Republic of the Philippines
DEPARTMENT OF TRANSPORTATION
**CIVIL AVIATION AUTHORITY OF THE PHILIPPINES**
MIA Road, Pasay City 1300

# AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

## FINAL REPORT

## RP-C9076
## CESSNA 152

***OPERATOR: ORIENT AVIATION CORP.***

***TYPE OF OPERATION: FLIGHT TRAINING***

***DATE OF OCCURRENCE: FEBRUARY 18, 2022***

***PLACE OF OCCURRENCE: CAUAYAN AIRPORT, BARANGAY SAN FERMIN, CAUAYAN, ISABELA, PHILIPPINES.***

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(Textron Aviation Inc. Cessna 152, RP-C9076 Final Report)

# FOREWORD

This report was produced by the Aircraft Accident Investigation and Inquiry Board (AAIIB), Civil Aviation Authority of the Philippines, MIA Road, Pasay City, Philippines.

The report is based upon the investigation carried out by the AAIIB in accordance with Annex 13 to the Convention on International Civil Aviation, Republic Act 9497 Section 42, and Philippine Civil Aviation Regulation Part 13.

Readers are advised that the AAIIB investigates for the sole purpose of enhancing aviation safety. Consequently, AAIIB reports are confined to matters of safety significance and may be misleading if used for any other purpose. It should be noted that the information in AAIIB reports and recommendations is provided to promote aviation safety, and in no case is it intended to imply blame or liability.

Furthermore, no part of the AAIIB report or reports relating to any accident or investigation shall be admitted as evidence or used in any suit or action for damages arising out of any matter mentioned in such report or reports.

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# FINAL REPORT

**TITLE:** Serious incident involving a Textron Aviation Inc., Cessna 152 type of aircraft with registry number RP-C9076 owned and operated by Orient Aviation Corp. that had a runway excursion at Cauayan Airport, Barangay San Fermin, Cauayan, Isabela, Philippines, on February 18, 2022 at about 1230H.

## Notification of Occurrence to National Authority

The notification of serious incident to AAIIB CAAP was relayed by the Operator of the aircraft on February 18, 2022 at 1600H (local).

## Identification of the Investigation Authority

The Aircraft Accident Investigation and Inquiry Board (AAIIB), the mandated accident investigation organization within the Civil Aviation Authority of the Philippines (CAAP) as the state of Occurrence/Registry/ Operator conducted the investigation.

## Organization of the Investigation

In accordance with provisions of Philippine Civil Aviation Regulation (PCAR) Part 13, an Investigator-In-Charge and Deputy Investigator-In Charge were appointed.

## Authority Releasing the Report

The Final investigation report was released by Aircraft Accident Investigation and Inquiry Board (AAIIB) and published at the CAAP website on **31 May 2024**.

## Synopsis:

On February 18, 2022 at about 1230H (local), a Textron Aviation Inc., Cessna 152 type of aircraft with registry number RP-C9076 operated by Orient Aviation Corp. had a runway excursion at Cauayan Airport, Barangay San Fermin, Cauayan, Isabela, Philippines. The two (2) occupants onboard did not sustain any injuries, however the aircraft sustained minor damage as a result of the occurrence. Visual Meteorological Condition (VMC) prevailed at the time of the incident. The cause of the occurrence was attributed to the failure of the pilot to initiate the go-around procedure during an unstabilized approach resulting to a runway excursion.

