



Republic of the Philippines
CIVIL AVIATION AUTHORITY OF THE PHILIPPINES

AIRCRAFT ACCIDENT INVESTIGATION AND INQUIRY BOARD

FINAL REPORT

RP-C5905 DE HAVILLAND AIRCRAFT OF CANADA LIMITED DHC-8-402

OPERATOR: AIR PHILIPPINES CORPORATION, DBA PAL EXPRESS

TYPE OF OPERATION: COMMERCIAL AIR TRANSPORT

DATE OF OCCURRENCE: JULY 14, 2024

***PLACE OF OCCURRENCE: FRANCISCO B. REYES AIRPORT (BUSUANGA)
RUNWAY 26, CORON, PALAWAN, PHILIPPINES***

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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.



FINAL REPORT

TITLE: A serious incident involving a DHC-8-402 type of aircraft with Registry Number RP-C5905, operated by PAL Express, had an aircraft overrun event at Francisco B. Reyes Airport (Busuanga) runway 26, Coron, Palawan, Philippines on July 14, 2024, at around 1451H.

Notification of Occurrence to National Authority

The serious incident was reported by PAL Express Flight Safety to the CAAP AAIB on July 14, 2024.

Identification of the Investigation Authority

The Aircraft Accident Investigation and Inquiry Board (AAIB), 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 the provisions of the Philippine Civil Aviation Regulation (PCAR) Part 13, an Investigator-In-Charge was appointed.

Authority Releasing the Report

The Final Investigation Report was released by the Aircraft Accident Investigation and Inquiry Board (AAIB) and published on the CAAP website on **08 September 2025**.

Synopsis:

On or about 1451H of July 14, 2024, a DHC-8-402 aircraft, registered as RP-C5905, experienced an aircraft overrun incident after landing on runway 26 of Francisco B. Reyes Airport (Busuanga) in Coron, Palawan, Philippines. The aircraft was operated by PAL Express, a local commercial airline headquartered at PAL Gate 1, Andrews Ave., Nichols, Pasay City 1300, Philippines. The aircraft came from Mactan-Cebu International Airport for a scheduled commercial flight to Busuanga. On board the aircraft were two (2) flight deck crew and two (2) cabin crew, along with fifty-three (53) passengers. The investigation determined that the probable cause of the serious incident was the flight crew's failure to stop the aircraft roll within the available landing distance of the runway.

LIST OF ACRONYMS AND ABBREVIATIONS

AAIIB	:	Aircraft Accident Investigation and Inquiry Board
AANSOO	:	Aerodrome and ANS Safety Oversight Office
AMSL	:	Above Mean Sea Level
APU	:	Auxiliary Power Unit
ASDA	:	Accelerate-Stop Distance Available
ATC	:	Air Traffic Controller
ATPL	:	Air Transport Pilot License
CCTV	:	Closed-Circuit Television
CoA	:	Certificate of Airworthiness
CoR	:	Certificate of Registration
CPL	:	Commercial Pilot License
CVR	:	Cockpit Voice Recorder
DFDR	:	Digital Flight Data Recorder
FCOM	:	Flight Crew Operations Manual
FOTM	:	Flight Operations Training Manual
FSIS	:	Flight Standards Inspectorate Service
LDA	:	Landing Distance Available
NOTAM	:	Notice to Airmen
OFSAM	:	Office of the Flight Surgeon and Aviation Medicine
PAPI	:	Precision Approach Path Indicator
PCAR	:	Philippine Civil Aviation Regulation
PCN	:	Pavement Classification Number
RFFS	:	Rescue and Firefighting Services
TODA	:	Take-Off Distance Available
TORA	:	Take-Off Run Available
UTC	:	Coordinated Universal Time
VFR	:	Visual Flight Rules



1. FACTUAL INFORMATION

Aircraft Registration No.	:	RP-C5905
Aircraft Manufacturer/Model:	:	De Havilland Aircraft of Canada Limited/ DHC-8-402 (Q400)
Operator	:	PAL Express
Address of Operator	:	PAL Gate 1, Andrews Ave., Nichols, Pasay City 1300, Philippines
Place of Occurrence	:	Francisco B. Reyes Airport (Busuanga) runway 26, Coron, Palawan, Philippines
Date/Time of Occurrence	:	July 14, 2024, at about 1451H/0651 UTC
Type of Operation	:	Commercial Air Transport
Phase of Flight	:	Landing
Type of Occurrence	:	Aircraft overrun

1.1 History of the Flight

On or about 1451H of July 14, 2024, a DHC-8-402 type of aircraft with registration number RP-C5905 experienced an aircraft overrun incident after landing on runway 26 of Francisco B. Reyes Airport (Busuanga), Coron, Palawan, Philippines.

The aircraft is owned and operated by Air Philippines Corporation, DBA PAL Express. The aircraft came from Mactan-Cebu International Airport for a scheduled commercial flight to Busuanga as flight PR-2680. On board the aircraft were two (2) flight deck crew and two (2) cabin crew, along with fifty-three (53) passengers.

The Pilot-in-Command (PIC) was at the controls during the landing phase. The approach was stabilized, and weather conditions included moderate rainfall up to the point of touchdown. Upon main gear ground contact, the PIC initiated braking, however, he perceived a lack of deceleration. In response, maximum braking was applied, and thrust

reversers were engaged. Despite these actions, the aircraft did not achieve the expected rate of deceleration and subsequently overran the paved surface of the runway.

