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16. Abstract

About 2317 e.s.t., on June 24, 1972, Puerto Rico International Airlines, Inc., Flight 191, a DeHavilland DH-114 Heron, (N554PR), crashed on the Mercedita Airport, Ponce, Puerto Rico. The crew was executing a go-around after rejecting a landing on runway 29.

The captain, the copilot, and 3 of the 18 passengers were killed. Seven passengers were injured seriously, and eight were injured slightly; the aircraft was destroyed.

The National Transportation Safety Board determines that the probable cause of the accident was the loss of directional control during a go-around from a landing attempt. Control was lost when the aircraft was overrotated at too low an airspeed to sustain flight. The crew's reasons for rejecting the landing are not known.

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FOREWORD

On December 20, 1972, the National Transportation Safety Board issued Report No. NTSB-AAR-72-34. which contained the facts, circumstances, and conclusions that were known at that time concerning the accident described herein. The probable cause containes in that report was: "The National Transportation Safety Board determined that the probable cause of the accident was the presence of an unauthorized vehicle on the runway which caused the pilot to attempt a go-around after touchdown to avoid a collision. This maneuver resulted in an overrotation of the aircraft at too low an airspeed to sustain flight."

On June 9, 1975, the Puerto Rico Ports Authority petitioned the Safety Board in accordance with the Board's Procedural Regulation Part 831.36 to reconsider the probable cause. They objected to the probable cause because the accident report strongly suggested that a Puerto Rico Ports Authority vehicle was the "Unauthorized vehicle" on the runway.

In addition to the petition for reconsideration, the Ports Authority submitted more than 25 depositions, sworn statements, or signed statements, which they claimed proved conclusively that their vehicle was not on the runway at the time of the accident.

The attachment to the petition contained several statements from persons who had not been interviewed by Board personnel during the original investigation. These statements supported the claim of the Ports Authority employee that he was not on the runway in a Ports Authority vehicle at the time of the accident. In fact, his claim that he was not even at the airport when the accident occurred was sworn to by several persons. Testimony from persons also placed the vehicle in question in its usual parking place at the time of the accident.

As a result of the petition, the Safety Board reopened the accident investigation. The reinvestigation consisted primarily of taking sworn testimony from a number of witnesses not previously interviewed by Board investigators, as well as interviewing several persons who had been previously interviewed. Additionally, the Board also considered Prinair's written opposition to the Ports Authority's petition, and the Ports Authority's reply to the Prinair's letter of opposition.

The following report reflects the findings of the National Transportation Safety Board's reinvestigation. This report supercedes and replaces NTSB AAR-72-34.

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File No. 3-4107

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594

AIRCRAFT ACCIDENT REPORT

Adopted: December 17, 1975

PUERTO RICO INTERNATIONAL AIRLINES, INC.
DeHAVILLAND DH-114, N554PR
PONCE, PUERTO RICO
JUNE 24, 1972

SYNOPSIS

About 2317 e.s.t., on June 24, 1972, Puerto Rico International Airlines, Inc., Flight 191, a DeHavilland DH-114 Heron, (N554PR), crashed on the Mercedita Airport, Ponce, Puerto Rico. The crew was executing a go-around after rejecting a landing on runway 29.

The captain, the copilot, and 3 of the 18 passengers were killed. Seven passengers were injured seriously, and eight were injured slightly; the aircraft was destroyed.

The National Transportation Safety Board determines that the probable cause of the accident was the loss of directional control during a go-around from a landing attempt. Control was lost when the aircraft was overrotated at too low an airspeed to sustain flight. The crew's reasons for rejecting the landing are not known.

I. INVESTIGATION

1.1 History of the Flight

On June 24, 1972, Puerto Rico International Airlines (Prinair), Inc., Flight 191, a DeHavilland DH-114 (N554PR) operated as a scheduled passenger flight from San Juan, Puerto Rico, to Ponce, Puerto Rico.

The flight departed San Juan at 2252 [1/] with 20 persons, including 2 crewmembers, aboard. It was cleared to Ponce in accordance with a stored instrument flight rules (IFR) flight plan. The assigned en route altitude was 5,000 ft. [2/] The flight was uneventful during takeoff, climb, and cruise.