## LIST OF ACRONYMS AND ABBREVIATIONS

| | | |
|---|---|---|
| AAIIB | : | Aircraft Accident Investigation and Inquiry Board |
| AIP | : | Aeronautical Information Publication |
| AIS | : | Aeronautical Information Service |
| AMSL | : | Above Mean Sea Level |
| ARFFS | : | Aerodrome Rescue and Fire Fighting Services |
| ASDA | : | Accelerate Stop Distance Available |
| ATC | : | Air Traffic Controller |
| ATOC | : | Aviation Training Organization Certificate |
| BRGY | : | Barangay |
| CAAP | : | Civil Aviation Authority of the Philippines |
| COA | : | Certificate of Airworthiness |
| COR | : | Certificate of Registration |
| CPL | : | Commercial Pilot License |
| CRM | : | Crew Resource Management |
| FI | : | Flight Instructor |
| IR | : | Instrument Rating |
| LDA | : | Landing Distance Available |
| OFSAM | : | Office of the Flight Surgeon and Aviation Medicine |
| PCAR | : | Philippine Civil Aviation Regulations |
| PCN | : | Pavement Classification Number |
| PPL | : | Private Pilot License |
| RWY | : | Runway |
| SE | : | Single Engine |
| TODA | : | Take Off Distance Available |
| TORA | : | Take Off Run Available |
| VFR | : | Visual Flight Rules |
| VMC | : | Visual Meteorological Condition |

# 1. FACTUAL INFORMATION

| | | |
|---|---|---|
| Aircraft Registration No. | : | RP- C9076 |
| Aircraft Type/Model | : | Textron Aviation Inc., Cessna 152 |
| Operator | : | Orient Aviation Corp. |
| Address of Operator | : | Northsky Air Inc., Tuguegarao Airport, Pengue Ruyu, Tuguegarao City, Cagayan Valley, Philippines |
| Place of Occurrence | : | Cauayan Airport, Brgy. San Fermin, Cauayan, Isabela, Philippines |
| Date/Time of Occurrence | : | February 18, 2022/1230H |
| Type of Operation | : | Flight Training |
| Phase of Flight | : | Landing |
| Type of Occurrence | : | Runway side excursion |

## 1.1 History of Flight

On or about 1230H of February 18, 2022, a Cessna 152 type of aircraft with registry number RP-C9076 and operated by Orient Aviation Corp. had a runway excursion at Cauayan (RPUY) airport runway 12. The flight was a training flight with a Flight Instructor (FI) on board together with a trainee FI. The aircraft sustained minor damage on its propeller and on the left-hand wing tip.

The flight took off from runway 30 of Cauayan airport for the scheduled flight training at 10 NM north of the station. After 1 hour and 20 minutes, the training was completed, and they proceeded back to the airport. During the approach, the flight was slightly high and off the centerline, and the trainee FI initiated correcting their alignment. The aircraft then landed on the left-hand side of the runway, and during the landing roll, the FI trainee who was at the controls applied right rudder correction to return the aircraft to the centerline. However, the aircraft continued to veer to the right and subsequently left the paved portion of the runway.


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Figure 1. The aircraft final resting point.

### 1.2 Injuries to Person (s)

| Injuries | Crew | Passengers | Others | TOTAL |
|---|---|---|---|---|
| Fatal | 0 | 0 | 0 | 0 |
| Serious | 0 | 0 | 0 | 0 |
| Minor | 0 | 0 | 0 | 0 |
| None | 2 | 0 | 0 | 2 |

### 1.3 Damage to Aircraft

The aircraft sustained minor damage.

### 1.4 Other Damages

There were no reported other damages in relation with the event.



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## 1.5 Personnel Information

### 1.5.1 Flight Instructor (FI)

| | | |
|---|---|---|
| Gender | : | Male |
| Date of Birth | : | September 26, 1988 |
| Nationality | : | Indian |
| License | : | 108829 CPL/FI valid up to June 30, 2026 for CPL and June 30, 2023 as FI |
| Type rating | : | Airplane, Single Engine Land Instrument-C152, C172 |
| Medical Certificate | : | Class 1 valid up to February 24, 2022 |
| Date of last medical | : | February 24, 2021 |
| Total flying time | : | 2,902 + 16 Hours per Pilot Logbook |
| Total flying time on type | : | 1,957 + 52 Hours per Pilot Logbook |

### 1.5.2 Trainee – Flight Instructor

| | | |
|---|---|---|
| Gender | : | Male |
| Date of Birth | : | August 26, 1996 |
| Nationality | : | Filipino |
| License | : | 137206 CPL valid up to May 31, 2024 |
| Type rating | : | Airplane, Single Engine Land Instrument-C152, C172 |
| Medical Certificate | : | Class 1 valid up to January 19, 2023 |
| Date of last medical | : | January 19, 2022 |
| Total flying time | : | 227 + 48 Hours per Pilot Logbook |
| Total flying time on type | : | 176 + 32 Hours per Pilot Logbook |

## 1.6 Aircraft Information

The Textron Aviation Inc. Cessna 152 is an American two-seater, fixed-tricycle-gear, general aviation airplane, used primarily for flight training and personal use. It was based on the earlier Cessna 150 incorporating a number of minor design changes and a slightly more powerful engine with a longer time between overhaul.

