



**KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIC OF INDONESIA**

PRELIMINARY

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Aircraft Serious Incident Investigation Report

PT Asi Pudjiastuti Aviation (Susi Air)

Cessna 208B; PK-BVU

Sipora Airport, Rokot, West Sumatera

Republic of Indonesia

23 May 2023

2023

This Preliminary Report is published by the Komite Nasional Keselamatan Transportasi (KNKT), Transportation Building, 3rd Floor, Jalan Medan Merdeka Timur No. 5 Jakarta 10110, Indonesia.

The report is based upon the investigation carried out by the KNKT in accordance with Annex 13 to the Convention on International Civil Aviation, the Indonesian Aviation Act (UU No. 1/2009) and Government Regulation (PP No. 62/2013).

The preliminary report consists of factual information collected until the preliminary report published. This report will not include analysis and conclusion.

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Jakarta, 14 August 2023

**KOMITE NASIONAL
KESELAMATAN TRANSPORTASI
CHAIRMAN**



SOERJANTO TJAHOJONO

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ABBREVIATIONS AND DEFINITIONS

ACO	:	Aeronautical Communication Officer
AFIS	:	Aerodrome Flight Information Service
AFIZ	:	Aerodrome Flight Information Zone
AIP	:	Aeronautical Information Publication
AOC	:	Air Operator Certificate
ARB	:	Area Reference Booklet
ARP	:	Aerodrome Reference Point
ATS	:	Air Traffic Service
CASR	:	Civil Aviation Safety Regulation
C o A	:	Certificate of Airworthiness
C o R	:	Certificate of Registration
CPL	:	Commercial Pilot License
DAN	:	Directorate of Air Navigation
DGCA	:	Directorate General of Civil Aviation
DOA	:	Directorate of Airport
GPS	:	Global Positioning System
KNKT	:	<i>Komite Nasional Keselamatan Transportasi</i>
LT	:	Local Time
MFD	:	Multi-Function Display
MOS	:	Manual of Standard
NOTAM	:	Notice to Airman
NOTOC	:	Notice to Crew
OM	:	Operation Manuals
SD	:	Secure Digital
SMS	:	Safety Management System
TOD	:	Top of Descent
UTC	:	Universal Time Coordinated
PF	:	Pilot Flying
PIC	:	Pilot in Command
PM	:	Pilot Monitoring
SIC	:	Second in Command
VFR	:	Visual Flight Rules

SYNOPSIS

On 23 May 2023, a Cessna 208B registered PK-BVU was operated by PT Asi Pudjiastuti Aviation (Susi Air) for scheduled passenger flights in Sumatera area. The aircraft was operated in dual pilot operation. The flight plan of the day of the aircraft and the pilots would be from Padang – Rokot – Padang – Mukomuko – Bengkulu – Enggano – Bengkulu – Muko-Muko – Padang.

At 0717 LT, in daylight condition the aircraft departed from Padang to Rokot on flight number SQS7212. The Pilot in Command (PIC) acted as Pilot Flying (PF) and the Second in Command (SIC) acted as Pilot Monitoring (PM). The total passenger on board the aircraft was five passengers. The filed flight plan in the Air Traffic Service (ATS) provider (AirNav Indonesia), indicated that the flight would follow visual flight rules.

After the departure, Padang Tower controller instructed the SQS7212 to contact the Padang Radar controller. After the PM made initial contact with the Padang Radar controller, the SQS7212 was instructed to climb to an altitude of 10,000 feet and made a direct flight to Rokot.

At 0730 LT, the radar display of the Padang Radar controller indicated that the SQS7212 reached and maintained altitude of 10,000 feet. At 0735 LT, when the aircraft was about 32 Nm from Padang, the air traffic controller instructed the SQS7212 to contact Rokot ACO on frequency 122.4 MHz.

At 0741 LT, the radar display of the Padang Radar controller indicated that the SQS7212 descended from 10,000 feet.

The PM attempted to contact the ACO, and no response was received. The PF then advised the PM to make position broadcast and considered that no flight information service was available.

The PF noticed a new runway with designated number of 14-32 near Runway 17-35 of Rokot. The pilots then flew over the airport at an altitude of 1,000 feet to see the runway condition. At that time the weather was clear and the visibility to the runway was good. Neither pilot saw any cross mark on either runway or any obstructions. The PF noticed that the Runway 14-32 was longer than the Runway 17-35 and its markings including threshold, designated number, and touchdown markings were clearer than the Runway 17-35. The PF then decided to land using Runway 17.

At 0759 LT, the aircraft landed on Runway 14. During the landing roll, the pilots noticed several construction materials on the runway strip and there were no ground personnel in the apron. The pilot realized that they had landed on an undesignated runway.

No one was injured in this occurrence and the aircraft was undamaged.

The investigation is continuing, should any further relevant safety issues emerge during the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

KNKT acknowledges the safety actions taken by the airport operator, however there still safety issues remain to be considered. Therefore, KNKT issued safety recommendations to address safety issues identified in this report to the airport operator, ATS provider, aircraft operator and the Directorate General of Civil Aviation.

1 FACTUAL INFORMATION

1.1 History of the Flight

On 23 May 2023, a Cessna 208B registered PK-BVU was operated by PT Asi Pudjiastuti Aviation (Susi Air) for scheduled passenger flights in Sumatera area. The aircraft was operated in dual pilot operation. The flight plan of the day of the aircraft and the pilots would be from Padang¹ – Rokot² – Padang – Mukomuko³ – Bengkulu⁴ – Enggano⁵ – Bengkulu – Muko-Muko – Padang.

About 0600 LT⁶, the pilots were picked up from their accommodation to the Padang airport. On the way to the airport, the pilots reviewed the applicable Notice to Airman (NOTAM) and Notice to Crew (NOTOC) for the planned schedule. The pilots did not find any notice which was applicable for the flight operation to Rokot.