At 2255, Flight 191 advised that they were 15 miles east-northeast of the airport and requested the existing wind conditions. They were advised by a departing flight that the wind was calm. Since the Mercedita Airport Control Tower at Ponce was closed from 2230 until 0645, it was Prinair's procedure for all flights to monitor the tower frequency and to assist one another in reporting weather conditions, and to help with separation of traffic.

At 2301, San Juan Air Traffic Control Center cleared Flight 191 for the approach to the Mercedita Airport, and at 2304, Flight 191 cancelled its IFR flight plan. This was the last conversation between Flight 191 and the San Juan Air Traffic Control Center. A few minutes later, the captain of a departing flight heard Flight 191 transmit that they were on left base leg for landing on runway 29.

A number of witnesses who were located on or near the airport saw the aircraft as it approached for landing on runway 29. They noted nothing unusual about the approach as the aircraft descended with landing lights on. Witnesses differed as to whether the aircraft actually touched down on the runway. Four of the aircraft's passengers stated that the aircraft did not touch down, while three passengers believed the aircraft did touch down.

Despite these differences, most witnesses agreed that almost immediately thereafter the aircraft assumed a steep climbing attitude. The sound of high engine power was heard concurrently with this maneuver. Some of the witnesses saw or felt the aircraft rock from side to side and then settle to the ground in a near-level attitude.

The aircraft crashed about 2,200 feet beyond the runway threshold and 260 feet south of runway 29. It came to rest 74 feet southwest of the initial impact after knocking down several sections of chain link fence and striking a powerline pole on the perimeter of the airport.

The accident occurred during the hours of darkness.

1/ All times herein are eastern standard, based on the 24-hour clock.
2/ All altitudes herein are mean sea level unless otherwise indicated.

1.2 Injuries to Persons

Injuries	Crew	Passengers	Other
Fatal	2	3	0
Nonfatal	0	15	0
None	0	0	

1.3 Damage to Aircraft

The aircraft was destroyed.

1.4 Other Damage

A powerline pole and several sections of chain link fence were destroyed.

1.5 Crew Information

The two crewmembers were properly certificated for the flight. (See Appendix B.)

1.6 Aircraft Information

The aircraft was certificated, equipped, and maintained in accordance with Federal Aviation Administration (FAA) requirements. (See Appendix C.) The gross weight and c.g. were within prescribed limits.

1.7 Meteorological Information

According to witnesses, the weather was clear and the wind was calm. A flight which departed a few minutes before the accident reported that the wind was calm. There are no official weather observations at the Mercedita Airport during the hours that the control tower is inoperative.

1.8 Aids to Navigation

Not applicable.

1.9 Communications

No communication difficulties were reported.

1.10 Aerodrome and Ground Facilities

Runway 29 at the Mercedita Airport is an asphalt surfaced runway, 5,529 feet long and 100 feet wide. The elevation at the touchdown

zone is 28 feet. The airport is equipped with a rotating beacon and medium intensity runway lights. All lights were operating at the time of the accident. There are no approach lights or visual approach slope indicator (VASI) for runway 29.

1.11 Flight Recorders

The aircraft was not equipped with a flight data recorder or a cockpit voice recorder, nor were they required.

1.12 Wreckage

The aircraft cockpit was destroyed. The empennage, except for the control cables, separated from the aircraft at a 90" angle to the right of the fuselage. The right side of the fuselage split open from the vertical stabilizer to the cockpit and folded left. Both wings were' damaged substantially, but remained attached to the fuselage. The Nos. 1 and 4 propellers had separated from their engines. The four firewall-mounted propeller-governor electric actuators were found in the low-pitch (high rpm) position.

The right main landing gear was retracted and locked. The left main gear was retracted and unlocked. The gear handle was midway between the up and down positions. Examination of the wreckage disclosed black tire marks on the lower wing surfaces at the aft edge of the wheel wells. These black rubber ridges and scrapes paralleled the trailing edge of the wing. Similar marks were found on the inside circumference of both wheel wells. The marks showed the heavy rubber deposits, and the scratches and marks spiraled upward. The main landing gear on the DH-114 retracts outboard into a wheel well in the wing of the aircraft.

