



**KOMITE NASIONAL KESELAMATAN TRANSPORTASI
REPUBLIC OF INDONESIA**

PRELIMINARY REPORT

KNKT.16.10.32.04

Aircraft Serious Incident Investigation Report

PT. Asian One Air

Cessna 208B EX; PK-LTV

Ilaga Airport, Papua

Republic of Indonesia

13 October 2016



2016

This preliminary investigation report was produced by the Komite Nasional Keselamatan Transportasi (KNKT), 3rd Floor Ministry of Transportation, 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.

Readers are advised that the KNKT investigates for the sole purpose of enhancing aviation safety. Consequently, the KNKT reports are confined to matters of safety significance and may be misleading if used for any other purpose.

As the KNKT believes that safety information is of greatest value if it is passed on for the use of others, readers are encouraged to copy or reprint for further distribution, acknowledging the KNKT as the source.

When the KNKT makes recommendations as a result of its investigations or research, safety is its primary consideration.

However, the KNKT fully recognizes that the implementation of recommendations arising from its investigations will in some cases incur a cost to the industry.

Readers should note that the information in KNKT reports and recommendations is provided to promote aviation safety. In no case is it intended to imply blame or liability.

TABLE OF CONTENTS

TABLE OF CONTENTS	i
TABLE OF FIGURES	ii
ABBREVIATIONS AND DEFINITIONS	iii
INTRODUCTION	iv
1 FACTUAL INFORMATION	5
1.1 History of the Flight.....	5
1.2 Pilot Information.....	7
1.2.1 Pilot in Command.....	7
1.2.2 Second in Command	7
1.3 Aircraft Information.....	7
1.4 Aerodrome	8
1.5 Weather Information.....	8
1.6 Organizational and Management Information.....	9
1.6.1 Aircraft Operator	9
1.6.2 Air Navigation Services Provider.....	9
1.7 Visual Flight Rules Requirements	10
1.7.1 Civil Aviation Safety Regulation Part 91: General Operating and Flight Rules	10
1.7.2 Civil Aviation Safety Regulation Part 135: Certification and Operating Requirements: For Commuter and Charter Certificate Holders	10
1.8 Additional Information	11
1.9 Useful or Effective Investigation Techniques	11
2 FINDINGS	12
3 SAFETY ACTION	13
4 SAFETY RECOMMENDATIONS	14
4.1 PT. Asian One Air	14

TABLE OF FIGURES

Figure 1: The illustration of the flight path	5
Figure 2: The aircraft last position	6
Figure 3: Satellite image at 2100 UTC	8
Figure 2: Satellite image at 2200 UTC	9

ABBREVIATIONS AND DEFINITIONS

ATC	:	Air Traffic Control
ATPL	:	Airline Transport Pilot License
BMKG	:	<i>Badan Meteorologi Klimatologi dan Geofisika</i> (Bureau of Meteorology, Climatology and Geophysics)
C of A	:	Certificate of Airworthiness
C of R	:	Certificate of Registration
CASR	:	Civil Aviation Safety Regulation
CPL	:	Commercial Pilot License
FISO	:	Flight Information Service Officer
kg	:	Kilogram
km	:	Kilometer
KNKT	:	<i>Komite Nasional Keselamatan Transportasi</i>
UTC	:	Universal Time Coordinated
VFR	:	Visual Flight Rules

INTRODUCTION

SYNOPSIS

On 13 October 2016, a Cessna 208B EX aircraft registered PK-LTV was being operated as unscheduled cargo flight from Mozes Kilangin International Airport (WAYY), Timika to Ilaga Aiport (WAYL), Papua. The aircraft departed from Timika at 0550 LT (2050 UTC), and cruised at altitude 13,000 feet. On board the aircraft were two pilots, the Pilot in Command acted as pilot flying and the second in command conducted route familiarization. The aircraft carried 1,303 kg of cargo.

The aircraft flew to north east of Timika via U Pass and Ilaga Pass prior to descend. The Ilaga FISO informed that the weather on Ilaga was cloudy, the wind was calm and the visibility was below 1,000 meters.

While on the left downwind, the pilot stated that the view to the runway was partially blocked by clouds and the pilot continued the approach and turned to join left base runway 25. While the flight descending to 8,000 feet and joining the left base with speed approximately 98 knots, the pilot stated that the final direction of runway 25 was visible. Furthermore, the pilot made orbit to the left on final runway 25 to lose altitude and descent to 7,700 feet. The Ilaga FISO stated that during the aircraft made orbit, the view to the aircraft was partially blocked by cloud.