The airport RFFS immediately responded to the area to assist the aircraft occupants. The flight crew and passengers disembarked safely from the aircraft and were then shuttled to the airport terminal building. There were no reports of injuries to the crew or passengers of the said flight, as well as damage to the aircraft.

1.2 Injuries to Person (s)

Injuries	Crew	Passengers	Others
Fatal	0	0	0
Serious	0	0	0
Minor	0	0	0
None	4	53	0
TOTAL	4	53	0

1.3 Damage to Aircraft

The aircraft did not sustain any damage.

1.4 Other Damages

There was no reported other damage because of this incident.

1.5 Personnel Information

1.5.1 Pilot-In-Command (PIC)

Gender : Male
 Date of Birth : May 08, 1970
 Nationality : Filipino
 License : 104913 ATPL, valid until June 30, 2029
 Type rating : Airplane: Multi-Engine Land – Dash 8 Q400
 Medical Certificate : Class 1, valid until August 15, 2024
 Date of last medical : January 31, 2024
 Total flying time : 11,000 + 00 Hours as of July 13, 2024
 Total flying time on type : 6,300 + 00 Hours as of July 13, 2024



1.5.1 First Officer (FO)

Gender	:	Male
Date of Birth	:	July 23, 1988
Nationality	:	Filipino
License	:	103108 CPL, valid until July 31, 2029
Type rating	:	Airplane: Single and Multi-Engine Land – Instrument – C172, Dash 8 Q400
Medical Certificate	:	Class 1, valid until October 19, 2024
Date of last medical	:	October 19, 2023
Total flying time	:	3,305 + 05 Hours as of July 13, 2024
Total flying time on type	:	577 + 13 Hours as of July 13, 2024

1.6 Aircraft Information

The De Havilland Canada DHC-8, or Dash 8, is a turboprop regional airliner introduced in 1984, developed from the Dash 7 to improve cruise performance and reduce operating costs. Powered by two (2) Pratt & Whitney Canada PW150 engines, it was produced in four variants: Series 100 (37 seats), Series 200 (37–40 seats), Series 300 (50–56 seats), and the stretched Series 400 (68–90 seats), built between 1984 and 2022.

From 1996 onward, all models included the Active Noise and Vibration System (ANVS), with the "Q-Series" (Q200, Q300, Q400) branding introduced to highlight cabin quietness. The Series 400 features a longer fuselage, enhanced wings, and improved performance, with a cruise speed of 360 knots and a maximum altitude of up to 27,000 feet with optional oxygen masks.

1.6.1 Aircraft Data

Registration Mark	:	RP-C5905
Manufacturer	:	De Havilland Aircraft of Canada Limited
Country of Manufacturer	:	Canada
Type/Model	:	DHC-8-402 (Q400)
Operator	:	PAL Express
Serial No.	:	4567
Year of Manufacture	:	September 2017
Certificate of Airworthiness	:	Valid until October 18, 2024
Certificate of Registration	:	Valid until October 18, 2026
Category	:	Transport
Gross Weight	:	29,574 kgs.
Number of Flight Crew	:	2
Number of Passengers	:	86
Airframe total time	:	9,970 + 16 Hours as of last C of A



1.6.2 Engine Data

Manufacturer : Pratt and Whitney
Type : Turboprop
Model : PW150A
Engine Serial No. : PCE-FA0115 (ENG 1)
PCE-FA1284 (ENG 2)
Engine TBO : Modular Overhaul
Engine TSO : 10,960 + 30 Hours (ENG 1), 5,065 + 31
Hours (ENG 2)
Engine Total Time : 25,697 + 34 Hours (ENG 1), 5,888 +15
Hours (ENG 2) as of last C of A

1.6.3 Propeller Data

Manufacturer : Dowty
Type : Constant Speed
Model : R408/6-123-F/17
Propeller Serial No. : DAP0803 (ENG 1)
DAP1304 (ENG 2)
Propeller TBO : On Condition
Propeller TSO : New
Propeller Total Time : 8,137 + 44 Hours (ENG 1), 9,970 + 16 Hours
as of last C of A

1.7 Meteorological Information

Based on records from the Busuanga Airport Control Tower, the available METAR information was as follows:

Time (UTC)	Wind Condition	Sky Condition	Visibility	Temp.	Dewpoint	QNH	Remarks
0500	Calm	OVC 015, CB	7 km	-	-	1007hPa	SHRA
0600	Calm	OVC 015, CB	7 km	-	-	1007hPa	SHRA
0625	Calm	OVC 020, CB	8 km	-	-	1007hPa	SHRA

1.8 Aids to Navigation

The flight was conducted under Visual Flight Rules (VFR).

PAPI lights were available at runway 26 but were marked as "ON TEST, DO NOT USE (AWAITING FLTCK VERIFICATION)" from June 23, 2024, till September 23, 2024, per NOTAM C0621/24.



1.9 Communications

The aircraft is equipped with a standard radio transceiver. Communications were carried out between the pilot and the Busuanga Airport Tower.

1.10 Aerodrome Information

Francisco B. Reyes Airport (IATA: USU, ICAO: RPVV), more commonly known as Busuanga Airport, is an airport serving the general area of Coron, located in Busuanga Island in the province of Palawan, Philippines. It is also shared with the neighboring municipality of Busuanga, located on the western half of the island. The airport is classified as a Class 2 principal airport by the Civil Aviation Authority of the Philippines.

