

Flight Safety And Safety Performance In Maneuvering Airport Areas Of Juwata Tarakan Airport

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Abstract: Airport is a facility where airplanes can take off and land. The existence of settlements around the Juwata Tarakan Airport can disrupt the security and safety conditions of flight operations. This study aims to determine the barriers to flight operations at Juwata Airport. The method used in this study is descriptive qualitative method, direct observation and interview. The results of this study found disturbances (1) Community pets in the form of cows entering the airport, (2) Communities around the airport crossing the runway, and (3) The absence of a guardrail around the airport.

Keyword: Obstacles, Settlements, Safety, Security

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I. Introduction

The geographical condition of the country of Indonesia is consists of many islands which cause land, air and sea transportation facilities to be needed by the community. Especially for air transportation, people are very interested because of fast, convenient and efficient service. Law of the Republic of Indonesia Number 1 of year 2009, that flight is part of the national transportation system that has the characteristics of being able to move quickly, use high technology, capital intensive, reliable management, and guarantee optimal safety and security so that potential and an effective and efficient role, so that it can help create a stable and dynamic national distribution pattern.

Air traffic services are the spearhead for airport managers with the aim of supporting government programs in the field of transportation services that directly bring revenue to the government. But for air traffic guides to create optimal air services must be safe, smooth, efficient and economical for all flight activities.

Juwata Tarakan Airport is the gateway to business, trade and industry in North Kalimantan. Flight services at Juwata Airport with the number of movements of planes taking off and planes coming up to 60–70 movements per day and having increasingly heavy air traffic.

Operating hours

- a. Operating hours : Monday – Sunday : 23.00 – 11.00 UTC (extend and advance operation subject to airport manager approval)
- b. Shift work/Duty : 23.00 – 05.00 UTC and 05.00 – 11.00 UTC

Air traffic services route

Juwata Tarakan Airport only serves domestic flights, both scheduled and unscheduled. (See in Table 1)

Table 1. Flight Routes

Origin	Destination
Juwata Tarakan Airport	Halim Via W 18 And W 15
	Surabaya via W 18 And W 31
	Balikpapan Via W 18
	Tanjung Selor Direct R 204 Trk
	Malinau Direct R 285 Trk
	Long Bawan Direct R 286 Trk
	Berau Direct R 186 Trk
	Samarinda Direct R 185 Trk
	Long Apung Direct R 237 Trk
	Nunukan Direct R 006 Trk
	Long Nawang Direct R 239 Trk
	Toli-Toli Direct R 120 Trk
	Manado Direct R 104 Trk
	Pujungan Direct R 246 Trk
	Long Sule Direct R 222 Trk

	Mahak Baru Direct R 228 Trk
	Dajah Dian Direct R 241 Trk
	Apauing Direct R 261 Trk
	Tawau Via Baxal A 211

Source: Tarakan's Directorate General of Air Transportation Office, 2018

Aircraft operator

In accordance with Law Number 1 of year 2009 concerning flights with PM 127 concerning National Aviation Security, flight operators must permit air transportation permits and certification in accordance with technical or operational requirements in accordance with Annex 11, Appendix 14. Operators and types of aircraft operated in Juwata Tarakan Airport is published in Table 3.

Table 3. Operators and Aircraft Types

Aircraft operator		Type of aircraft	
Schedule	Unschedule	Fixed Wing	Rotary Wing
Lion Air	Maf (Mission Aviation Fellowship)	B732	BH212
Sriwijaya Air	Indonesian Air Force (Tni-Au)	B733	MIR6
Batavia Air	Indonesian Navy (Tni-Al)	B739 ER	BH412
Susi Air	Indonesian Army (Tni-Ad)	C130	MI8
Kalstar	Polisi Republik Indoneisa (Police)	FK27	MD50
Maswings	Cargo Rusia	ATR42	B429
	Calibration Flight	ATR 72	VH1
	Mathew Air Nusantara	CS212	N332
	Usaf	C206	
	Irst Resource Ltd	C208	
	Intan Angkasa Air Service	CN235	
	White Sky Air	LR23	
	Eastindo Air	BE28	
	Thai Flying Services	KODIAK	

Source: Tarakan's Directorate General of Air Transportation Office, 2018

II. Research Method

This study uses qualitative descriptive analysis method. Collection techniques that are carried out are interviews, documentation, and observation. Observations were made with the observation grand tour or the grand tour question or what is called general exploration conducted around Juwata Tarakan Airport.