Examination of ten Prinair DH-114's disclosed that when the landing gear is retracted, the tires do not touch the wing or any portion of the wheel well. None of the ten aircraft had tire marks on the wing or in the wheel wells.

The wing flaps were not damaged. All wing flap components were operable. The DH-114 flaps operate pneumatically; therefore, it was not possible to determine their preimpact position. However, the flaps were between the 20° and 60" positions and were resting on the ground. The flap selector handle was between the 20" and 60° detents.

1.13 Medical and Pathological Information

Postmortem and toxicological examination of the crewmembers revealed no evidence of preexisting physical or physiological problems which could have affected their judgments or performances.

1.14 Fire

There was no fire.

1.15 Survival Aspects

This was a survivable accident for those in the passenger section of the aircraft; however, for those in the cockpit, it was not survivable.

There was no ambulance on duty at the airport. The firetruck on duty was dispatched to the runway to look for the wreckage. Firemen first went to the approach end of the runway to look for the wreckage, and then returned when firemen spotted the wreckage off the left side of the runway. However, the firetruck could not reach the crash because of vegetation and terrain, and had to return to the terminal and depart by a highway adjacent to the airport in order to reach the accident scene. A delay of 5 to 7 minutes occurred between crash notification and arrival at the crash.

A policeman on duty at the terminal building notified hospitals in Ponce about the crash and requested ambulances; none arrived. Victims were aided by passers-by and airport personnel and were transported to hospitals by private automobiles.

1.16 Tests and Research

Not applicable.

1.17 Other Information

1.17.1 Investigation of Location of Ports Authority Truck and Ports Authority Employee

During its original investigation, Board investigators interviewed and obtained statements from 12 witnesses. Most of these witnesses were persons who described their observations relative to the approach and crash of the aircraft. Only two of the witnesses, both police officers, described a sequence of events involving the movement of the Ports Authority pickup truck, and their observations of the Ports Authority employee who was driving the truck. The results of their verbal interviews, conducted through the means of a Spanish-speaking translator, led Board investigators to the conclusions reported previously.

During the subsequent investigation, 10 persons, including the 2 police officers, were deposed regarding the activities of the Ports Authority employee and the pickup truck immediately before and after the

accident. Five witnesses had not been interviewed by Board investigators during the original investigation; the investigators were not aware that these witnesses possessed pertinent information concerning the truck and the employee. Two of the 10 had been interviewed originally, but their statements were confined to their observations of the aircraft. The remaining person was the Ports Authority employee.

The Ports Authority employee testified that he went off duty at 2300, and left for his nearby home at 2303. He stated that he had in his possession a set of ignition keys to the Ports Authority's only pickup truck. He stated that he stopped in a cafeteria near his home and learned that an aircraft had crashed. This fact was substantiated by the testimony of the cafeteria owner. The employee stated further that he ran back to the airport and got into the pickup truck.. As he was about to drive off, a fireman got in. Almost immediately, the fireman asked to be let out because he wanted to board the firetruck which had returned from the runway. The fireman stated that he got out of the pickup near the gasoline pump located near the front corner of the fireman. After the fireman dismounted, the employee stated that he followed the firetruck out a gate to the road which runs in front of the terminal building and leads to the crash scene. The employee stated that the pickup truck's lights were on and that the right front door was open which had been left that way by the fireman.

Testimony taken from five other airport employees supports the employee's statement that he was not in the pickup truck on the runway at the time of the crash. These witnesses placed the pickup truck in its usual parking position beside the firehouse immediately before and after the crash. Two of the witnesses attempted to drive the pickup to the runway after the firetruck departed, but were unable to do so be-to because they could not locate an ignition key.

Witnesses also testified that after the crash, they saw the employee enter the terminal building from the road. He was seen proceeding through the building to the airport ramp and then to the pickup truck parked beside the firehouse.

Both of the police officers who made statements during the original investigation were deposed during the reinvestigation. Originally, the officers had stated that they watched the firetruck return from the airport and stop at the gate; they "observed a Port Authority pickup truck coming down the runway with its headlights out and the right-hand door open. They watched the truck proceed off of the runway and park at the firehouse. One of the officers who recognized the driver stated that he called to the driver and asked what happened. He said that the driver did not acknowledge him or reply to his question."