The FISO stated that aircraft touched down runway 25 at about 120 meters from beginning runway and the pilot stated that the touched down speed was approximate of 85 knots. During landing role, the pilot applied thrust reverser and brake.

The aircraft overrun the runway and stopped on the left corner of the end runway 25 and the propeller impacted the ground. No one injured in this serious incident.

The aircraft was substantially damaged with the nose landing gear collapsed and the propellers bent backward.

At the time of issuing this preliminary investigation report, the Komite Nasional Keselamatan Transportasi (KNKT) had not been informed of any safety actions resulting from this occurrence.

Based on the initial data collected, KNKT issued safety recommendation to the aircraft operator to address safety issue identified during the investigation.

1 FACTUAL INFORMATION

1.1 History of the Flight

On 13 October 2016, a Cessna 208B EX aircraft registered PK-LTV was being operated as unscheduled cargo flight from Mozes Kilangin International Airport (WAYY), Timika¹ to Ilaga Aiport (WAYL), Papua².

At 0550 LT (2050 UTC³), the aircraft departed from Timika and cruised at altitude 13,000 feet. On board the aircraft were two pilots, the Pilot in Command acted as pilot flying and the second in command conducted route familiarization. The aircraft carried 1,303 kg of cargo.

The aircraft flew to north east of Timika and at about 30 NM from Timika, the pilot changed the aircraft heading to U Pass⁴. Thereafter, the flight was flown to Ilaga Pass⁵ and descent to altitude of 12,500 feet after maintained altitude of 13,000 feet for about 5 up to 10 minutes.

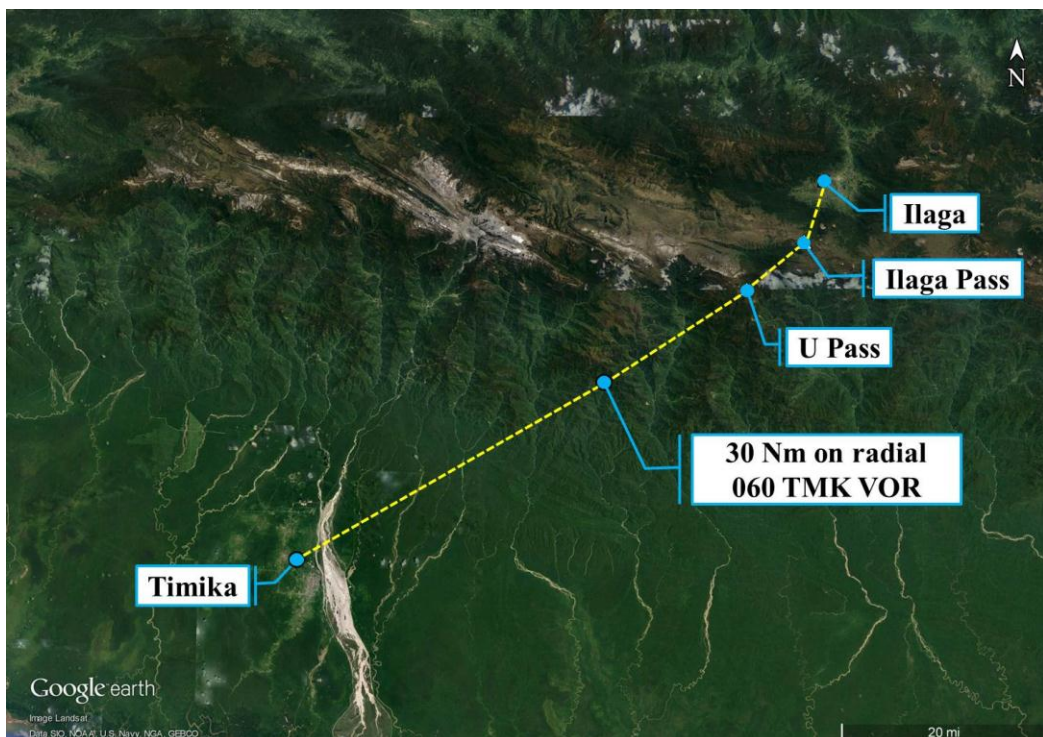


Figure 1: The illustration of the flight path

At about 2119 UTC, when the aircraft position was on Ilaga Pass, the pilot contacted to Ilaga Flight Information Service Officer (FISO). The Ilaga FISO informed that the weather at Ilaga was cloudy, the wind was calm and the visibility was below 1,000 meters.