About 0615 LT, the pilots arrived at the airport and performed a pre-flight preparation. During the preparation, the pilots did not find any report or record of aircraft system malfunction. The Pilot in Command (PIC) selected the stored flight plan route in the aircraft Global Positioning System (GPS)⁷ which contained direct route from Padang to Rokot aerodrome reference points.

After the passenger boarding process was completed, a Susi Air ground personnel advised the PIC that one of the passengers did not come. That passenger was an aeronautical communication officer (ACO) of Rokot. They assumed that the flight information service would not be provided at Rokot as several other pilots experienced flying to Rokot without any ACO responding pilot transmission in the radio communication.

The pilots performed a departure briefing using information provided in the company route guide. This departure briefing was focused on information related to Padang and did not mention anything related to the arrival process at Rokot.

At 0717 LT, in daylight condition the aircraft departed from Padang to Rokot on flight number SQS7212. The PIC acted as Pilot Flying (PF) and the SIC acted as Pilot Monitoring (PM). The total passenger on board the aircraft was five passengers. The filed flight plan in the Air Traffic Service provider (AirNav Indonesia), indicated that the flight would follow Visual Flight Rules (VFR).

After the departure, Padang Tower controller instructed the SQS7212 to contact the Padang Radar controller. After the PM made initial contact with the Padang Radar controller, the SQS7212 was instructed to climb to an altitude of 10,000 feet and made a direct flight to Rokot.

¹ Padang in this report is referred to Minangkabau International Airport (WIEE), Padang.

² Rokot in this report is referred to Rokot Airport (WIEB), Rokot.

³ Mukomuko in this report is referred to Mukomuko Airport (WIGM), Mukomuko.

⁴ Bengkulu in this report is referred to Fatmawati Soekarno Airport (WIGG), Bengkulu.

⁵ Enggano in this report is referred to Enggano Airport (WIGE), North Bengkulu.

⁶ The 24-hours clock in Local Time (LT) is used in this report to describe the local time as specific events occurred. Local time is Universal Time Coordinated (UTC)+7 hours.

⁷ The aircraft GPS has capability to provide flight navigation which allows pilot to create point-to-point navigation on a flight plan.

At 0730 LT, the radar display of the Padang Radar controller indicated that the SQS7212 reached and maintained altitude of 10,000 feet. At 0735 LT, when the aircraft was about 32 Nm from Padang, the air traffic controller instructed the SQS7212 to contact Rokot ACO on frequency 122.4 MHz.

Prior to the Top of Descent (TOD), the pilots performed arrival briefing using information provided in the company route guide. The PF advised the PM that landing approach would use Runway 17. During the arrival briefing, the pilots did not discuss any threats or hazards at Rokot except for the possibility of bird strike.

At 0741 LT, the radar display of the Padang Radar controller indicated that the SQS7212 descended from 10,000 feet.

The PM attempted to contact the ACO, and no response was received. The PF then advised the PM to make position broadcast and considered that no flight information service was available.

The PF noticed a new runway with designated number of 14-32 near Runway 17-35 of Rokot. The PF confused which was the designated runway at Rokot. The PF asked the PM and responded that the PM was also not sure of the designated runway. The pilots then flew over the airport at an altitude of 1,000 feet to see the runway condition. At that time the weather was clear and the visibility to the runway was good. Both pilots did not see any cross mark⁸ on either runway or any obstructions. The PF noticed that the Runway 14-32 was longer than the Runway 17-35 and its markings including threshold, designated number, and touchdown markings were clearer than the Runway 17-35. The PF then decided to land using Runway 14.

At 0759 LT, the aircraft landed on Runway 14. During the landing roll, the pilots noticed several construction materials on the runway strip and there were no ground personnel in the apron. The pilot realized that they had landed on an undesignated runway. The pilots then made observation of the runway condition and considered that the runway was clear and safe for takeoff. At 0803 LT, the aircraft departed from Runway 14 to land on Runway 17 of Rokot.

No one was injured in this occurrence and the aircraft was undamaged.

1.2 Personnel Information

1.2.1 Pilot in Command

The PIC is Indonesia nationality who held valid Commercial Pilot License (CPL) and qualified as single engine land aircraft pilot. The PIC also held a valid First-Class medical certificate with limitation to wear corrective lenses. During the occurrence flight the PIC wear corrective lenses.

The PIC had a total flying hour of 5,317.8 hours, including 2,816 hours on Cessna 208B aircraft. On the day of the occurrence, the PIC had flown for 42 minutes prior to the occurrence.

The last proficiency check for the PIC was conducted on 11 January 2023 and the result was satisfactory without any remarks.

⁸ If a runway is closed, a cross mark must be painted on the runway surface. The detailed regulation to close a runway can be found in the subchapter 1.9.4.2.

Prior to the occurrence, the total flying experience of the PIC to Rokot was eight landings and all flights were conducted in 2022. The last flying experience of the PIC to Rokot was on 29 November 2022 and at that time, Runway 14-32 was still under construction. The PIC was aware that there was a plan to move flight operation from the existing airport to a new airport in 2023 from the news. However, he did not know whether the plan had been executed or not.

One day prior to the occurrence, the PIC and the SIC reviewed all scheduled routes for the 23 May 2023 flight including the route guide for Padang to Rokot. Until the occurrence, no information has been received by the PIC related to the new Runway 14-32 near Rokot.

1.2.2 Second in Command

The SIC is Switzerland nationality who held valid Commercial Pilot License (CPL) and qualified as single engine land aircraft pilot. The SIC also held a valid First-Class medical certificate without any limitation.