III. Discussion

Air Traffic Control (ATC) is a guide for air traffic that is the closest partner of pilots at each airport. Who knows the situation of air traffic in the air and on land is an air traffic control officer (controller). ATC officers who are authorized to monitor and regulate smooth flight traffic so that accidents do not occur such as collisions when the aircraft moves. To support this security, pilots are expected to obey it with high discipline (Sudirman HI Umar, 2016).

A person's responsibility is calm and thoroughness in carrying out his duties. While in charge, a regulator not only supervises and observes the flow of flight traffic such as a traffic regulator on the highway that can and allows dismissing a road user who violates traffic regulations. A regulator has a direct role in arranging and giving instructions in accordance with international regulations to pilots who operate airplanes on land and in the air and the most important thing is ensuring that the instructions given are carried out by pilots for flight safety and passengers (Sudirman HI Umar, 2016)

Law No. 15 of year 1992 concerning Aviation that flight destinations are to realize aviation operations that are safe, secure, fast, smooth, orderly and orderly, comfortable and efficient, at a cost affordable to the people's purchasing power, by prioritizing and protecting national flights, supporting equity, growth and stability, as a driver, driver and supporter of national development and strengthen relations between nations. This flight destination is the basis for the establishment of an air traffic control agency namely Air Traffic Control (ATC) in the world of aviation.

Air Traffic Control (ATC) is an air traffic regulator since before the plane takes off until the plane reaches its destination. Before the plane took off, ATC had provided services to the pilot in the form of checking the flight plan that the pilot had submitted to ATC. The flight plan contains the pilot's plan to fly the aircraft including the condition of the aircraft engine, fuel carried, alternative emergency landings and altitude in flight. If these things are not in accordance with the provisions, ATC may not allow the aircraft to fly, because it can threaten safety in flight.

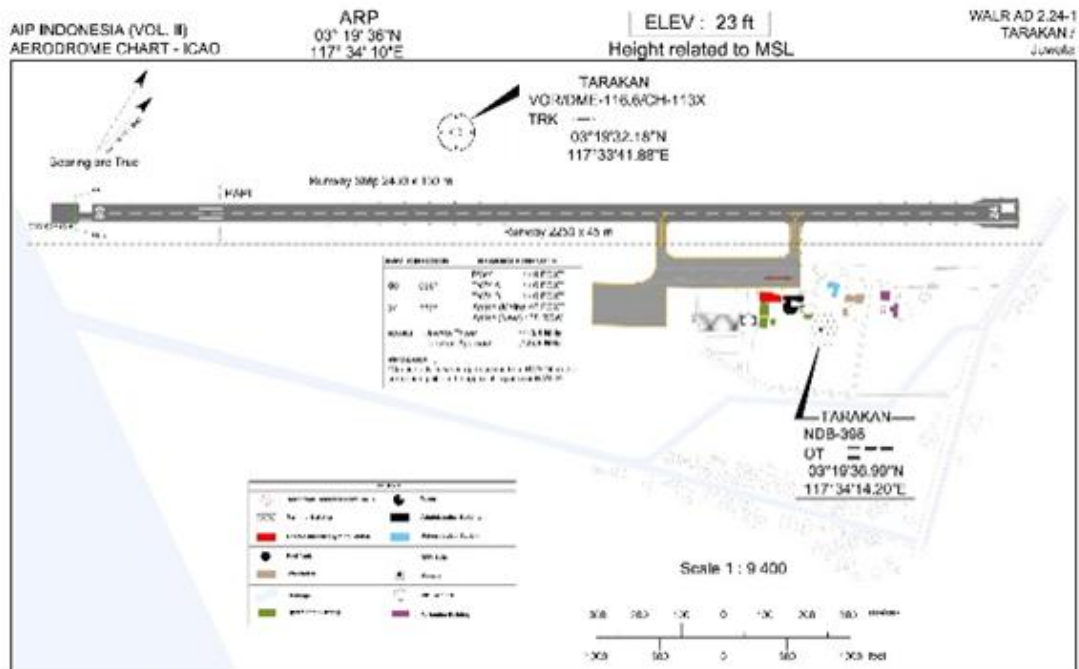


Figure 1. AIP Indonesia Juwata Aerodrome Chart Icao
Source: Directorate of General of Civil Aviation, 2010