During the reinvestigation, one of the police officers physically demonstrated his position in relation to the pickup truck on the ramp. As he recalled he was 20 feet in front of the terminal, facing out toward the runway. He first sighted the pickup truck 50" to 55° to his right, and 40 feet from him. He said that the truck was near the gasoline pump and was moving toward the gate that leads to the outside road.

The police officer stated that he was familiar with the difference between the runway and the ramp. When asked if he ever saw lights or any activity on the runway proper, his response was negative. He stated that the pickup truck was on the ramp when he first saw it.

The second police officer stated that he saw the firetruck leave for the runway and return. After it returned, he saw the pickup truck near the gasoline pump. He stated that the right door was open and that the lights were on. He answered "no" when asked if he ever saw the pickup truck on the runway.

1.17.2 Lights On The Runway

In the Board's original report, the driver of an automobile on the road outside the airport reported that he had seen two sets of lights near the time of the accident. He reported that one set of lights was on the runway and that the other set was descending to the runway. When questioned, this witness stated that the set of lights on the runway could have been a vehicle.

Prinair Flight 191 was the only known traffic, vehicular or otherwise, operating in the vicinity of the airport at the time of the accident.

In a later deposition, the witness stated that he passed the airport about 2145 or 2200 and that he believed both sets of lights to be from two aircraft. He stated that he saw a "pink or lilac" stripe on the side of the first aircraft.

During the reinvestigation, he was unable to remember what time he passed the airport. He again reiterated that the first aircraft had a colored trim on the side, which he identified as "violet."

Since Flight 191 was the only aircraft in the vicinity, the differences in times testified to by the witness, and the mention of colored trim on the first aircraft, the record of Prinair departures and arrivals for the night were examined. Their records showed that two Prinair DeHavilland aircraft had departed San Juan at 2130, and both had landed at Mercedita Airport at 2152. The first aircraft to land, N562PR, was examined, and the aircraft was trimmed in lavender paint. According to company officials, this paint was on the aircraft on June 24, 1972.

2. ANALYSIS AND CONCLUSIONS

2.1 Analysis

The aircraft was certificated, equipped, and maintained according to regulations. The gross weight and c.g. were within prescribed limits during takeoff at San Juan and during the approach to Mercedita Airport.

Based on its investigation, the Safety Board concludes that the aircraft's powerplants, airframe, electrical and pitot/static instruments, flight control, and hydraulic and electrical systems were not factors in this accident.

The flightcrew was route- and airport-qualified into Mercedita Airport. Further, both pilots had made frequent and recent approaches to the airport.

The two sets of lights that were seen by the witness, who was driving on the airport road, were Prinair aircraft, which had landed more than an hour before the accident.

The Ports Authority pickup truck was parked in its usual position beside the firehouse immediately before and after the accident.

The Ports Authority employee was not at the airport at the time of the accident.

The two police officers never observed the Ports Authority's pickup truck on the runway. They first observed the truck near the gasoline pump located adjacent to the firehouse.

The conclusions made in the original report concerning the pickup truck's being on the runway were made as a result of misinterpretation of testimony from the police officers, which was conducted through the means of a Spanish-speaking translator.

The Safety Board is unable to determine why the flightcrew rejected the landing attempt. There was no evidence that any vehicle or obstruction was on the runway which would have caused the flightcrew to reject the landing. Passengers and witnesses observed or felt the aircraft assume a steep climbing attitude and the sound of high engine power concurrently with this maneuver. Tire marks on the lower wing surfaces and the wheel well area confirmed that the tires were rotating at impact. This indicated that the wheels had touched down on the runway before the go-around attempt.

For unknown reasons, the aircraft was overrotated at too low an airspeed to sustain flight during the attempt, and directional control was lost.