The SIC had a total flying hour of 324 hours, including 32.7 hours on Cessna 208B aircraft. On the day of the occurrence, the SIC had flown for 42 minutes prior to the occurrence.

The last proficiency check for the SIC was conducted on 4 April 2023 and the result was satisfactory without any remarks.

Prior to the occurrence, the total flying experience of the SIC to Rokot was two landings (9 and 11 May 2023). During those flights, the SIC acted as PM and the runway in use was Runway 17. The flights were uneventful and the SIC did not remember seeing the new runway with designated number of 14-32.

One day prior to the occurrence, the PIC and the SIC reviewed all scheduled routes for the 23 May 2023 flight including the route guide for Padang to Rokot. Until the occurrence, no information has been received by the SIC related to the new Runway 14-32 near Rokot.

1.2.3 Aeronautical Communication Officer

The Aeronautical Communication Officer (ACO) is an Indonesian, 26 years old and single. The ACO held a valid ACO license and qualified as an aerodrome flight information officer. The ACO also held a valid medical checkup result.

The ACO had 5 years of working experience to provide aerodrome flight information services at Rokot.

As the scheduled flight from and to Rokot was only two days a week (Tuesday and Thursday), during the day off, the ACO often leaves Rokot to his hometown in Padang which was on a different island.

On Friday, 19 May 2023, the ACO went to his hometown to resolve family problems and planned to return to Rokot on Tuesday, 23 May 2023 using the scheduled flight from Padang to Rokot which was the occurrence flight. However, the ACO woke up late in the morning and missed the flight.

According to the company records, in 2021, the ACO received exhortation letter three times because of his absence without notice.

1.3 Aircraft Information

1.3.1 General

The Cessna 208B with serial number of 208B2257, was manufactured by Cessna Aircraft Company, a United States of America aircraft company in 2010. The aircraft was registered as PK-BVU and had a valid Certificate of Airworthiness (C of A) and Certificate of Registration (C of R).

At the day of the occurrence, the aircraft was airworthy when dispatched for the flight and operated within the weight and balance envelope. During the flight there was no record or report of aircraft system malfunction.

The aircraft had total hours since new of 13,742.1 hours and the total cycles since of 18,052 cycles. The engine installed on the aircraft was PT6A-114A, manufactured by Pratt & Whitney Canada with serial number of PCE-PC1446. The total time of the engine since new was 13,384.6 hours.

1.3.2 Global Positioning System

The aircraft was equipped with Garmin G1000 Global Positioning System (GPS), which has capability of flight navigation and flight data logging. The Garmin G1000 allows the pilot to create, edit and store up to 99 flight plans with up to 99 waypoints on each flight plan.

The logging data of the GPS can record several parameters including time, coordinate, GPS altitude, indicated airspeed, vertical speed, ground speed, pitch attitude angle and roll attitude angle. All these recorded parameters are stored on a Secure Digital (SD) data card which inserts into the top card slot of the Multi-Function Display (MFD). The navigation data is stored on an SD card which is inserted into the bottom card slot of the MFD.

In 2022, KNKT recommended Susi Air to ensure the GPS that has capability of flight data logging is able to store the flight data that can be used for the purpose of enhancing safety. Susi Air responded to the safety recommendation by inserting SD data card to all PC-6 aircraft with GPS that has capability of flight data logging. The investigation did not find the SD data card inserted into the top card slot of the MFD in the Cessna 208B aircraft that was involved in this occurrence.

1.4 Meteorological Information

Based on the pilots and passenger recollection, when the aircraft flew over the airport, the weather was clear, and the visibility was good.

1.5 Aids to Navigation

No ground-based navigation aids were available at Rokot.

The Garmin G1000 GPS installed on the aircraft provides navigation data for pilots which can be used as guidance to fly from a certain point or position to another point on a flight plan.

The stored flight plan for the Padang to Rokot flight in the aircraft was a direct flight from Padang Aerodrome Reference Point (ARP) coordinate to Rokot ARP coordinate.

The Susi Air developed Area Reference Booklet (ARB) for internal use which included a route guidance from Padang to Rokot.

Susi Air		SUMATERA		FPL.05	
				//APR 23	
GPS FPL 05			PADANG - ROKOT		
PADANG : WIEE (1200)			ROKOT: WIEB (1217)		
FRQ:	MINANG TOWER 118.3 PADANG RADAR 124.0 ATIS 127.25		FRQ:	ROKOT INFO 122.4	
NAVAIDS:	114.7MKB 111.5IMKB		NAVAIDS:	Nil	
RWY:	15/33		RWY:	17/35	
LENGTH:	3000 m		LENGTH:	850 m	
ELEV:	18ft		ELEV:	23ft	
SLOPE:	Nil		SLOPE:	Nil	
ROUTE INFORMATION					
DISTANCE:	85.6 NM	FLYING TIME:	36 mins		
ROUTE ALTITUDES	WIEE – WIEB WIEB – WIEE		10,000ft VMC 9,000ft VMC		
MIN RECOM. ON TRK ALT.	9,000ft VMC				
GPS WAYPOINTS					
WIEE DATABASE WPT		WIEB DATABASE WPT			
AIRFIELD		AIRFIELD			
MINIMUM FUEL ON DEPARTURE					
WIEE – WIEB	9000 lb (VFR)				
WIEB – WIEE	650 lb (VFR)				
ALTERNATES (Distances considering a Direct Route to the Alternate)					
WIEE – WIEB	Padang (WIEE):	85.6 NM	☹		
	Bengkulu (WIGG)	190 NM	☹		
	Pekanbaru (WIBB)	185 NM	☹		
WIEB – WIEE	Sibolga (WIMS)	163 NM	☹		
	Gunung Sitoli (WIMB)	194 NM	☹		
	Pekanbaru (WIBB):	102 NM	☹		
PILOT NOTES					
WIEE : TRAFFIC FROM BAYUR					
WIEB: RWY INCURSIONS, BIRDS					

Figure 1: Padang to Rokot route guide

1.6 Communications

All communications between ACO and the pilot were not recorded by ground based automatic voice recording equipment. It was because the ACO radio communication equipment was not turned on.