### 1.6.1 Aircraft Data

| | | |
|---|---|---|
| Registration Mark | : | RP-C9076 |
| Manufacturer | : | Textron Aviation Inc. |
| Country of Manufacturer | : | United States of America |
| Type/Model | : | Textron Aviation Inc. Cessna 152 |
| Operator | : | Orient Aviation Inc. |
| Serial No. | : | 15281872 |
| Year of Manufacture | : | 1978 |
| Certificate of Airworthiness | : | Valid up to July 06, 2022 |
| Certificate of Registration | : | Valid up to February 27, 2022 |
| Category | : | Normal |
| Gross Weight | : | 760 Kgs. |


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| | | |
|---|---|---|
| Number of Flight Crew | : | 2 |
| Number of Passenger | : | 0 |
| Airframe total time | : | 7,149 + 31 Hours |

### 1.6.2 Engine Data

| | | |
|---|---|---|
| Manufacturer | : | Lycoming |
| Type | : | Piston |
| Model | : | O-235-L2C |
| Engine Serial No. | : | L-13544-15 |
| Engine TSO | : | 392 + 55 Hours |
| Engine Total Time | : | 1,112 + 1 Hours since last C of A |

### 1.6.3 Propeller Data

| | | |
|---|---|---|
| Manufacturer | : | McCauley |
| Type | : | Constant Speed |
| Model | : | 1A103/TCM6958 |
| Propeller Serial No. | : | KC023 |
| Date last Installed | : | January 31, 2019 |
| Propeller TSO | : | 318 + 55 Hours |
| Propeller total time | : | 871 + 4 Hours since last C of A |

## 1.7 Meteorological Information

Visual Meteorological Conditions (VMC) prevailed at the time of the occurrence.

## 1.8 Aids to Navigation

The flight was carried out under Visual Flight Rules (VFR). Using VFR, the pilot must be able to operate the aircraft with visual references to the ground and visually avoiding obstructions and other aircraft.

## 1.9 Communications

The aircraft is equipped with a standard radio transceiver. Communications were carried out between the pilot and the duty air traffic controller within the area.

## 1.10 Aerodrome Information

Cauayan Principal Airport (RPUY) is an airport serving the general area of Cauayan City in the Province of Isabela. It is one of three (3) commercial airports in the province. Cauayan Airport is listed in the Philippine Aeronautical Information Publication (AIP), which is published by the Aeronautical Information Service (AIS).


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### 1.10.1 General Information

| | | |
|---|---|---|
| Aerodrome Name | : | Cauayan Principal Airport (RPUY) |
| Coordinates | : | 165547 N, 1214512 E |
| Aerodrome Operator | : | Civil Aviation Authority of the Philippines<br>Cauayan Airport, Cauayan, Isabela 3306, Philippines |
| Runway | : | 12/30 2098m x 36m PCN 47 R/A/W/T CON |
| Types of traffic permitted | : | VFR |
| Security | : | 24H |
| ATS Communication Facility | : | Cauayan Radio 122.70 Mhz |
| Elevation | : | 61m. (200ft.) AMSL |
| Airport Operation | : | 0000-0900Z |
| Nav Aids: DVOR/DME | : | 116.5 Mhz |
| Apron Surface and Strength | : | Concrete PCN 47 R/A/W/T |
| RWY & TWY Markings | : | Rwy designation, centerline, SWY, distance-to-go marker |
| Declared Distances | : | Rwy 12 TORA/TODA – 2098m/2098m<br>ASDA/LDA – 2098m/2098m<br>Rwy 30 TORA/TODA – 2098m/2518m<br>ASDA/LDA – 2154m/1739m<br>Threshold displaced by 359m |
| Airspace Classification | : | G |
| AD Category for Firefighting | : | CAT VI |
| Rescue Equipment | | One (1) Fire Truck, Oshkosh (6,000 liters) |
| Aerodrome Obstacles | : | Rwy 30 TWR Antenna 52m, approximately 435m perpendicular distance from extended Rwy centerline and 935m from displaced threshold of Rwy 30. |
| Met Office | : | None |

## 1.11 Flight Recorders

The aircraft is not equipped with any flight recorders, and existing Philippine Civil Aviation Regulation (PCAR) does not require it to be installed for that type of aircraft.