-
- 1 Mozes Kilangin International Airport (WAYY), Timika will be named as Timika for the purpose of this report.
 - 2 Ilaga Aiport (WAYL), Papua will be named as Ilaga for the purpose of this report.
 - 3 The 24-hours clock in Universal Time Coordinated (UTC) is used in this report to describe the local time as specific events occurred. Local time is UTC+9 hours.
 - 4 U pass is a visual reference point which located at approximate of 12 Nm from Illaga on bearing 216°.
 - 5 Ilaga pass is a visual reference point at approximate of 6 Nm from Illaga on bearing 200°.

The flight then descent to altitude of 8,500 feet and the pilot intended to join left downwind runway 25 with speed approximate of 120 knots.

While on the left downwind, the pilot stated that the view to the runway was partially blocked by clouds and the pilot continued the approach and turned to join left base runway 25. While the flight descending to 8,000 feet and joining the left base with speed approximately 98 knots, the pilot stated that the final direction of runway 25 was visible. Furthermore, the pilot made orbit to the left on final runway 25 to lose altitude and descent to 7,700 feet. The Ilaga FISO stated that during the aircraft made orbit, the view to the aircraft was partially blocked by cloud.

At about 2122 UTC, the FISO advised the pilot that the visibility on final area was partially blocked by clouds and the visibility from FISO room to the threshold of runway 25 was clear. While the aircraft turning to final path, the pilot stated that the runway was in sight and continued to land. The speed was approximate of 90 knots and the flaps setting was full down.

At about 2125 UTC, the FISO stated that aircraft touched down runway 25 at about 120 meters from beginning runway and the pilot stated that the touched down speed was approximate of 85 knots. During landing role, the pilot applied thrust reverser and brake.

The aircraft overrun the runway and stopped on the left corner of the end runway 25 and the propeller impacted the ground. No one injured in this serious incident.

The aircraft was substantially damaged with the nose landing gear collapsed and the propellers bent backward.



Figure 2: The aircraft last position

1.2 Pilot Information

1.2.1 Pilot in Command

The pilot was 62 years old, joined the company since September 2016 and held a valid Airline Transport Pilot License (ATPL). The medical certificate was first class that valid up to 31 December 2016 with limitation to wear lenses that correct for distant vision and possess glasses that correct for near vision.

The flying experiences of the pilot were as follows:

Total hours	: 21,861.58 hours
Total on type	: 2,209.58 hours
Last 90 days	: 124.24 hours
Last 60 days	: 124.24 hours
Last 24 hours	: 35 minutes
This flight	: 35 minutes

1.2.2 Second in Command

The second in command was a new hire pilot which was conducting route familiarization. The pilot was 40 years old and held a valid Commercial Pilot License (CPL). The medical certificate was first class that valid up to 31 October 2016 with limitation to possess glasses that correct for near vision.

The flying experiences of the pilot were as follows:

Total hours	: 3,003.33 hours
Total on type	: 54.58 hours
Last 90 days	: 95.28 hours
Last 60 days	: 62.58 hours
Last 24 hours	: 35 minutes
This flight	: 35 minutes

1.3 Aircraft Information

The aircraft was manufactured in United States of America in 2015 by Cessna Aircraft Company with serial number 208B5238 and the type/model was Cessna 208B EX. The aircraft registered PK-LTV and had valid Certificate of Airworthiness (C of A) and Certificate of Registration (C of R).

The total hour of the aircraft was 489 hours and the total cycle was 907 cycles.

The aircraft was not equipped with flight recorder and it was required by current Indonesia regulation for this type of aircraft.

The engine was manufactured in Canada by Pratt & Whitney Canada. The type/model was PT6A-VA02555 with serial number PCE-VA0255. The total hour of the engine was 489 hours and the total cycle was 907 cycles.

1.4 Aerodrome

The Ilaga airport was located in Aminggaru village, Papua and the elevation was 7,975 feet. The airport operation hour was from 2100 to 0300 UTC, and the average of traffic movement was about 30 up to 40 aircraft movement per day.