In the provision of air traffic services, especially by the Aerodrome Controller Unit, it must be able to monitor all movements, especially in maneuvering areas. In Air Traffic Management Doc 4444 points 7.1.1.2 “Aerodrome controllers shall maintain a continuous watch on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the maneuverings area. Watch shall be maintained by visual observation, augmented in low visibility conditions by an ATS surveillance system when available”.

Air Traffic Management Doc. 4444 point 7.1.1.2 states that the controller aerodrome must pay attention to all flight activities around the airport and in the airport movement area through direct views or through surveillance systems if available. “Doc 4444 fourteenth edition chapter 7 point 7.5.3.2.2.1 (2012), All vehicles and pedestrian shall give way to aircraft which area landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress shall be afforded priority over all other surface movement traffic”

It is explained that all vehicles and pedestrians must provide roads if when the plane lands, taxiing, and takes off, unless the aircraft that is experiencing an emergency is given priority to enter the aircraft movement area. “Annex 14 Aerodrome volume 1 chapter 1 (2012), Aerodrome Design and Operations Fourth, Chapter I. General, 1.1 Definitions “Manoeuvring area is part of an Aerodrome to be used for take off, landing and taxiing of aircraft, excluding aprons”. Jadi manoeuvring area adalah bagian dari aerodrome yang digunakan untuk take off, landing, taxiing kecuali apron.

Dense aircraft movements must be accompanied by supervision of every movement in the maneuvering area, the vicinity of the aerodrome, and also communication that occurs between the controller and the pilot. But in the case of Juwata Airport there is no controller unit that can assist in the provision of safe and efficient flight traffic services. Pets and residents around the maneuvering area pose problems for aerodrome control tower officers at the airport.

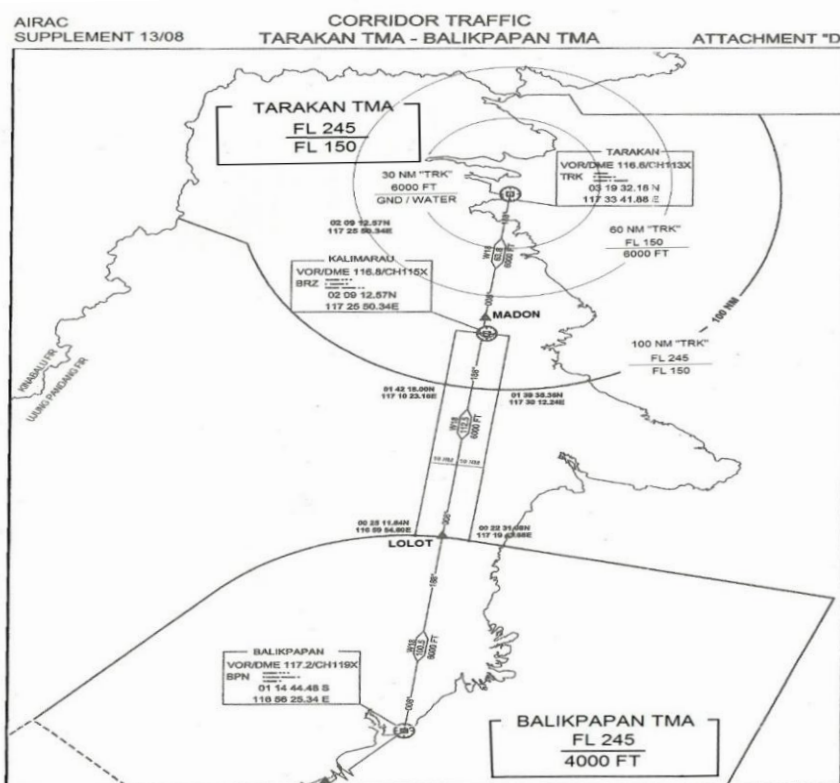


Figure 2. Corridor Traffic Tarakan TMA - Balikpapan TMA
Source: Directorate General of Civil Aviation, 2008

The aerodrome control tower is in charge of providing air traffic guidance services to flights, whether departing or from the intended Tarakan, also flying across (en-route) in the aerodrome control tower area. The Juwata Tarakan aerodrome control tower is always guided by flight regulations so that airlines are safe, secure, smooth, orderly, organized, comfortable and efficient.