1.10.1 Aerodrome Geographical and Administrative Data

ARP coordinates and site at AD	120719.0000 N, 120602.6537 E
Elevation	45 m AMSL.
Geoid undulation at AD ELEV PSN	NIL
MAG VAR/Annual Change	1.1°W (2014) / 2.2' increasing.
AD Operator, address	Civil Aviation Authority of the Philippines Francisco B. Reyes Airport Coron, Palawan 5316
Types of traffic permitted (IFR/VFR)	VFR.

1.10.2 Operational Hours

AD Operator	MON - FRI: 0000 - 0900
ATS Reporting Office (ARO)	2200 - 1000
MET Briefing Office	NIL
ATS	0000 - 0900
Remarks	Airport Operations: 2200 - 1000.

1.10.3 Rescue and Fire Fighting Services

AD category for fire fighting	CAT VI
Rescue equipment	Two (2) Fire trucks (Daewoo Novos and Oshkosh Striker 4x4)



1.10.4 Aprons and Taxiways

Apron surface and strength	Surface: Concrete Strength: PCN 33
Taxiway width, surface and strength	Width: NIL Surface: Concrete Strength: PCN 33

1.10.5 Runway Physical Characteristics

RWY	TRUE BRG	Dimensions of RWY	Strength (PCN) and surface of RWY and SWY	THR coordinates RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY
08	084° GEO 085° MAG	1,225 m X 30 m	PCN 33 R/B/W/T CONC/MACADAM	120716.9692N 1200542.4971E	52.080 m
26	264° GEO 265° MAG	1,225 m X 30 m	PCN 33 R/B/W/T CONC/MACADAM	120720.7115N 1200622.8103E	50.264 m

1.10.6 Declared Distances

RWY	TORA	TODA	ASDA	LDA
08	1,225 m	1,325 m	1,265 m	1,225 m
26	1,225 m	1,325 m	1,265 m	1,225 m

1.10.7 Approach and Runway Lighting

RWY	APCH LGT type, LEN, INTST	THR LGT colour, WBAR	VASIS, (MEHT), PAPI	TDZ, LGT LEN
08	NIL	NIL	NIL	NIL
26	NIL	NIL	PAPI Left 3.0°	NIL



RWY	RWY Centre Line LGT Length, spacing, colour, INTST	RWY edge LGT LEN, spacing, colour, INTST	RWY End LGT colour, WBAR	Remarks
12	NIL	NIL	NIL	NIL
30	NIL	NIL	NIL	Path WID: 0.33°. VIS RG: 5 Miles. VER OBST CLR: >1.0°. Horizontal OBST CLR: ±10° FM RWY CL. DIST FM THR: 176M.

1.11 Flight Recorders

The aircraft is equipped with a Digital Flight Data Recorder (DFDR) and a Cockpit Voice Recorder (CVR) as required by the Philippine Civil Aviation Regulations (PCAR).

The recorded parameters and data were intact, allowing for an accurate reconstruction of the incident dynamics. The data were analyzed and validated with the assistance of the Japan Transport Safety Board (JTSB) using the appropriate interpretation tools.



Figures 1 and 2 – RP-C5905's DFDR and CVR.

1.11.1 DFDR

Manufacturer : Universal Avionics Systems Corp.
Model : L12556
Part No. : 1600-00-00
Serial No. : 1811



The FDR recording was of good quality, containing 1,918,936 seconds of synchronized subframe data, including the incident flight. The data frame consisted of 128 words and 261 parameters. The document "Flight Data Recorder – Q400 Parameters Data Map(s)" (Service Letter No. DH8-400-SL-31-008E), provided by the operator, was used to convert the FDR data into engineering units. Additionally, the data was imported into APS Insight Analysis software to verify its accuracy. Notably, the downloaded FDR data showed no entries after the incident flight. All recorded timings were based on UTC, with each subframe incrementing by one second.

On the flight data readout, the aircraft departed from Mactan-Cebu International Airport on runway 22 and landed on runway 26 of Busuanga Airport.

At 06:49:50, the autopilot was disengaged when the aircraft was at 941 feet above ground level (AGL). The aircraft's magnetic heading was 264.5°, and the indicated airspeed (computed airspeed) was 118 knots. The recorded wind direction and speed at this point were 161° and 3 knots, respectively.

During the descent to 800 feet AGL with the autopilot disengaged, the wind was blowing from the left side of the aircraft (approximately 150° at 2–3 knots). Between 800 and 600 feet, the wind direction shifted from the left to the right-rear quadrant. From 600 feet down to touchdown, the wind direction was approximately 45°, indicating a tailwind from the right rear, and the wind speed increased to 5 knots as the aircraft descended.

From the time the autopilot was disengaged until the main gear touched down, the pitch angle varied from -2.9° to +3.1°, while the roll angle ranged from 11.1° left bank to 6.5° right bank. At 100 feet AGL, the indicated airspeed was 116 knots and the groundspeed was 121 knots. When passing over the threshold of runway 26, the radio altimeter indicated 23 feet AGL, with an indicated airspeed of 116 knots and a groundspeed of 122 knots.

Target speeds (such as V_{ref}) and vertical speed values related to the approach were not among the parameters recorded in the FDR. Additionally, there was no record in the FDR of the Master Warning or Master Caution lights being illuminated during the incident flight.

At 06:51:19, the main gear weight-on-wheels (WOW) "ground" signal was recorded. At that time, the aircraft had a pitch angle of 1.5°, an indicated airspeed of 104 knots, a ground speed of 115 knots, wind speed of 5 knots, and wind direction of 040°. Two seconds later, the nose gear WOW "ground" signal was recorded.