## 1.12 Wreckage and Impact Information

After veering towards the right-hand side of runway 12, the aircraft came to a complete stop on the grassy area approximately 30 meters from the runway edge, with a final heading of 218$^{o}$ and coordinates of 16$^{o}$ 55’ 52.9032” N, 121$^{o}$ 45’ 0.0072” E (Figure 1). The aircraft incurred around 16 inches of damage from the tip of the propeller (Figure 2) and 1.5 x 2.5 inches of cracks on the leading edge of the left-hand wing tip (Figure 3).


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Figure 2 - Propeller damage

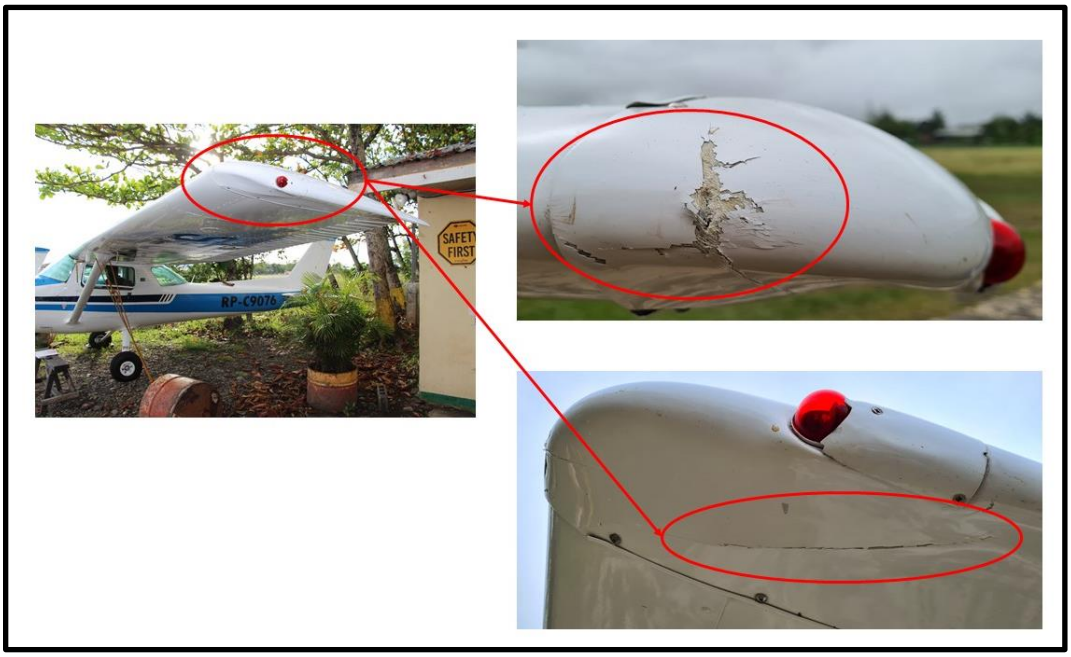


Figure 3- Left-hand wing tip damage

## 1.13 Medical and Pathological Information

The two (2) involved pilots proceeded to the local clinic in Cauayan to undergo the mandatory medical check-up and drug and alcohol testing. Likewise, they underwent the post-accident medical examination at CAAP-OFSAM, for which a medical clearance for both pilots was issued.

## 1.14 Fire

There was no post-crash fire observed during on-site investigation.