2.2 Conclusions

(a) Findings

1. There was **no** evidence of aircraft structure or component failure or malfunction before the aircraft crashed.

2. The flightcrew was properly certificated and trained.

3. Weather was not a factor.

4. Communications, aids to navigation, and aerodrome facilities were not factors.

5. Flightcrew incapacitation was not a factor.

6. There was no evidence of any obstructions on the runway.

7. The landing attempt was rejected for unknown reasons.

8. The aircraft was overrotated at too low an airspeed to sustain flight and **loss** of directional control resulted.

(b) Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the **loss** of directional control during a go-around from a landing attempt. Control was lost when the aircraft was overrotated at too low an airspeed ***to*** sustain flight. The crew's reasons for rejecting the landing are not known.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ JOHN H. REED
Chairman

/s/ FRANCIS H. McADAMS
Member

/s/ LOUIS M. THAYER
Member

/s/ ISABEL A. BURGESS
Member

/s/ WILLIAM R. HALEY
Member

December 17, 1975

APPENDIX A

INVESTIGATION AND HEARING

1. Original Investigation

The Safety Board was notified of the accident on June 25, 1972, by the Federal Aviation Administration. An investigator was dispatched from the New York field office and was joined by investigators from Washington Headquarters. Working groups were established for operations, air traffic control, human factors, systems, and structures. The Federal Aviation Administration, Puerto Rico International Airlines, Inc., the Air Line Pilots Association, the Puerto Rico Ports Authority, and the local authorities participated in the investigation.

2. Reinvestioation

Because of new information made available by the Puerto Rico Ports Authority, the Safety Board reopened the case in July 1975. Investigators from Washington Headquarters took depositions in Ponce, Puerto Rico, on August 12 through 14, 1975. The Federal Aviation Administration, Puerto Rico International Airlines, Inc., the Air Line Pilots Association, and the Puerto Rico Ports Authority participated in the deposition proceedings.

3. Hearing

There was no public hearing as part of the original investigation; however, depositions were taken as part of the reinvestigation of this accident.

APPENDIX B

CREW INFORMATION

Captain Donald Price

Captain Donald Price, 28, was employed by Puerto Rico International Airlines on June 1, 1970. He held Airline Transport Pilot's Certificate No. 1626184 with ratings in the DHC-6, DH-114, DC-3,4,7, B-99 and C-46.

He had passed his last examination for a Federal Aviation Administration first-class medical certificate on June 9, 1972. He had accumulated 8,297 flight-hours as of June 24, 1972, 253 hours of which were accumulated in the preceding 90 days. He had acquired 3,017 flight-hours in the DH-114, 1,610 hours of night flying and 1,098 hours of instrument flying. His last proficiency check was completed April 8, 1972, and his last en route check was completed May 12, 1972.

Flight Officer Gary Belejeu

Flight Officer Gary Belejeu, 27, was employed by Puerto Rico International Airlines on October 20, 1971. He held Commerical Certificate No. 1775429 with instrument, multi- and single-engine land ratings.

He had passed his last examination for a Federal Aviation Adminiatration first-class medical certificate on May 26, 1972. He had accumulated 1,434 flight-hours as of June 24, 1972, 102 hours of which were accumlated in the preceding 90 days. He had acquired 102 hours in the DH-114, 290 hours of night flying, and 45 hours of instrument flying. His initial and latest proficiency check was completed on May 30, 1972, and his initial and latest flight check was completed on May 29, 1972.

APPENDIX C

AIRCRAFT INFROMATION

N554PR was a DeHavilland Model DH-114, serial No. 14085

The aircraft was acquired by Prinair from the British Government as a standard DeHavilland Model 114. A U. S. Airworthiness Certificate was issued by the FAA Flight Standards District Office, San Juan, Puerto Rico, on May 30, 1968, at a total aircraft time of 2,907:10 hours.

In 1970, the aircraft was modified by Caribbean Aircraft Development, Inc., Opa Locka, Florida, holder of several supplemental type certificates for the DH-114. This modification entailed the installation of Continental IO-520E engines and Hartzell three-blade, constant speed propellers in accordance with supplemental type certificate 1685WE. At the same time, the seating capactiy was increased from 15 to 20 and other fuselage modifications were made in accordance with supplemental type certificates SA-1729WE and SA-1828WE. A new airworthiness certificate was issued on June 3, 1970.

At the time of the accident, the aircraft total time was 11,364 hours. The most recent inspection was 2,400-hour phase inspection. The annual inspection was completed on June 6, 1972.

The No. 1 engine, S/N 164131, had a total time of 3,453:10. The No. 2 engine, S/N 164161, had a total time of 2,115:50. The No. 3 engine, S/N 164043, had a total time of 3,329:35. The No. 4 engine, S/N 164024, had a total time of 6,573:55.