1.7 Aerodrome Information

Rokot is located on Mentawai Island which is located about 76 Nm Southwest of Padang. According to the Airport Register document published by the DGCA in 2019, the ARP of Rokot is on coordinate 02°05'56" S; 099°42'15" E while in the Aeronautical Information Publication (AIP) Volume IV subchapter WIEB AD 2-1 amendment 45 (effective date of 5 November 2020), the ARP is on coordinate 02°05'50" S; 099°42'14" E. The ARP stated in the Airport Register document was located about 190 meters from the ARP mentioned in the AIP.

The airport had asphalt-surface runway with designation number of 17-35. The runway dimensions were 850 meters in length and 23 meters in width.

The airport is operated by *Unit Pelaksana Bandar Udara* (Technical Operating Unit) of the Directorate General of Civil Aviation (DGCA).

In 2018, there was a plan to build a new airport infrastructure near Rokot Airport. The new airport would have a runway with designation number 14-32.

In 2020, the construction of the runway, taxiway, and apron for the new airport were started. The dimensions of the Runway 14-32 were 1,500 meters in length and 30 meters in width. The new Runway 14-32 was adjacent to the Runway 17-35 of Rokot Airport (see figure 3 and 4). On 16 April 2023, the runway markings on Runway 14-32 had been completely painted.

On 25 April 2023, the Rokot Airport operator which managed the implementation of the new airport construction plan issued instructions to the construction provider to paint two closed runway markings on the Runway 14-32 which located near the touchdown zone marking.

The closed runway marking painted in yellow color with specification as follows:

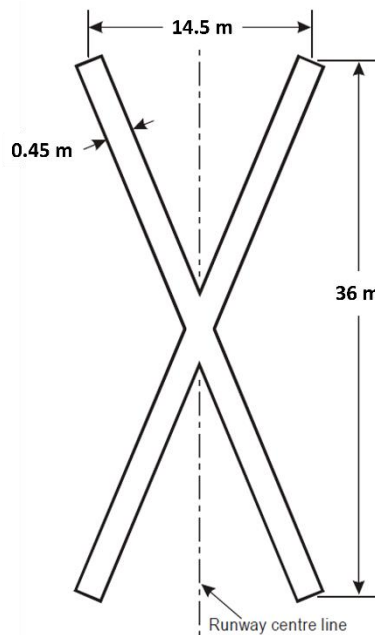


Figure 2: Runway 14-43 closed marking dimension

The painted closed runway marking color and dimension remained the same until the day of the occurrence.

In April 2023, one of the airport operational cars was unserviceable and left on Runway 14-32. The car was parked on the runway pavement near the runway edge marking and which was located about 800 meters from the beginning of Runway 14. The unserviceable car remained in the same location until the day of the occurrence.

Until the day of the occurrence, the airport certification for the new airport had not been conducted as the construction of the new airport near Rokot Airport had not been completed.



Figure 3: Rokot Airport aerial view (taken from aircraft on approach from Padang on 18 July 2023)

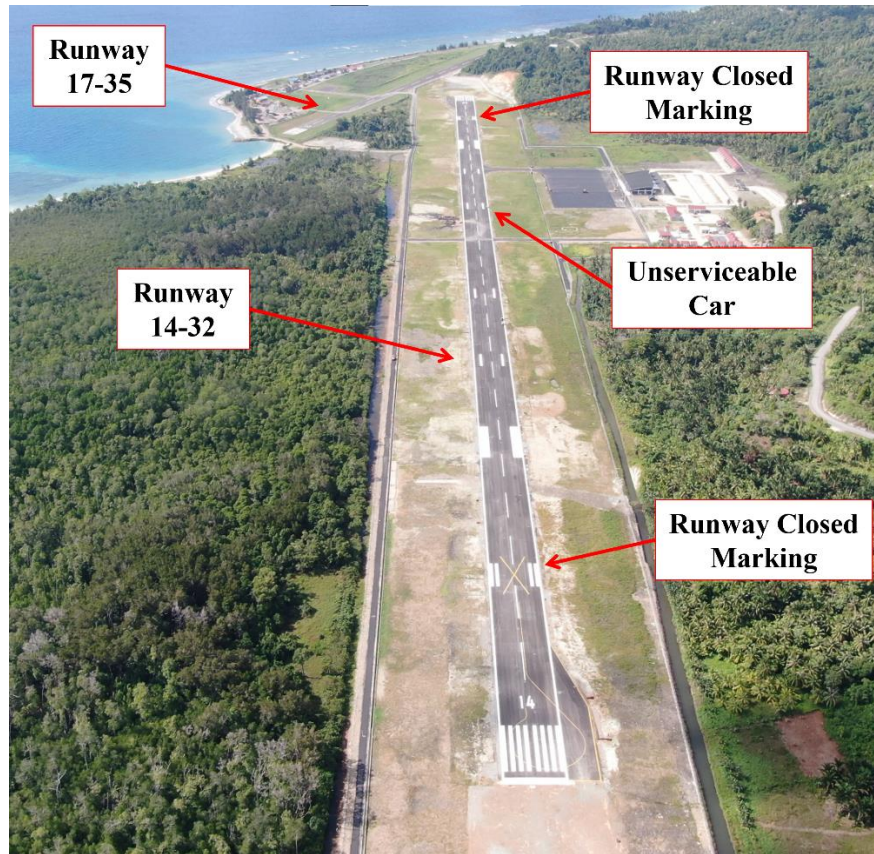


Figure 4: Runway 14-32 from aerial view (taken on 25 May 2023)



Figure 5: The unserviceable car on Runway 14-32 (taken on 25 May 2023)

1.8 Flight Recorders

The aircraft was not fitted with a flight data recorder or cockpit voice recorder. Neither recorder was required by current Indonesian aviation regulations.