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## 1.15 Search and Survival Aspects

The occurrence happened inside the airport hence, the on-duty Air Traffic Controller (ATC) was able to immediately dispatch personnel from the Aerodrome Rescue and Fire Fighting Services (ARFFS) to assist the aircraft occupants. Likewise, the incident was survivable, as the integrity of the cockpit was not compromised and aircraft seats and restraints remained intact after the event. Also, the crew was able to safely egress the aircraft without any constraints.

## 1.16 Organizational and Management Information

Orient Aviation Corporation, is a CAAP approved and certified flight training school with an Aviation Training Organization Certificate (ATOC) number # 00-04. The school offers student pilot ratings on Private and Commercial Flight Training Courses (PPL, CPL), Instrument Rating (IR) for Airplane, and Flight Instructor Course Single Engine (SE). Currently, it operates four (4) Cessna 152, one (1) Cessna 172 and one (1) PA34-200. It also operates one (1) Frasca flight simulator. It has its primary place of business located at 24 Cessna St., Concord Village, Tambo, Parañaque City, Philippines.

The company also has its principal base of operations at Northsky Air Inc. Hangar, Tuguegarao Airport, Tuguegarao City, Cagayan Valley.

# 2.0 ANALYSIS

## 2.1 General

The Flight Instructor was certified and qualified under PCAR for such a type of aircraft and to perform functions as a Flight Instructor. He is currently employed at Orient Aviation Flying School as a Chief Flight Instructor. The Flight Instructor trainee is also connected with the company as a flight instructor.

The aircraft has an issued Certificate of Registration valid until February 27, 2022, and a Certificate of Airworthiness valid until July 6, 2022.

## 2.2 Flight Crew

The Flight Instructor has been with Orient Aviation Corp. as a full-time FI since CY 2019. He is rated as FI for the C152 and C172 types of aircraft. During the time of the incident, he logged a total of 1,957+52 hours on the involved type of aircraft.

As for the FI trainee, he completed his FI training in February 2020, but due to the pandemic, he was not able to perform the functions of being a FI. Moreover, he is the holder of the CAAP-issued license with ratings on C152 and C172. He has already logged a total of 176+32 hours on a C152 type of aircraft.


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## 2.3 Aircraft Status

Review of the aircraft maintenance records was made and found the following to be in order:

**a.** Aircraft Pre-Flight Checklist dated February 18, 2022;

**b.** Aircraft Flight and Maintenance Logbook dated February 18, 2022;

**c.** 100 hours Inspection dated November 25, 2021;

**d.** 50 hours Inspection dated October 29, 2021;

**e.** Airframe/Propeller/Engine logbooks available.

There was no recorded maintenance issue on the aircraft prior to its flight last February 18, 2022. The only most recent defect/finding noted on the aircraft was "carburetor air filter due for 500 hours inspection" which was then removed and replaced on October 26, 2021.

## 2.4 Airport Condition

An ocular inspection of the runway was made on February 23, 2022, and during this visit, it was found that the runway surface condition had no physical deficiencies (i.e., potholes, uneven pavement, or slippery areas) that might pose a hazard to the take-off or landing of aircraft.

Likewise, markings and markers are available within the aircraft movement area to serve as references for pilots.

As for the weather, the data provided by the ATC Tower shows that Visual Meteorological Conditions (VMC) prevailed at the time of the occurrence.

| Date/ Time | Wind Direction | Wind Speed | Visibility | Sky Condition | Temperature | Dew Point | QNH |
|---|---|---|---|---|---|---|---|
| *Feb. 18, 2022/ 1200H* | *Calm* | - | *10 kms* | *SCT 040* | *30* | *23* | *1013* |

## 2.5 Flight Handling and Actions

During the approach, the flight was slightly high, and the Flight Instructor Trainee initiated correction. The aircraft then touchdowns on the left-hand side of the runway at about 550 meters after the threshold of runway 12. After landing, the trainee admitted that the aircraft had bounced. He applied right rudder correction to return the aircraft to the centerline; however, the aircraft continued to head towards the right-hand side of the runway, and right after crossing the centerline, the FI immediately took over the controls, but to no avail. The aircraft continued to veer to the right for about 50 meters and subsequently left the paved portion of the runway.