One (1) second before the main gear WOW "ground" signal was recorded, the power lever was set to the "IDLE/DISC" position, briefly moved to the reverse



position, and then immediately returned to the "DISC" position. Four (4) seconds later, the power lever was set to the max reverse position and held there for eight (8) seconds. During this time, the torque value was recorded to have increased.

At about the same time the main gear WOW "ground" signal was recorded, the brake pressure began to increase and reached approximately 3,000 psi after about nine (9) seconds. The brake pressure was maintained until the aircraft came to a complete stop. During this period, the magnetic heading shifted to the right, away from the runway heading, and the right brake pressure momentarily decreased. Additionally, the FDR did not record any anti-skid parameter.

At 06:51:36, the aircraft was calculated to have passed the end of runway 26 at a ground speed of 34 knots.

At 06:51:45, the aircraft was calculated to have come to a complete stop approximately 105 meters beyond the end of runway 26.

Notably, no parameters indicating a malfunction in the brake systems were identified in the recorded data.

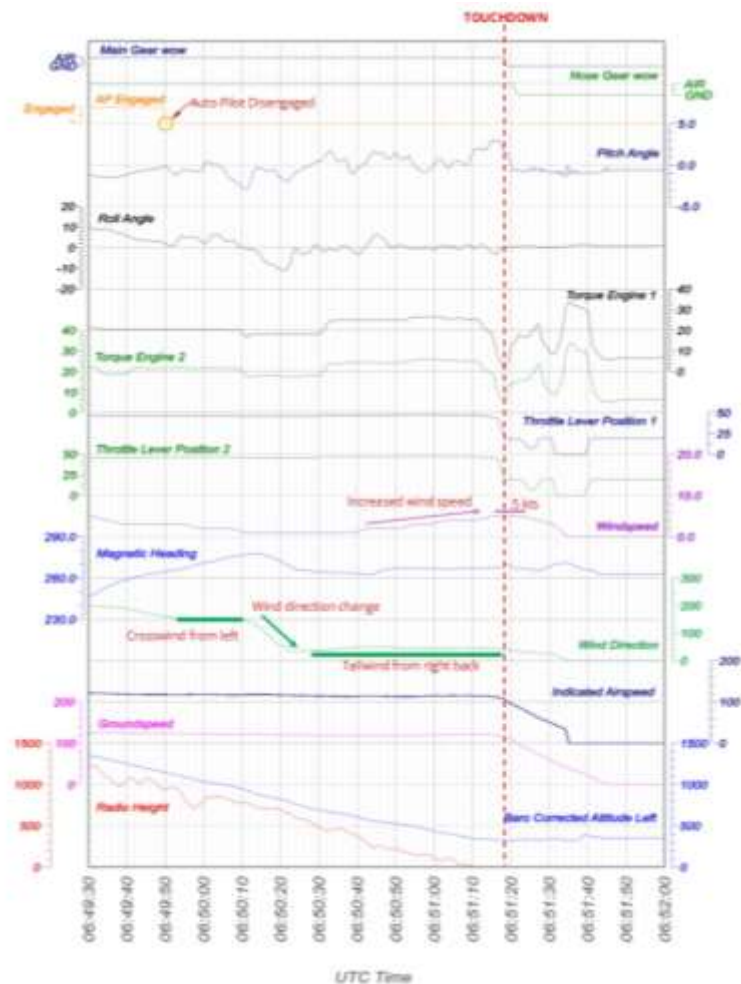


Figure 3 – FDR data during the approach.