To ensure flight safety and avoid undesirable things, airmen and other parties involved in the maneuverings area must get permission from the aerodrome control tower officer. But in reality the aircraft operator did not ask permission from the aerodrome control tower officer even though there was no movement of the aircraft on the ground, this still jeopardized flight safety because the officers did not know where the aircraft was located. Therefore, the aerodrome control tower must oversee the movement of the ground traffic, and convey to the security officer about the presence of ground traffic in the maneuvering area and remind by pressing the siren button. After getting information from the aerodrome control tower, a new security officer takes action. This usually takes a long time, because seen from the arrangement of the security unit's task; it appears that there are no security officers specifically to carry out the patrol.

Problems cause obstacles to security supervision around Juwata Airport i.e. 1) there is no fence that limits the area around Juwata Tarakan Airport, where the absence of a guardrail around the airport demands more intense security or supervision. For example, security officers patrol every hour so that they can anticipate the entry of ground traffic into a maneuvering area so that flight security and safety at Juwata Tarakan Airport can be realized. 2) Lack of security officers patrolling to monitor the movement of the ground traffic. The lack of airport security personnel totaling 44 personnel does not allow for supervision or patrol of the airport area as a whole without the presence of a guardrail around the airport, and 3) Lack of coordination between airport security officers and aerodrome control tower officers at the airport of Juwata Tarakan.

Problems that can be caused from the existence of the ground traffic are 1) the movement of ground traffic in the maneuvering area when it will land and take off is very dangerous because the aircraft will go around, and very disturb the concentration of the pilot so that the aircraft is at high risk of losing control. Likewise, the aircraft will fail to take off and will delay in a few minutes so that this can lead to non-smooth air traffic and 2) Coordination between aerodrome control tower staff and airport security officers has not run smoothly, especially if there are animals and pedestrians feet that cross the runway without permission.

Impacts that can be caused by animal and pedestrian ground traffic movements without permission in maneuvering areas, namely; 1) Impact of hazards on aviation security and safety due to the presence of ground traffic, 2) Provision of air traffic services is not smooth and inefficient due to the presence of ground traffic, 3)

Lack of coordination between airport security officers and aerodrome control towers if there is ground traffic in personnel area, and 4) Lack of security in the area maneuvering of airport security officers against ground traffic movements.

The strategy must be carried out by airport management Juwata Tarakan to reduce the impact of hazards on aviation security and safety, namely; 1) Providing information to the community around the airport about the importance of flight security and safety against the movement of ground traffic in maneuvering areas, 2) Increasing security, coordination, and increasing patrol from airport security and between airport security and air traffic guidance regarding there is ground traffic in the maneuvering area. For the provision of smooth and efficient air traffic services, 3) Add communication tools (handy talking) to coordinate quickly between air airport security officers and air traffic guides if there is ground traffic in Juwata Tarakan Airport maneuvers, and 4) Fencing barriers around the airport area to prevent the entry of ground traffic into the maneuvering area which can endanger the security and safety of flights.

IV. Conclusion And Recommendation

The movement of the ground traffic on the maneuvering area can be hit by the aircraft that will take off and landing. The ground traffic can interfere with the concentration of pilots where the pilot will take off and landing at Juwata Tarakan Airport. The movement of ground traffic in the maneuvering area will hamper smoothness, order, order, comfort, and inefficiency in providing air traffic services at airports. Lack of security and coordination of airport security with air traffic officers

Officers need to disseminate information to the community around the airport by providing an understanding of the importance of flight safety and security against the movement of ground traffic in maneuvering areas. Increase security, coordination and patrol from security with air traffic guides regarding the presence of ground traffic in maneuvering areas. Add a communication tool (handy talking) to quickly coordinate between security and air traffic guides if there is ground traffic in the airport area management. Making fences around the airport area to prevent the entry of ground traffic into maneuvering areas that could endanger the safety and security of aviation.

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