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Since the pandemic (March 2020), this was the first time for the FI trainee to fly again. The trainee is also a Flight Instructor, who is in the process of completing his compliance with PCAR Part 2 regarding the flight instructor recurrency requirement in preparation for his CAAP proficiency check. He is also still on the course of reorienting himself to get a good feel for the aircraft and review his flying skills again.

On the day of the incident, the flight was uneventful until the final approach. The FI trainee was giving ample power to the aircraft for a normal landing, but the aircraft came out to have more power than expected. The flaps were set to 10°, and the aircraft was moving faster than its usual approach speed. As the trainee was already at the level of an instructor, he was expected to be confident enough to manage the aircraft all the way to landing. In the interview, the FI trainee said that they landed a bit on the left side of the runway. He then added power and tried to get back to the runway center line, but thereupon, the trainee lost his situational awareness along with his control of the aircraft and did not notice that his FI had already taken over the controls. The aircraft was moving uncontrollably towards the right side of the runway, and to compensate for the movement, the FI applied differential left braking actions and set the throttle immediately to idle. At this juncture, both pilots were unaware of the uneven application of the brakes since the trainee got frozen on the controls. With both flight crews struggling with the braking to dissipate the high energy momentum, the aircraft continue to go out of the runway.

In addition, further interview with the FI revealed that corrections on their flight path continued until they reached the threshold area, up to the point that the aircraft was already above the runway. This information corroborated the observation of the on-duty Air Traffic Controller (ATC) that it took some time for the aircraft to touchdown as it was observed to be afloat over the runway. Moreover, he stated that the notion of having more than enough runway length and width to accommodate their aircraft factored in their overconfidence in handling the landing of the aircraft.

With this occurrence, there are several programs initiated by the regulatory body to assist operators in reducing the risk of accidents and incidents throughout the approach and landing phases of the flight. One of these is the establishment of standard stabilization criteria. At the time of the incident, the trainee was not stabilized during the approach, and the FI had recognized this, including the risk involved. However, the FI continues to let the trainee take control and land the aircraft with an unstabilized attitude. With this, the trainee's untimely actions and FI's inactions caused them to become exposed to the undesired state of the flight and led them to mismanage the full control of the aircraft. It is on this basis that this investigation reflects the failure of the crew to identify the threat during the approach by not being able to monitor their descent against the required profile and miscalculating their landing. In addition, the exercise of proper CRM was not observed in the cockpit. If they had just recognized the hazardous situation that they are in and exercised good communication, this should have prompted them to abort the landing.


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# 3.0 CONCLUSIONS

## 3.1 Findings

**a.** The involved pilots (FI and FI Trainee) are holders of valid pilot licenses and medical certificates issued by the CAAP.

**b.** The pilots were qualified for the Textron Aviation Inc. Cessna 152 type of aircraft.

**c.** The aircraft has current Certificates of Airworthiness and Registration.

**d.** The aircraft was certified, equipped, and maintained in accordance with CAAP-PCARs and approved procedures.

**e.** The aircraft was properly released for flight without any discrepancies noted in its logbook.

**f.** Environmental conditions (i.e., weather, runway physical state) at the time of the occurrence were normal.

**g.** Both pilots were aware that the flight was unstabilized during their final approach for landing.

## 3.2 Probable Cause

### 3.2.1 Primary Cause Factors

**a.** Failure to initiate the go-around procedure during an unstabilized approach.

### 3.2.2 Contributory Cause Factor

**a.** Lack of proper Crew Resource Management (CRM) between the flight crew.

**b.** Lack of situational awareness and inability to manage threats during landing.

**c.** Pilot's complacency caused by the knowledge of having more than enough runway length and width for the type of aircraft.

# 4.0 SAFETY RECOMMENDATIONS

As a result of the safety investigation, the Aircraft Accident Investigation and Inquiry Board hereby proposes the following safety recommendations.


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**4.1** For **CAAP-FSIS:**

**a.** For the operator, Orient Aviation Corp., to ensure that they strictly implement go-around procedures during unstable approach for landing.

**b.** For the operator, Orient Aviation Corp., to ensure that they reinforce training of flight crew on threat and error management as well as practice of proper CRM.

**-----END-----**



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