1.9 Organizational and Management Information

1.9.1 Aircraft Operator

The aircraft was operated by PT. ASI Pudjiastuti Aviation (Susi Air) which had valid Air Operator Certificate (AOC) number 135-028. The Susi Air is authorized to conduct air transportation carrying passenger and cargo in scheduled and non-scheduled operation within and outside Indonesia for aircraft operations under Civil Aviation Safety Regulation (CASR) Part 135.

Susi Air developed operation manuals (OM)s which contain Susi Air policies and procedures that had been approved by the Directorate General of Civil Aviation (DGCA).

Susi Air has established a Safety Management System (SMS) which includes hazard identification as part of the risk management process. Prior to the occurrence, there was no hazard report for flight operation at Rokot.

1.9.2 Airport Operator

The airport of Rokot is operated by *Unit Pelaksana Bandar Udara* (Technical Operating Unit) of the DGCA.

In 2019, the Airport Register for Rokot Airport was issued by the DGCA. Rokot Airport was authorized to provide service for aircraft configured with 30 passenger seats or below. The Airport Register was valid until 11 November 2022, and the renewal process was not requested by the airport operator until the day of the occurrence.

The implementation of new airport construction was managed by the Rokot Airport operator. The construction progress of the new airport was reported periodically to the Directorate of Airport (DOA) of the DGCA every week. The submitted weekly report on 7 May 2023, indicated that the closed runway markings had been painted.

1.9.3 Air Traffic Service Provider

Perusahaan Umum Lembaga Penyelenggara Pelayanan Navigasi Penerbangan Indonesia (AirNav Indonesia) is the ATS provider within Indonesia including the provision of Aerodrome Flight Information Service (AFIS) at Rokot.

The AFIS at Rokot is provided by the Air Navigation Service Unit of Rokot (Rokot ATS unit) which had a valid Air Traffic Service (ATS) provider certificate. The service is provided within the Sipora Aerodrome Flight Information Zone (AFIZ) which was a circle with radius 5 Nm centered on Rokot ARP, from ground up to 4,000 feet. The Sipora AFIZ is classified as Class G airspace and the AFIS is provided to pilot on frequency of 122.4 MHz.

According to the published AIP Volume IV subchapter WIEB AD 2.3, the operational hours to provide the AFIS are from 0000 to 0700 UTC (0700 to 1400 LT) and operates daily.

Operation Standard Manual of Rokot ATS unit subchapter 3.3 stated that the AFIS is provided two days per week and seven hours of service on each day. Based on that type of service, the minimum operational personnel at Rokot are two personnel consisting of one ACO and one supervisor.

In 2018, the Rokot ATS unit has two qualified ACOs and in 2019, one of the ACO was reassigned to another ATS unit. Since that time, the Rokot ATS unit only has one qualified ACO.

1.9.4 Civil Aviation Authority

Civil aviation in Indonesia is regulated and oversighted by Directorate General of Civil Aviation (DGCA) under the Ministry of Transportation.

The DGCA has several directorates including the Directorate of Airport (DOA) that is responsible in formulating regulations including supervision of aerodrome operation, and Directorate of Air Navigation (DAN) for formulating regulations including supervision of the air navigation service. The civil aviation activities are supervised by the DGCA through audit, inspection, surveillance, and monitoring.

1.9.4.1 Airport Register Regulation

Peraturan Menteri Perhubungan (Minister of Transportation Decree) Number PM 31 of 2021 article 2, requires airport which provide services for aircraft configured with 30 passenger seats or below to have a valid Airport Register issued by the DGCA.

1.9.4.2 Closed Runway Regulation

DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139 subchapter 7.1 describes requirement standard for closed runway marking.

A closed runway marking shall be displayed on a runway or portion thereof which is permanently closed to the use of all aircraft. The closed runway marking may also be displayed on a temporary closed runway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided.

The closed runway marking shall be placed at each end of the runway, or portion thereof, declared closed, and additional markings shall be so placed that the maximum interval between markings does not exceed 300 meters. The closed marking for runway shall be painted in white color with form and proportions as follows:

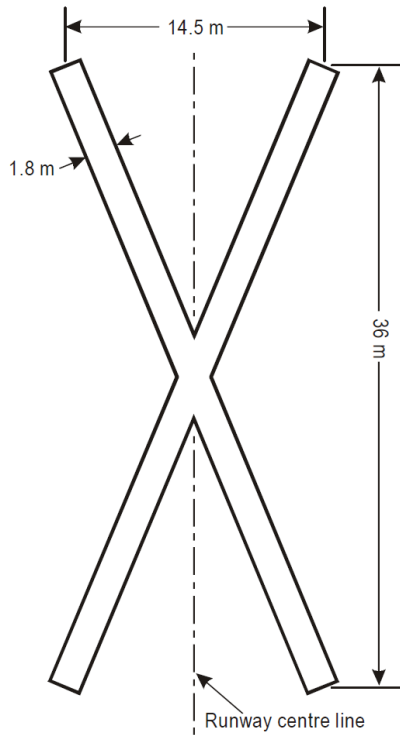


Figure 6: Illustration of closed runway marking

The regulation of closed runway markings described in the MOS CASR Part 139 was not applicable for a runway which had not been certified for airport operation by the DGCA.