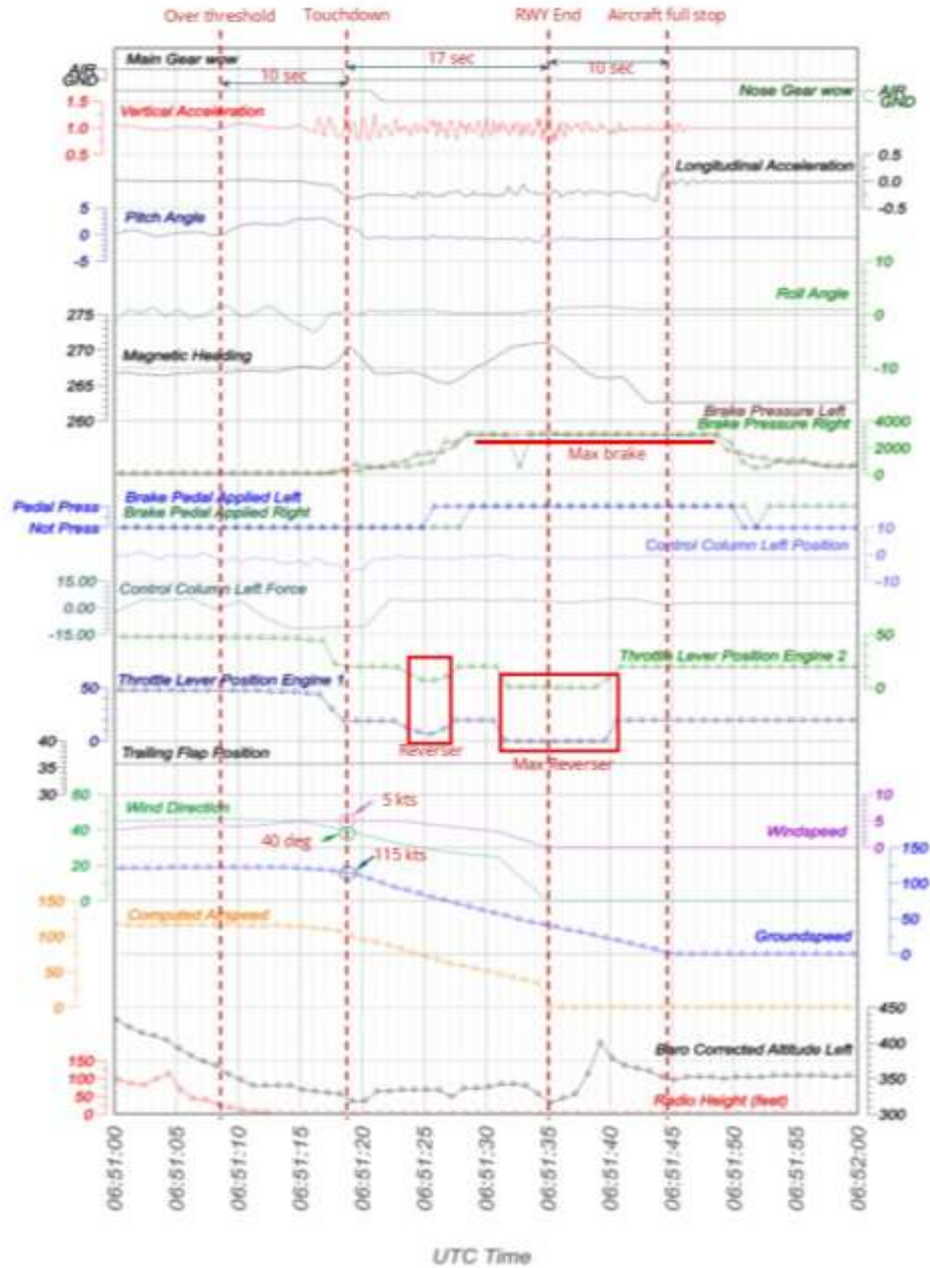


Figure 4 - FDR data during the landing.

1.11.2 CVR

Manufacturer : Universal Avionics System Corp.
 Model : L12556
 Part No. : 1606-00-01
 Serial No. : 1784

The recovered CVR data contained four (4) audio tracks of two (2) hours and two (2) minutes of recording.

Upon analysis of the recording, a review from taxi out through takeoff and up to the final approach revealed no events indicating maintenance issues or operational limitations with the aircraft or with the flight itself. Throughout the recording, cockpit communications were clear, respectful, and fully aligned with standard Crew Resource Management (CRM) practices. The PIC and FO performed the required briefings, checklists, and callouts in accordance with established procedures and demonstrated effective teamwork. The CVR captures a well coordinated, professional cockpit environment, with no abnormal occurrences or concerns noted during any phase of the flight.

During the final approach, the recording captured that upon receiving landing clearance from ATC, the flight crew was also provided with a Runway Condition Report (RCR) of 5/5/5, indicating that the first, middle, and last thirds of the runway were possibly wet or damp due to rain, but offered good braking action with no significant surface contamination. It was further noted that at 1,000 feet, the pilot had a clear visual of the runway and the flight was stabilized. Prior to the radio altimeter callout at 50 feet, the FO remarked, "slightly low," to which the PIC responded, "check, correcting." Upon touchdown, the PIC was heard stating that the brakes were ineffective and the aircraft was not decelerating. The FO also remarked that the runway was slippery.

No other significant or unusual events were captured in the remainder of the CVR recording.

1.12 Wreckage and Impact Information

The aircraft overshot the paved portion of the runway and came to rest on soft ground, with no reported damage. A post-incident runway inspection revealed tire marks indicating that the aircraft touched down at coordinates 12°07'19"N, 120°06'03"E, which is approximately 600 meters from the threshold of runway 26. The touchdown point was noted to be within the center of the runway. The aircraft's final resting position was recorded at coordinates 12°07'16.8"N, 120°05'39"E, approximately 105 meters beyond the end of runway 26 and 729 meters from its touchdown point.



Figure 5 – The aircraft at its final stopping point.



Figure 6 – Airport and airline personnel assisting the passengers during deplaning.

1.13 Medical and Pathological Information

Both pilots underwent medical check-ups and mandatory drug and alcohol testing upon their arrival in Manila. The results were subsequently endorsed to the CAAP OFSAM for the required post-accident medical examination. The PIC and FO were eventually issued medical clearances by the said CAAP office.

1.14 Fire

No reports were received regarding any post-incident fires.

1.15 Survival Aspects

The incident was survivable, as the aircraft did not sustain any damage during the aircraft overrun. An uneventful deplaning of passengers followed after the aircraft came to a complete stop, with guidance from the assigned cabin crew and assistance from ground personnel, as well as with the airport RFFS.

1.16 Test and Research

No tests were conducted on the aircraft, as there were no reported technical issues prior to or following the incident.

1.17 Organizational and Management Information

Air Philippines Corporation, operating as PAL Express and formerly branded as Air Philippines and Airphil Express, is a wholly-owned subsidiary of Philippine Airlines. It is PAL's regional brand, with services from its hubs in Manila, Clark, Cebu, and Davao.

The airline was rebranded a number of times, first as Air Philippines, then Airphil Express, and finally as PAL Express. After a series of financial losses, Air Philippines ceased operations until it was acquired by investors from Philippine Airlines. After the acquisition, the airline was re-launched as PAL Express, operating some routes and slot assignments of its sister company, Philippine Airlines, until its management decided to rebrand the carrier as a budget airline known as Airphil Express.