The runway dimension was 600 meters length and 18 meters width and the surface was asphalt. The runway designation number was 07-25 (079°-259°) and the runway slope was 4% longitudinal and 1.5% transverse.

1.5 Weather Information

There was no Meteorological Station or automatic meteorological aids to provide weather information. The weather information of Ilaga was based on Flight Information Service Office (FISO) observation and the determination of wind velocity utilized a wind shock which located near the beginning runway 25.

The weather during approach until the aircraft landed was reported slight rain, the wind condition was calm and the visibility was below 1,000 meters.

The following satellite images were provided by *Badan Meteorologi Klimatologi dan Geofisika* (BMKG – Bureau of Meteorology, Climatology and Geophysics) at 2100 UTC and 2200 UTC (figure 3 and 4). The images indicated a development of middle, and high clouds⁶ around Ilaga during the occurrence flight.

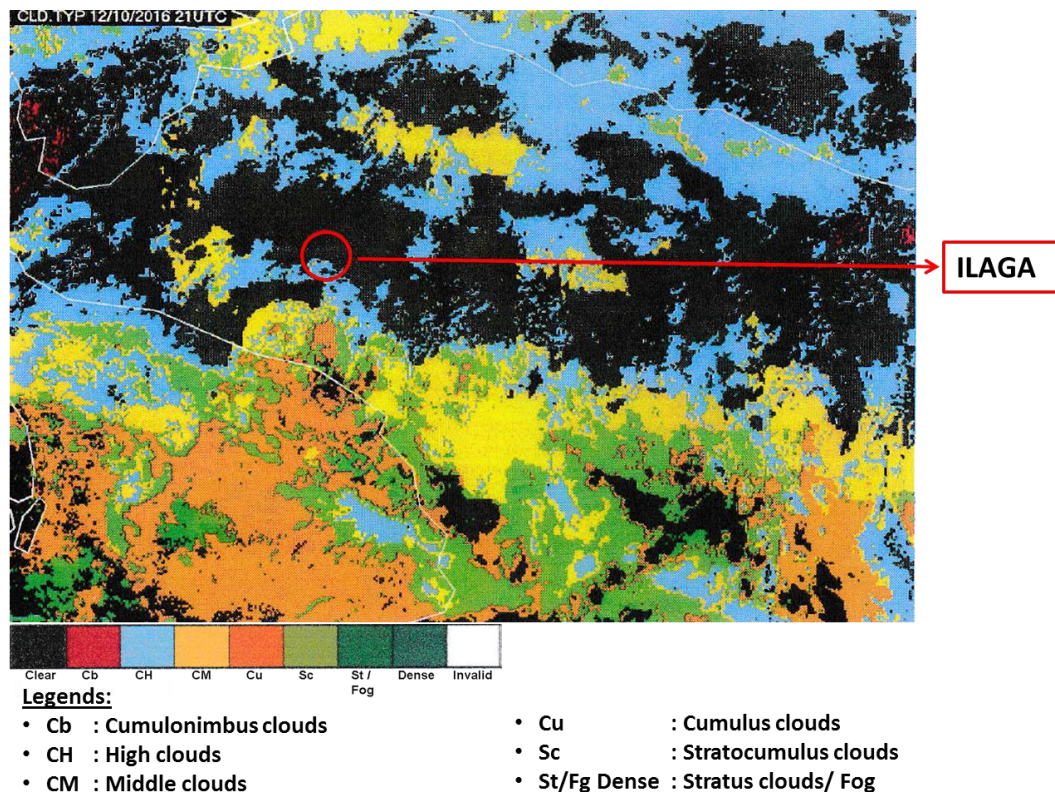


Figure 3: Satellite image at 2100 UTC

⁶ The altitude ranges of middle clouds in the tropical area are between altitudes of 6,500 up to 25,000 feet and the high clouds are between altitude of 20,000 up to 60,000 feet (International Cloud Atlas Volume I: Manual on The Observation of Clouds and Other Meteors, that can be found in <http://wmo-cloudatlas.org/index.php/en/>)