1.9.4.3 Construction of New Airport Supervision

The standard requirements for the construction of a new airport are described in Minister of Transportation Decree Number PM 32 of 2021. Article 23 of the decree states that to ensure the compliance of the construction of the new airport with civil aviation safety regulations, the construction process will be supervised through audit, inspection, surveillance, monitoring, and/or testing.

The details of the procedure to conduct the supervision activities will be described in a Director General of Civil Aviation decree. Up until the day of the occurrence, the detailed supervision procedure had not been developed.

In 2022, the DOA inspector conducted on site monitoring of the construction progress of the new airport near Rokot. At that time, the Runway 14-32 markings had not been painted. The DOA inspector monitored the weekly progress report submitted by the Rokot Airport operator. The monitoring activities were focused on infrastructure construction progress which was shown on a table with percentage of the progress. The DOA inspector did not pay attention to the closed runway markings which were depicted in the weekly report presentation submitted by the Rokot Airport operator on 7 May 2023.

1.10 Additional Information

The investigation is continuing. Should any further relevant safety issues emerge during the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

1.11 Useful or Effective Investigation Techniques

The investigation was conducted in accordance with the KNKT approved policies and procedures, and in accordance with the standards and recommended practices of Annex 13 to the Chicago Convention.

2 FINDINGS

The findings are statements of all significant conditions, events, or circumstances in the accident sequence. The findings are significant steps in the accident sequence, but they are not always causal, or indicate deficiencies. Some findings point out the conditions that pre-existed the accident sequence, but they are usually essential to the understanding of the occurrence, usually in chronological order.

In this occurrence, the KNKT identified several findings as follows:

1. The aircraft had a valid Certificate of Airworthiness (C of A) and a valid Certificate of Registration (C of R).
2. At the day of the occurrence, the aircraft was airworthy when dispatched for the flight and operated within the weight and balance envelope. During the flight there was no record or report of aircraft system malfunction.
3. The aircraft was equipped with Garmin G1000 Global Positioning System (GPS), which has capability of flight data logging. The flight data logging is stored on a Secure Digital (SD) data card which inserts into the top card slot of the Multi-Function Display (MFD).
4. In 2022, KNKT recommended Susi Air to ensure the GPS that has capability of flight data logging is able to store the flight data that can be used for the purpose of enhancing safety. Susi Air responded to the safety recommendation by inserting SD data card to all PC-6 aircraft with GPS that has capability of flight data logging.
5. The investigation did not find the SD data card inserted into the top card slot of the MFD in the Cessna 208B aircraft that was involved in this occurrence.
6. Both pilots held a valid Commercial Pilot License (CPL) and qualified as single engine land aircraft pilots.
7. The Pilot in Command (PIC) held a valid First-Class medical certificate with limitation to wear corrective lenses. During the occurrence flight the PIC wear corrective lenses. The Second in Command (SIC) held a valid First-Class medical certificate without limitation.
8. Prior to the occurrence, the total flying experience of the PIC to Rokot was eight landings and all flights were conducted in 2022. The last flying experience of the PIC to Rokot was on 29 November 2022 while Runway 14-32 was still under construction.
9. The PIC was aware that there was a plan to move flight operation from the existing airport to a new airport in 2023 from the news. However, the PIC did not know whether the plan had been executed or not.
10. The SIC had two landings experience in total at Rokot. Those flights were two weeks before the occurrence. During those flights, the SIC acted as Pilot Monitoring (PM) and the runway in use was Runway 17. The flights were uneventful and the SIC did not remember seeing the new runway with designated number of 14-32.

11. One day prior to the occurrence, the PIC and the SIC reviewed all scheduled routes for the 23 May 2023 flight including the route guide for Padang to Rokot. Until the occurrence, no information has been received by the PIC nor the SIC related to the new Runway 14-32 near Rokot.
12. The occurrence flight was the first flight of the day for the pilots and the aircraft. The filed flight plan indicated that the flight would follow visual flight rules.
13. During the flight preparation, the PIC selected the stored flight plan route in the aircraft Global Positioning System (GPS) which contained direct route from Padang to Rokot aerodrome reference points.
14. Prior to the flight, a Susi Air ground personnel advised the PIC that one of the passengers who was an aeronautical communication officer (ACO) of Rokot did not come. They assumed that the flight information service would not be available at Rokot as several other pilots had experienced flying to Rokot without any ACO responding pilot transmission in the radio communication.
15. When the aircraft was about 32 Nm from Padang, the Padang Radar controller instructed the pilot to contact Rokot ACO on frequency 122.4 MHz. The PM attempted to contact the ACO, and no response was received. The PF then advised the PM to make position broadcast and considered that no flight information service was available.
16. During the approach, the pilots noticed a new runway with designated number of 14-32 near Runway 17-35 of Rokot. Both pilots were confused about the designated runway at Rokot.
17. The pilots decided to fly over the airport at an altitude of 1,000 feet to see the runway condition. At that time the weather was clear and the visibility to the runway was good.
18. Neither pilot saw any cross mark on either runway or any obstructions. The PF noticed that the Runway 14-32 was longer than the Runway 17-35 and its markings including threshold, designated number, and touchdown markings were clearer than the Runway 17-35. The PF then decided to land using Runway 14.
19. During the landing roll on Runway 14, the pilots noticed several construction materials on the runway strip and there were no ground personnel in the apron. The pilots realized that they landed on an undesignated runway.
20. In April 2023, one of the airport operational cars was unserviceable and parked on Runway 14-32 pavement near the runway edge marking about 600 meters from the beginning of Runway 14. The unserviceable car remained in the same location until the day of the occurrence.
21. The route guidance from Padang to Rokot described in the Susi Air Area Reference Booklet (ARB) mentioned the runway at Rokot was 17-35. There was no information related to the new Runway 14-32 in the ARB.
22. Susi Air has established a Safety Management System (SMS) which includes hazard identification as part of the risk management process. Prior to the occurrence, there was no hazard report for flight operation at Rokot.

