–49, 2012.
- [3] P. P. Surabaya, "Upaya Peningkatan Keselamatan Penerbangan Menggunakan Instrument Landing System (Ils) Terhadap Kelancaran Pelayanan Lalu Lintas Penerbangan Di Bandar Udara Domine Eduard Osok Sorong," 2021.
- [4] P. Keselamatan and P. Sipil, "Peraturan Menteri Perhubungan Penerbangan Sipil Bagian 173 (Civil Aviation Safety Penerbangan Sipil Bagian 175 (Civil Aviation Safety)," pp. 1–65, 2017.
- [5] C. Instrument, S. I. D. Icao, and A. D. Elev, "STANDARD DEPARTURE Zainuddin Abdul," vol. II, no. Vol II, p. 112.
- [6] L. LOMBOK, "LOCA LOMBOK DENGAN PT. NEWMONT.pdf."
- [7] P. D. J. P. Udara, "KP_41_TAHUN_2020.pdf."
- [8] Dpr.go.id, "UNDANG UNDANG NO 1 TAHUN 2009 TENTANG PENERBANGAN," *UNDANG UNDANG NO 1 TAHUN 2009 TENTANG PENERBANGAN*, vol. 2, no. 5, p. 255, 2009, [Online]. Available: ???
- [9] M. R. Fadli, "Memahami desain metode penelitian kualitatif," *Humanika*, vol. 21, no. 1, pp. 33–54, 2021, doi: 10.21831/hum.v21i1.38075.
- [10] M. N. Adlini, A. H. Dinda, S. Yulinda, O. Chotimah, and S. J. Merliyana, "Metode Penelitian Kualitatif Studi Pustaka," *Edumaspul J. Pendidik.*, vol. 6, no. 1, pp. 974–980, 2022, doi: 10.33487/edumaspul.v6i1.3394.
- [11] H. Hasanah, "TEKNIK-TEKNIK OBSERVASI (Sebuah Alternatif Metode Pengumpulan Data Kualitatif Ilmu-ilmu Sosial)," *At-Taqaddum*, vol. 8, no. 1, p. 21, 2017, doi: 10.21580/at.v8i1.1163.
- [12] M. Penelitian, D. Kualitatif, D. Perspektif, and B. D. A. N. Konseling, "METODE PENELITIAN DESKRIPTIF KUALITATIF DALAM PERSPEKTIF BIMBINGAN DAN KONSELING," vol. 2, no. 2, pp. 83–91, 2018, doi: 10.22460/q.v1i1p1-10.497.
- [13] J. A. Maxwell, "Qualitative research design: An interactive approach (applied social research methods)," *SAGE Handb. Appl. Soc. Res. Methods*, 2008.
- [14] R. Abeyratne, "Rules of the Air," *Air Navig. Law*, no. July, pp. 69–88, 2012, doi: 10.1007/978-3-642-25835-0_3.
- [15] B. L. W. Lukman, A. Irfansyah, R. Puspitaningsih, and P. P. Surabaya, "OPTIMALISASI LETTER OF COORDINATION AGREEMENT TERKAIT KOORDINASI ANTARA UNIT TOWER DAN AIRLINES TERHADAP NAVIGASI PENERBANGAN DI PERUM LPPNPI AIRNAV INDONESIA," no. variable X, pp. 1–7, 2021.
- [16] J. Penelitian *et al.*, "Rancangan Draft Letter of Operational Coordination Agreement (Loca) Antara Ujung Pandang Fic Balikpapan Sector Dengan Handil Aeronautical Station Dalam Pelayanan Lalu Lintas Penerbangan," vol. 7, no. 1, pp. 65–76, 2022.
- [17] Purba Hasim, "Mewujudkan Keselamatan Penerbangan Dengan Membangun Kesadaran Hukum Bagi Stakeholders Melalui Penerapan Safety Culture," *J. Huk. Samudra Keadilan*, vol. 12, no. 1, pp. 95–110, 2017, [Online]. Available: <https://media.neliti.com/media/publications/240385-mewujudkan-keselamatan-penerbangan-denga-5062de36.pdf>