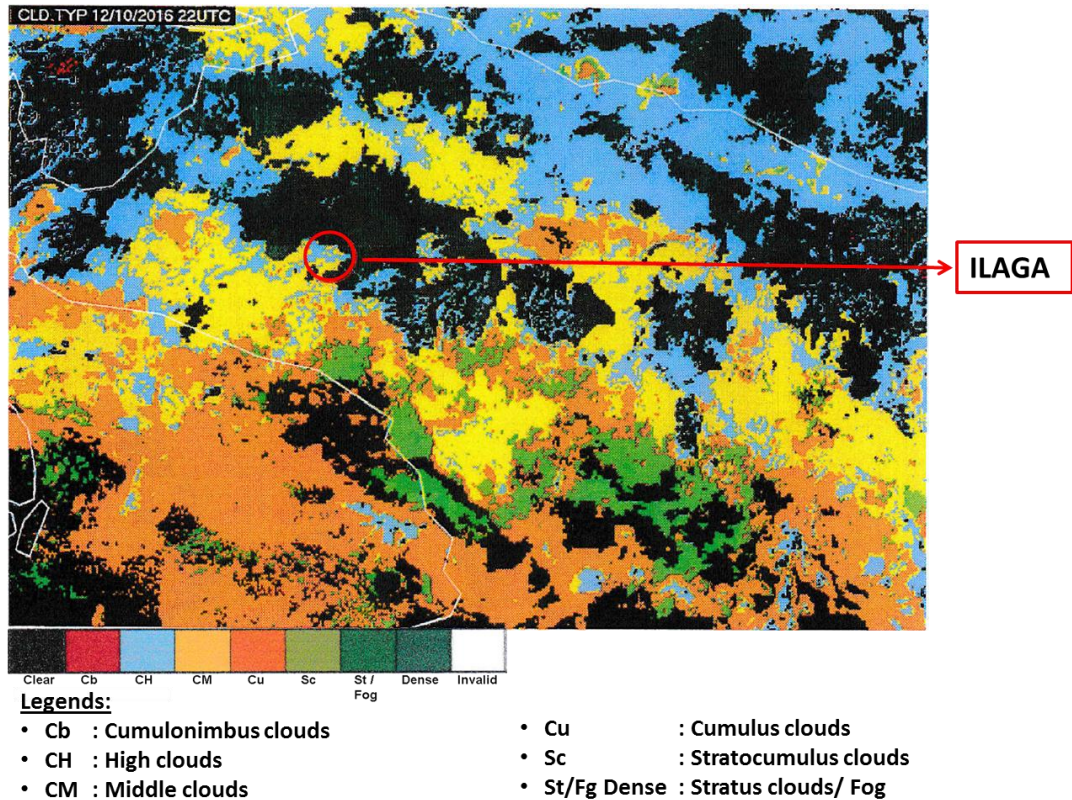


Figure 4: Satellite image at 2200 UTC

1.6 Organizational and Management Information

1.6.1 Aircraft Operator

The aircraft was owned by Government Regency of Mimika and was operated by PT. Asian One Air (Asian One Air) which had a valid Aircraft Operator Certificate (AOC) number 135-007 to conduct geophysical survey, passenger and cargo operation within Indonesian territorial airspace.

The Asian One Air was operating two Cessna 208B aircraft, one Cessna 208B EX and one Tecnam P2006T aircraft.

On 2 May 2016, the same aircraft experienced undershoot landing on runway 25 at Ilaga.

1.6.2 Air Navigation Services Provider

The air navigation service in Ilaga was provided by *Lembaga Penyelenggara Navigasi Penerbangan Indonesia* (AirNav Indonesia) and the airspace over Ilaga was class F airspace⁷. The total Flight Information Services Officer was 3 personnel including the chief which also performed as a key person management.

⁷ Class F airspace means Instrument Flight Rules (IFR) and Visual Flight Rules flights were permitted, and all IFR flights would receive an air traffic advisory service and all flight would receive flight information service if requested (CASR Part 170: Air Traffic Rules).