23. The Aerodrome Reference Point (ARP) of Rokot stated in the Airport Register document was located about 190 meters from the ARP mentioned in the Aeronautical Information Publication (AIP).
24. According to AIP Volume IV subchapter WIEB AD 2.3, the operational hours to provide the Aeronautical Flight Information Service (AFIS) is from 0000 to 0700 UTC (0700 to 1400 LT) and operates daily.
25. Operation Standard Manual of Rokot ATS unit stated that the AFIS is provided two days per week and seven hours of service on each day. Based on that type of service, the minimum operational personnel at Rokot are two personnel consisting of one ACO and one supervisor.
26. In 2018, the Rokot Air Traffic Services (ATS) unit has two qualified ACOs and in 2019, one of the ACO was reassigned to another ATS unit. Since that time, the Rokot ATS unit only has one qualified ACO.
27. The scheduled flight from and to Rokot was only two days a week (Tuesday and Thursday), and during the day off, the ACO often left Rokot and returned to his hometown at Padang which was on a different island.
28. On Friday, 19 May 2023, the ACO went to his hometown to resolve family problems and planned to return to Rokot on Tuesday, 23 May 2023 using the scheduled flight from Padang to Rokot which was the occurrence flight. However, the ACO woke up late in the morning and missed the flight.
29. According to the company records, in 2021, the ACO received exhortation letter three times because of his absence without notice.
30. *Peraturan Menteri Perhubungan* (Minister of Transportation Decree) Number PM 31 of 2021 article 2, requires airport which provide services for aircraft configured with 30 passenger seats or below to have a valid Airport Register issued by the DGCA.
31. In 2019, the Airport Register for Rokot Airport was issued by the DGCA. Rokot Airport was authorized to provide service for aircraft configured with 30 passenger seats or below. The Airport Register was valid until 11 November 2022, and the renewal process was not requested by the airport operator until the day of the occurrence.
32. In 2018, there was a plan to build a new airport infrastructure near Rokot Airport which would have a new runway with designation number 14-32 was built adjacent to Runway 17-35 of Rokot.
33. On 16 April 2023, all the Runway 14-32 markings had been painted except the closed runway marking. On 25 April 2023, the airport operator added two closed runway markings on the Runway 14-32 which located near the touchdown zone marking.
34. Until the day of the occurrence, the airport certification for the new airport had not been conducted as the construction of the new airport near Rokot Airport had not been completed.

35. DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139 described that closed runway marking may also be displayed on a temporary closed runway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided. The closed runway marking shall be placed at each end of the runway, or portion thereof, declared closed, and additional markings shall be so placed that the maximum interval between markings does not exceed 300 meters.
36. The regulation of closed runway markings described in the MOS CASR Part 139 was not applicable for a runway which had not been certified for airport operation by the DGCA.
37. The dimension and color of the closed runway markings on Runway 14-32 was not in accordance with the DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139.
38. The standard requirements for the construction of a new airport described in *Peraturan Menteri Perhubungan* (Minister of Transportation Decree) Number PM 32 of 2021 states that an airport construction process will be supervised through audit, inspection, surveillance, monitoring, and/or testing.
39. The details of the procedure to conduct the supervision activities for the construction of a new airport had not been developed yet until the day of the occurrence by the DGCA.
40. The DGCA supervision of the construction progress of the new airport near Rokot was conducted through progress monitoring. In 2022, the Directorate of Airport (DOA) inspector conducted on site monitoring of the construction progress of the new airport near Rokot. At that time, the Runway 14-32 markings had not been painted.
41. The DOA inspector monitored the weekly progress report submitted by the Rokot Airport operator. The monitoring activities were focused on the construction infrastructure progress which was shown on a table with percentage of the progress. The DOA inspector did not pay attention to the closed runway markings which were depicted in the weekly report presentation submitted by the Rokot Airport operator on 7 May 2023.

3 SAFETY ACTION

At the time of issuing this draft Final Report, the KNKT had been informed of safety actions resulting from this occurrence taken by the related parties.

3.1 Airport Operator

On 30 May 2023, the two runway closed markings on Runway 14-32 which were painted in yellow were repainted with white color and added one runway closed marking in the middle of the runway. The dimensions of those three closed runway markings were in accordance with the dimension standard described in the DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139.

On 30 May 2023, Notice to Airmen (NOTAM) was published and effective from 30 May 2023 at 0700 UTC until 30 June 2023 at 1700 UTC, that contained information as follows:

RWY 17/35 NML OPS BUT CTN ADZ DUE TO WIP NEW RWY POSITION 228.6 METER FM RIGHT SIDE THR RWY 17)

Which translated as:

Runway 17-35 was in normal operation. However, caution due to work in progress of a new runway which located 228.6 meters from right side of threshold Runway 17.

3.2 Aircraft Operator

In June 2023, a safety notice was published to remind all operational personnel of the Runway and Enroute Condition Assessment Matrix (RECAM) procedure as described in the Safety Management System Manual. The procedure requires pilot to report a hazard of designated runways which suffered a deterioration in the safety condition and new runways.

4 SAFETY RECOMMENDATIONS

KNKT acknowledges the safety actions taken by the airport operator, however there still safety issues remain to be considered. Therefore, the KNKT issued safety recommendations to address safety issues identified in this report.

The safety recommendation in this investigation report is made with the intention of preventing accidents or incidents and which in no case has the purpose of creating a presumption of blame or liability for an accident or incident.