However, in March 2013, the airline name reverted to PAL Express. As a codeshare partner of Philippine Airlines, PAL Express operates as a full-service carrier within a low-cost business model.

2. ANALYSIS

2.1 Human Factor

2.1.1 Personnel Training and Competence

The pilots involved both held valid licenses issued by the CAAP, with appropriate ratings for the type of aircraft operated at the time of the incident.

The PIC began his airline career with a local carrier operating turboprop aircraft. He joined PAL Express as an FO on the Q400 in 2007 and was upgraded to PIC in 2009. In 2010, he transferred to another local airline as an FO on the A320, where he served until 2014. He then returned to PAL Express as an FO on the A320. After six (6) months, he was seconded to Philippine Airlines (PAL), PAL Express' sister company, also flying the A320. In 2018, he was reassigned to PAL Express as PIC on the Q400 until 2020, when he was among the employees affected by the pandemic. By 2022, he was re-hired by PAL Express as a PIC on the Q400.

Meanwhile, the FO was a flight instructor at PAL Aviation School from 2013-2021, and in December 2023, he joined PAL Express as an FO on Q400.

Further supporting the above experience, records from the operator indicate that the involved flight crew completed the required training in accordance with the airline's published manuals. It was also noted that the PIC passed his Proficiency Check and completed his recurrent training in April 2024. The First Officer completed his most recent Skill Test and Proficiency Check in September 2023.

Based on the above, it can be concluded that the involved flight crews were qualified and competent to perform their assigned duties on July 14, 2024.

2.1.2 Fatigue and Health Factors

A review of the two pilots' schedules from June 01 to July 14, 2024, found no significant patterns suggesting an overwhelming workload that might have resulted in fatigue, or any factors that could have contributed to diminished performance or alertness. Additionally, both the actual and published schedules showed no reports of any exceedance related to their duty time limitations during the week of the incident.

Based on the above information, including the records and results of the medical tests conducted on the pilots, as well as the evaluation by the CAAP OFSAM, it can be concluded that fatigue or the pilot's physical condition, in general, is not a factor in this incident.



2.1.3 Situational Awareness and Decision Making

On the day of the incident, the flight crew demonstrated full awareness of the aircraft's operational status and the specific requirements of the flight. They completed all mandated pre-flight checks, operational briefings, and other necessary preparations prior to departure, and no issues were identified, other than the inoperative APU, that could have compromised the safe conduct of the flight.

In addition, the PIC was notably familiar with the route, having flown in and out of the destination for many years, and this operational experience will serve as a valuable advantage for the safe completion of the flight. Effective communication between the PIC and FO was also consistently observed, both in post-incident interviews and in the CVR recording, indicating sound crew coordination and adherence to standard CRM practices. Collectively, these factors suggest that the crew maintained a high level of preparedness and operated with a collaborative approach to decision-making.

However, despite these positive indicators, a lapse in situational awareness appears to have occurred shortly before touchdown. The crew seemed unaware that the aircraft had passed the designated touchdown zone and was approaching a point beyond the optimal landing area of the runway. Supporting this observation, a video posted on social media taken from inside the aircraft cabin during landing visibly shows that the aircraft touched down beyond the touchdown zone markings. Given this unsafe landing condition, a go-around should have been considered in accordance with the company's standard operating procedures.

Under PAL Express Operations Manual 8.4.5.8.1, the following standards are published:

1. Touchdown Zone is a point 500-3,000 feet beyond the runway threshold not to exceed the first one-third of the runway.
2. The touchdown shall be within the runway touchdown zone or as specified in the FCOM/FOTM. If the landing cannot be achieved within the touchdown zone, a go-around shall be initiated.

2.2 Operations

2.2.1 Flight Execution – Approach and Landing

The flight departed Cebu (Mactan-Cebu International Airport) for Busuanga (Francisco B. Reyes Airport) with cloudy weather but with good ground visibility. The weather enroute was also cloudy with occasional turbulence.

Prior to descent and upon establishing contact with Busuanga Tower, the flight crew received the latest weather information of wind calm, visibility at 8 kilometers, and QNH 1007. The initial instruction from ATC was to join the long final for runway 26. However, the PIC requested to join base instead, citing better visibility of the runway from that position, to which the ATC agreed. At the time, scattered clouds and haze were present, and the long final approach appeared less favorable due to cloud formations observed topping the ridge of nearby hills, increasing the risk of terrain proximity. The base leg offered clearer visibility and allowed for a safer approach path by avoiding higher terrain. Moderate rain was encountered during the initial to final approach.

Upon joining the right base of runway 26, the crew had a clearer visual of the runway. As the approach continued, the FO reported that the flight was stabilized in terms of speed and altitude, though slightly off track. The PIC told him he was making a minor deviation to create a buffer for terrain clearance on the right side, where hills were present. Shortly afterward, the aircraft became fully aligned with the approach path and continued toward the runway.

As the flight proceeded to land, the FO's reports and the CVR confirmed that just prior to the 50 feet radio altimeter callout, he stated "slightly low," to which the PIC responded, "check, correcting." Upon touchdown, the PIC was heard stating that the brakes were ineffective and the aircraft was not decelerating. The FO also commented that the runway was slippery as moderate rain continued through touchdown.

Following touchdown, the aircraft appeared to maintain its roll with the runway center line, however, based on flight crew statements and CVR records, deceleration was noticeably delayed. Despite normal braking inputs, the PIC reported that the aircraft was not slowing down as expected. The FO's comment about the slippery runway condition suggests that reduced surface friction may have contributed to the extended landing roll. There were no indications of any abnormal system warnings during rollout, and no significant wind was noted based on crew statements.

