

GUVERNUL ROMÂNIEI



**CIVIL AVIATION SAFETY INVESTIGATION
AND ANALYSIS CENTER - CIAS**

FINAL REPORT

Of the

Technical Investigation

Of the Serious Incident Occurred on August 17th, 2011
Involving the Aircraft Registered N - 134 WJ

OPERATOR	Evergreen Helicopters of Alaska Inc. Certificate EHAA531D
AIRCRAFT	Beechcraft 200
REGISTRATION	N - 134 WJ
Date and Hour	08.17.2011 / 06:47 LT (04:47UTC)
LOCATION	“G.V. Bibescu” Aerodrome Ploiești, Strejnic commune, Prahova County, Romania

ACKNOWLEDGEMENT

This report is showing data, analysis, conclusions and flight safety recommendations of the Technical Investigation Commission appointed to investigate the circumstances and causes leading to this occurrence.

The technical investigation was conducted according to the provisions of the Romanian Government Ordinance No. 51 / 1999 concerning the technical investigation of civil aviation accidents and incidents, approved with changes and updates by the law No. 794 / 2001 and the provisions of Annex 13 to the Convention on International Civil Aviation signed in Chicago, on December 7th, 1944.

The sole objective of the technical investigation is the prevention of accidents and incidents, by effective determination of causes and circumstances generating this occurrence and the issuance of the necessary flight safety recommendations (RGO 51/1999 Chap. II Art. 5 para. 1) an HAS NOT THE PURPOSE to determine liabilities, individual or collective responsibilities (RGO 51/1999 Chap. II Art. 5 para. 2).

Consequently the use of this report for other purposes than the prevention of accidents and incidents might determine misinterpretation.

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SYNOPSIS

CLASSIFICATION: serious incident

RAPORT Nr: 814/ September 06, 2011

Operator: Evergreen Helicopters of Alaska Inc.

Aircraft: Beechcraft 200

Registration: N - 134 WJ

Date and time: 17.08.2011

Location: “G.V. Bibescu” Aerodrome, Ploiești,
Strejnic commune, Prahova County, Romania

The occurrence was notified to CIAS, being recorded with the number 320/08.17.2011. The investigation was conducted in accordance with the provisions of the ROG 51/1999, concerning the technical investigation of civil aviation accidents and incidents.

1 PRELIMINARY INFORMATION

1.1 History of the Occurrence

On August 17th, 2011 the aircraft N-134WJ was conducting a ferry flight from Bucharest (București), Romania (LROP) to Düsseldorf, Germany (EDDL). After take-off from "Henri Coandă" Bucharest International Airport (LROP), while climbing from FL 120 to FL 220, at 10.40 UTC, the aircraft lost the electric power supply on board, consequently all avionics, including the radio communication station were inoperative. In this situation the pilot choose to land under VFR conditions at the "George Valentin Bibescu" Aerodrome (LRPW), located near the Strejnic commune, Prahova county, Romania. The landing was completed successfully.

1.2 Injuries

No person was injured.

1.3 Damage to the Aircraft

No aircraft damage was recorded.

1.4 Other Damage

No other damage was determined.

1.5 Crew Information

<i>Pilot (captain)</i>	Male, 64 years old
Licence	FAA, ATPL 2612390, issued 29.08.2008
Flight experience, from which	8100 FH
Turboprop aircraft	7600 FH
Beechcraft	1100 FH

1.6 Aircraft Information

Aircraft

Manufacturer and aircraft type	Raytheon Aircraft, Beechcraft 200
Registration State and Marks	SUA, N-134WJ
Owner	Evergreen International Aviation Inc.
Operator	Evergreen Helicopters of Alaska Inc. Certificate EHAA531D

1.7 Meteorological Information

CAVOK

1.8 Navigation Aids

N/A

1.9 Communications

Following the loss of electric power supply all communications between the aircraft and ATS were lost.

1.10 Aerodrome data

N/A

1.11 Flight Recorders

N/A

1.12 Impact and Wreckage Information

N/A

1.13 Medical and Pathological information

N/A

1.14 Fire

N/A

1.15 Survival Aspects

N/A

1.16 Tests and Research

N/A

1.17 Management and Organization

The aircraft was in a ferry flight mission. For this type of flight it was considered that a complete crew is not necessary, one single pilot being sufficient.

1.18 Additional Information

N/A

1.19 Investigation Techniques

The Technical Investigation Commission conducted its investigation based on the information provided by the pilot and the aircraft engineer who checked the aircraft, completed with its own assessment.

2 ANALYSIS

For the flight LROP-EDDL there was appointed a single pilot instead of a complete crew.

INCIDENT – Beechcraft 200 –N 134WJ – Strejnic – 08.17.2011 –C.I.A.S.

While climbing to FL220, at FL 120 the ATC acknowledged the pilot that the transponder is not operating properly in mode C. The pilot's attention focused on solving this malfunction and keeping the climbing flight parameters, unable to observe both generators' disconnection in due time.

Taking into account the high power consumption, since all electric consumers on board were switched-on, including de-icing, the battery was discharged in a very short time.

The loss of the electric power supply determined the loss of the radio communication between the aircraft and the ATS, therefore the pilot decided to land on the closest aerodrome. The pilot considered that LROP is too busy to land without TWR or APP communication and decided to land at LRPW.

Since no power supply on board was available the landing gear was extended using the emergency procedure. The landing was conducted without flaps which couldn't be operated.

The landing was conducted safely without affecting the aircraft or the pilot.

It was not possible to identify any failure which could have determined the loss of the power supply, neither to duplicate the failure. Ground tests showed that all equipment was properly operating.

Since the battery was discharged in flight it was recharged in a ground station, and further reinstalled on the aircraft.

Analyzing the electric supply scheme and based on discussions with the aircraft engineer it was noticed that each electric generator is assisted by a GCU (Generator Control Unit), which can disconnect the generator from the circuit in case of under excitation, overexcitation, over voltage, or under voltage. The generators' reconnection is possible if the pilot is applying the emergency procedures. This action is possible only with a functional battery.

3 CONCLUSIONS

3.1 Findings

The Technical Investigation Commission has found following:

- (1) The incident occurred mainly because the pilot has not observed in due time the generators' disconnection warnings, due to the overload of the ATS communication, determined by the transponder malfunction.
- (2) Other possible cause for not observing the disconnection warning in due time (according to the pilot's statement) might be the flight into the Sun on that section of the flight.
- (3) In the occurred situation, since there was not a complete crew the pilot was overloaded.

3.2 Causes of the Incident

The incident was determined by the loss of the on-board electric power supply co-related with pilot overload.

4 RECOMMENDATION

Following the technical investigation, the commission makes following safety recommendation.

Operators of aircraft designed to be operated by a cockpit crew will analyze the ferry flight operational requirements, to avoid flight with incomplete crews (single pilot).

Note: Documents and analyzed objects used to complete this Technical Investigation Report are confidential and are archived in the CIAS archive, according to the legal provisions.