4.1 Rokot Airport Operator

- **04.B-2023-08.01**

On 30 May 2023, Rokot Airport operator submitted Notice to Airman Notice (NOTAM) which advised that there was work in progress on a new runway which located 228.6 meters from right side of threshold Runway 17. The NOTAM was published and effective from 30 May 2023 at 0700 UTC until 30 June 2023 at 1700 UTC. As the available closed runway markings had not been in accordance with the standard requirement mentioned in the DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139 and no other aeronautical publication that mentioned the existence of the Runway 14-32, the mentioned NOTAM had not been considered sufficient to ensure pilots are aware of the undesignated Runway 14-32 at Rokot.

Therefore, KNKT recommends the Rokot Airport to review the NOTAM content and its duration to ensure that the notice could provide pilot awareness of an undesignated Runway 14-32 at Rokot.

- **04.B-2023-08.02**

In 2019, the Airport Register for Rokot Airport was issued by the Directorate General of Civil Aviation (DGCA) and was valid until 11 November 2022. Until the day of the occurrence, the renewal process was not requested by the airport operator. The invalidity of the Airport Register may not ensure that the airport operation has met the standard requirement.

Therefore, KNKT recommends the Rokot Airport operator to ensure the renewal process of Airport Register is completed before the due date.

4.2 AirNav Indonesia

- **04.A-2023-08.03**

According to Aeronautical Information Publication (AIP) Volume IV subchapter WIEB AD 2.3, the operational hours to provide the Aeronautical Flight Information Service (AFIS) at Sipora Aerodrome Flight Information Zone (AFIZ) is from 0000 to 0700 UTC (0700 to 1400 LT) and operates daily. However, Operation Standard Manual of Rokot Air Traffic Service (ATS) unit subchapter 3.3 stated that the AFIS is only provided two days per week and seven hours of service on each day. This condition allowed the Aeronautical Communication Officer (ACO) to leave Rokot and return to his hometown at Padang which was on a different island during the day off. The differences of operating hours information and unavailability of ACO was considered as hazard in the case of an emergency flight to Rokot on the day when the ACO was not scheduled to provide the AFIS.

Therefore, KNKT recommends AirNav Indonesia to review the operational hours to provide the AFIS and ensuring that the published operational hours are in line with the approved Operational Standard Manual of Rokot ATS unit.

- **04.A-2023-08.04**

According to Operation Standard Manual of Rokot Air Traffic Service (ATS) unit subchapter stated that the minimum operational personnel at Rokot are two personnel consisting of one ACO and one supervisor. In 2018, the Rokot Air Traffic Services (ATS) unit has two qualified ACOs and in 2019, one of the ACO was reassigned to another ATS unit. Since that time, the Rokot ATS unit has only one qualified ACO that provided Aerodrome Flight Information Service at Sipora Aerodrome Flight Information Zone (AFIZ). That condition was not in accordance with the approved Operation Standard Manual of Rokot ATS unit and considered as hazard for flight operation if the existing ACO is unable to perform its duty due to unforeseen situation.

Therefore, KNKT recommends AirNav Indonesia to review the minimum operational personnel at Rokot for ensuring the AFIS provision can be provided on Sipora Aerodrome Flight Information Zone (AFIZ).

4.3 Susi Air

- **04.O-2023-08.05**

The aircraft was equipped with Garmin G1000 Global Positioning System (GPS), which has capability of flight data logging. The logging data can be used as Flight Data Analysis for the safety management system and support the investigation process to enhance safety. All these recorded parameters are stored on a Secure Digital (SD) data card which inserts into the top card slot of the Multi-Function Display (MFD).

In 2022, KNKT recommended Susi Air to ensure the GPS that has capability of flight data logging is able to store the flight data that can be used for the purpose of enhancing safety. In this occurrence flight, the investigation did not find the Secure Digital (SD) data card inserted to record the flight data logging.

The absence of flight data logging reduced the availability data that can be used as Flight Data Analysis for the safety management system and to support the investigation process to enhance safety.

Therefore, KNKT recommends Susi Air to implement the KNKT safety recommendation by ensuring all aircraft type with GPS that has capability of flight data logging is able to store the flight data that can be used for the purpose of enhancing safety.

4.4 Directorate General of Civil Aviation

- **04.R-2023-08.06**

DGCA Manual of Standard (MOS) Civil Aviation Safety Regulation (CASR) Part 139 described that closed runway marking may also be displayed on a temporary closed runway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided. The marking shall be placed at each end of the runway, or portion thereof, declared closed, and additional markings shall be so placed that the maximum interval between markings does not exceed 300 meters.

The regulation of closed runway markings described in the MOS CASR Part 139 was not applicable for new runway which had not been certified for airport operation by the DGCA.

A new runway without any adequate closed runway markings near the designated runway may increase the possibility of pilot overlooking the marking and might have made the pilot landing on the undesignated runway.

Therefore, KNKT recommends the DGCA to review the regulation of closed runway markings to minimise the risk of pilot landing on undesignated runway.

- **04.R-2023-08.07**

The standard requirements for the construction of a new airport described in *Peraturan Menteri Perhubungan* (Minister of Transportation Decree) Number PM 32 of 2021 states that an airport construction process shall be supervised through audit, inspection, surveillance, monitoring, and/or testing. The details of the procedure to conduct the supervision activities for the construction of a new airport had not been developed until the day of the occurrence by the Directorate General of Civil Aviation (DGCA).

The absence of the detailed procedure to conduct the supervision activities for the construction of a new airport could make the supervision activities are not performed thoroughly and unable to identify the hazard to the flight operation that may exist from the construction.

Therefore, KNKT recommends the DGCA to establish and implement detailed procedures in conducting the supervision activities of an airport construction process as required by Minister of Transportation Decree Number PM32 of 2021.

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