While no significant wind or system anomalies were reported by the crew, further analysis of the DFDR data provided additional insight for the aircraft's extended landing roll. The DFDR indicated a right quartering tailwind component, with wind speed increasing to 5 knots during descent. This change was neither detected by the crew nor communicated by ATC, which had reported wind calm. Additionally, the DFDR shows that the aircraft touched down with a vertical acceleration of only 1.0 g, indicating a soft landing. While generally desirable, a soft touchdown can contribute to longer landing distances, particularly on short and wet runways. Furthermore, full reverse thrust was not initiated immediately after all wheels made ground contact. The power lever was initially set to the DISC position, briefly

moved into reverse, and then returned to DISC. Full reverse was only engaged after a delay of four (4) seconds and remained active for just eight (8) seconds. Upon inquiry with PAL Express Safety, it was confirmed that using maximum reverse thrust during landings on short runways was covered in training, however, it had not yet been formalized into a documented policy or standard operating procedure (SOP) at the time of the incident.

As for the braking actions after touchdown, DFDR data shows that about the same time the main gear WOW "ground" signal was recorded, the brake pressure began to increase and reached approximately 3,000 psi after about nine (9) seconds. The brake pressure was maintained until the aircraft came to a complete stop. During this period, the magnetic heading shifted to the right, away from the runway heading, and the right brake pressure momentarily decreased. It is assumed that this momentary decrease helped correct the aircraft's heading back toward the runway centerline. No correlation was found between the right brake pressure decrease and the brake pedal position or any other recorded parameters, likely due to the sampling rate of the brake pedal data. Additionally, the FDR did not record any anti-skid parameter.

To further validate what transpired during the flight, additional perspective into the landing performance was drawn from publicly available cabin video footage, which suggests that approximately ten (10) seconds elapsed between the aircraft passing the runway 26 threshold and main gear touchdown. Using ground speed and magnetic heading data recorded in the DFDR, the touchdown point was calculated to be approximately 600 meters from the runway threshold. This indicates a relatively long float prior to touchdown, significantly reducing the available distance for deceleration. The data suggests that the aircraft landed beyond the designated touchdown zone, leaving only about half of the runway's total length available for stopping. This was further corroborated by airport terminal CCTV footage, which shows the aircraft touching down just before the east taxiway, located approximately 650 meters from the threshold of runway 26 (Figure 7).

In summary, the extended landing roll and subsequent runway excursion were the result of multiple contributing factors including a late touchdown, delayed application of full reverse thrust, an undetected tailwind component, a soft landing, and decreased surface friction due to precipitation. While the approach was stabilized, the cumulative effect of these factors rendered the remaining runway length insufficient for a complete stop on the paved surface. The event underscores the operational importance of timely deceleration actions, accurate and updated weather reporting, and formalized SOPs for performance-critical scenarios, particularly when operating in marginal conditions on short runways.



Figure 7 – Approximate touchdown point of RP-C5905 on July 14, 2024.

2.3 Organizational Factor

2.3.1 Safety Culture, Management Support, and Safety Oversight

At PAL Express, safety is regarded as one of its fundamental organizational values. The company's safety program is implemented through its Safety Management System (SMS) that is aligned with regulatory requirements and industry best practices. Management demonstrates its commitment through sustained support for safety programs, training, and infrastructure development. A just culture is actively promoted, encouraging open and non-punitive reporting of safety issues. A dedicated reporting platform is accessible to all personnel, and regular safety training reinforces individual accountability and competency. These efforts show that the airline has a clear and active approach to managing risks and continually improving safety.

As part of PAL Express' safety oversight, a review of the airline's Flight Data Analysis (FDA) records from July 2023 to July 2024 was conducted to identify potential operational precursors relevant to the runway excursion incident at Busuanga Airport.

The analysis highlighted several flight events that, while not conclusive, may be operationally relevant:

1. Event 1808 – Long Flare Time: Indicates extended time between flare initiation and main gear touchdown, potentially contributing to longer landing rolls, especially critical on short runways.
2. Events 1316 and 1317 – Path High/Low at 400 feet AGL: Deviations from the standard 3° glide path during final approach may lead to non-optimal threshold crossing heights, affecting touchdown performance.
3. Event 1035 – Questionable Braking at Landing: Often linked to extended flare or long touchdowns, this may reflect increased braking inputs typical on shorter runways.

Notably, other key precursors such as “Continuously High/Low on Final” and “High Speed at Touchdown” were not recorded during the review period. Event occurrence rates were low, with no observable trends, indicating that systemic or operational performance issues are unlikely contributors. Overall, the FDA data suggests that while certain isolated events were present, there is no consistent pattern indicating a broader safety deficiency within the organization.

2.3.2 Maintenance Program

The maintenance program for PAL Express aircraft is carried out by its internal Approved Maintenance Organization (AMO) under its Aircraft Maintenance and Engineering Group. A review of maintenance records revealed that the aircraft maintenance schedules for RP-C5905 were consistently followed in accordance with both regulatory and the manufacturer's requirements. An evaluation of the aircraft's flight and maintenance logbooks covering the period from March 2024 up to the date of the incident confirmed that all recorded defects were addressed appropriately and in accordance with approved maintenance procedures. Furthermore, the aircraft was released for that specific flight with no outstanding issues or limitations that could have contributed to the occurrence.