1.7 Visual Flight Rules Requirements

1.7.1 Civil Aviation Safety Regulation Part 91: General Operating and Flight Rules

91.155 Basic VFR Weather Minimums

(a) Except as provided in Paragraph (b) of this section and Section 91.157⁸, no person may operate an aircraft under VFR when the flight visibility is less, or at a distance from clouds that is less, than that prescribed for the corresponding altitude and class of airspace in the following table:

Airspace	Flight Visibility	Distance from Clouds
Class A	Not applicable	Not applicable
Class B	8 km above 10,000 feet 5 km below 10,000 feet	Clear of clouds
Class C	8 km above 10,000 feet 5 km below 10,000 feet	1,000 feet above 1,000 feet above 1,500 meters horizontal
Class D	8 km above 10,000 feet 5 km below 10,000 feet	1,000 feet above 1,000 feet above 1,500 meters horizontal
Class E	8 km above 10,000 feet 5 km below 10,000 feet	1,000 feet above 1,000 feet above 1,500 meters horizontal
Class F	8 km above 10,000 feet 5 km below 10,000 feet. The higher of: 3000 feet AMSL 5 km, or 1000 feet AGL in sight	1,000 feet above 1,000 feet above 1,500 meters horizontal Clear of clouds
Class G	8 km above 10,000 feet 5 km below 10,000 feet. The higher of: 3000 feet AMSL 5 km, or 1000 feet AGL in sight	1,000 feet above 1,000 feet above 1,500 meters horizontal Clear of clouds

1.7.2 Civil Aviation Safety Regulation Part 135: Certification and Operating Requirements: For Commuter and Charter Certificate Holders

135.615 VFR Take-off Minima

No person shall commence a VFR flight unless the latest available ceiling and visibility reports or forecasts as established in accordance with Section 135.649(b), indicate that the weather conditions along the route to be flown and at the destination airport indicated the flight could be conducted under VFR.

135.643 Takeoff and Landing Weather Minima for VFR Flight

No pilot may takeoff or lands an aircraft under VFR when the reported ceiling or visibility as established in accordance with Section 135.649(b), is less than 1,000-foot ceiling and the visibility is not less than three statute miles, (4.8 km).

⁸ The subchapter 91.157 was explained weather requirement minimum for special VFR flight.

135.649 Applicability of Reported Weather Minimums

- (b) Notwithstanding any clearance from ATC, no pilot may attempt a takeoff, approach or landing in any aircraft when the weather conditions reported by the Badan Meteorologi dan Geofisika (BMG), a source approved by the BMG, or a source approved by the Director in the company operations manual, are;*
- (1) below the weather minima prescribed in this Subpart for the type of operation proposed, and*
 - (2) in the case of VFR, no pilot may continue a flight in weather conditions which have deteriorated below the minimums prescribed for such flight.*

1.8 Additional Information

The investigation is continuing and will include details of the following:

- Decision making in low visibility;
- Flight technique and aircraft system;
- Consideration the provision of air traffic control services.

KNKT plans to complete the investigation within 12 months since the day of the occurrence. Should any further relevant safety issues emerge during the course of the investigation, KNKT will immediately bring the issues to the attention of the relevant parties and publish as required.

1.9 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 FINDINGS⁹

According to factual information during the investigation, the Komite Nasional Keselamatan Transportasi identified initial findings as follows:

- The pilots held valid licenses and medical certificates.
- The aircraft had valid Certificate of Airworthiness (C of A) and Certificate of Registration (C of R).
- The weather at Ilaga was cloudy, the wind velocity was calm and the visibility was below 1,000 meters. While on the left downwind, the pilot stated that the view to the runway was partially blocked by clouds.
- While the aircraft turning to final path, the pilot stated that the runway was in sight and continued to land.
- The FISO advised the pilot that the visibility on final area was partially blocked by clouds and the visibility from FISO room to the threshold of runway 25 was clear.
- The pilot made orbit to the left on final runway 25 to lose altitude. While making orbit on final, the view to the aircraft from the ground was partially blocked by clouds.
- The FISO stated that aircraft touched down runway 25 at about 120 meters from beginning runway. The aircraft overrun the runway and stopped on the left corner of the end runway 25 and the propeller impacted the ground.

⁹ 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.

3 SAFETY ACTION

At the time of issuing this preliminary investigation report, the Komite Nasional Keselamatan Transportasi had not been informed of any safety actions resulting from this occurrence.

4 SAFETY RECOMMENDATIONS

According to factual information and findings, the Komite Nasional Keselamatan Transportasi (KNKT) issued safety recommendations to address safety issues identified in this investigation.

4.1 PT. Asian One Air

- **04.O-2016-94.1**

To ensure the operation of flights conducted under Visual Flight Rules (VFR) performs according to the VFR limitations.