3. CONCLUSIONS

3.1 Findings

- a. The involved pilots hold a valid pilot license and medical certificates issued by the CAAP.
- b. The pilots involved were duly rated for the specific aircraft type and had fulfilled all required training in accordance with both company policies and regulatory standards.



- c. Review of the pilots' duty schedules revealed no exceedance of flight time limitations or any indications of fatigue that could have contributed to diminished performance or alertness during the flight at the time of the incident.
- d. The aircraft has valid Certificates of Airworthiness and Registration.
- e. The aircraft was released for flight without any recorded maintenance issues that is related to the aircraft overrun. Likewise, documentation of the aircraft maintenance is available and in proper order.
- f. Despite a stabilized approach, a lapse in situational awareness occurred as the crew failed to recognize that the aircraft had passed the designated touchdown zone. Cabin video footage and airport terminal CCTV confirm that the touchdown occurred beyond the touchdown zone markings. Under such circumstances, company procedures would typically warrant consideration of a go-around.
- g. DFDR data revealed a right quartering tailwind of up to 5 knots during descent, which was neither detected by the crew nor by the ATC.
- h. The aircraft touched down with a vertical acceleration of 1.0 g, which indicates a soft landing, and while normally desirable, can increase landing distance, particularly on wet, short runways.
- i. DFDR also shows that full reverse thrust was not initiated immediately after all wheels made ground contact. The power lever was initially set to the DISC position, briefly moved into reverse, and then returned to DISC. Full reverse was only engaged after a delay of four (4) seconds and remained active for just eight (8) seconds. It was further learned that maximum reverse usage on short runways was part of training, but it was not yet reflected in formal SOPs at the time of the event.
- j. Review of the Operator's FDA revealed low and non-trending event rates, suggesting no systemic or operational issues contributing to the incident.

3.2 Probable Cause

3.2.1 Primary Cause Factors

- a. The flight crew failed to bring the aircraft to a stop within the available landing distance of the runway.



3.2.2 Contributory Cause Factor

- a. The flight crew failed to achieve touchdown within the designated touchdown zone, significantly reducing the available landing distance.
- b. The flight crew failed to apply full reverser immediately after all landing gears made ground contact, reducing deceleration effectiveness on a wet and short runway.
- c. Presence of a right quartering tailwind of up to five (5) knots, undetected by both ATC and the flight crew, likely contributed to the extended landing roll.
- d. The aircraft's touchdown with a vertical acceleration of only 1.0 g indicated a soft landing, which likely increased landing distance under the prevailing runway conditions.
- e. Moderate rainfall at the time of landing likely resulted in diminished braking efficiency due to decreased surface friction.

4. SAFETY RECOMMENDATIONS

4.1 In consideration of the internal corrective actions already undertaken by the airline, as outlined in 5.1 – Safety Actions, the Aircraft Accident Investigation and Inquiry Board proposes the following additional safety recommendations based on the findings of the investigation:

4.1.1 For the CAAP – FSIS:

- a. Ensure that PAL Express reviews its Standard Operating Procedures (SOPs) to consider formalizing the use of maximum reverse thrust during landings on short runways, and verify alignment with current training guidance to support consistent operational application.


4.1.2 For the CAAP – AANSOO:

- a. Ensure that Air Traffic Service reassesses the accuracy and consistency of weather information relayed to flight crews to support informed decision-making during critical phases of flight.

5. SAFETY ACTION

5.1 The operator has issued the following Flight Operations Bulletins as part of its internal safety actions related to the subject occurrence:

- a. FOD-DHC8-2024-031 dated July 15, 2024, Re: Landing and Go-Around Guidance at Busuanga Airport.




PILOTS' INFORMATION FILE	Date	15 July 2024
	Reference No.	FOD-DHC8-2024-031
	Validity	Temporary

To : ALL DE HAVILLAND PILOTS
 From : EQUIPMENT CHIEF PILOT
 Subject : LANDING AND GO AROUND GUIDANCE AT BUSUANGA AIRPORT


Dear All,

Due to the RP-C 5905 overshoot incident last July 14, 2024 at Busuanga Airport, all are advised to take extra care and vigilance during approach & landing particularly on slippery runway. **Always aim within the first 1/3 of the runway and land firmly.** If not able or in doubt, immediately perform a Go Around to avoid overshooting the runway and other related incidents that may occur in this scenario. Please refer to the image below for Go Around Point reference.

For your strict compliance.



- b. FOD-DHC8-2024-032 dated July 16, 2024, Re: Landing and Go-Around Guidance.



PILOTS' INFORMATION FILE	Date	16 July 2024
	Reference No.	FOD-DHC8-2024-032
	Validity	Temporary

To : ALL DEHAVILLAND PILOTS
 From : EQUIPMENT CHIEF PILOT
 Subject : LANDING AND GO AROUND GUIDANCE

Due to the overshoot incident, all pilots are advised to exercise extra caution during approach and landing, particularly on slippery runways. **Land firmly and always aim within the first third of the runway.** If not able or in doubt, immediately perform a Go Around to avoid overshooting the runway and other related incidents that may occur in this scenario. Please refer to the attached Flight Technical Bulletin for the Go Around Point reference for following Airports:

- a. Siargao Airport
- b. Antique Airport
- c. Borongan Airport
- d. Calbayog Airport
- e. Cotabato Airport
- f. Ozamiz Airport
- g. Sanga - Sanga Airport
- h. Pagadian Airport
- i. Catarman Airport
- j. Busuanga Airport

For your strict compliance.

-----End-----

