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Interim statement A-037/2011

Accident involving two Bell 212 helicopters,
registrations EC-GIC and CC-CIS, operated
by INAER in the municipality of Bienservida
(Albacete) on 30 September 2011



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SUBSECRETARÍA

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DE ACCIDENTES E INCIDENTES
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Important notice

This document constitutes the interim statement envisioned in Article 16.7 of Regulation (EU) no. 996/2010 of the European Parliament and of the Council, as well as in paragraph 6.6 of Annex 13 to the Convention on International Civil Aviation. The statement includes the details of the progress of the investigation and the most important operational safety issues revealed to date. The information provided herein is subject to change as the investigation proceeds.

Pursuant to the contents of Regulation (EU) no. 996/2010 of the European Parliament and of the Council and of Annex 13 to the Convention on International Civil Aviation, the investigation is purely technical in nature and is not intended to determine or apportion blame or liability. The investigation is being conducted without necessarily resorting to evidentiary procedures and for the sole purpose of preventing future accidents.

Consequently, the use of this information for any purpose other than to prevent future accidents may result in faulty conclusions or interpretations.

Abbreviations

ACO	Observation and coordination airplane
COP	Provincial Operations Center
COR	Regional Operations Center
CPL (H)	Commercial pilot license (Helicopter)
CVR	Cockpit Voice Recorder
GPS	Global Positioning System
Kg	Kilogram
Km	Kilometer
Kt	Knot
NE	Northeast
NW	Northwest
SE	Southeast
UTC	Universal Coordinated Time

DATA SUMMARY**LOCATION**

Date and time	Friday, 30 September 2011 at 13:33 local time
Site	Bienservida (Albacete)

AIRCRAFT**AIRCRAFT 1****AIRCRAFT 2**

Registration	EC-GIC	CC-CIS
Type and model	Bell 212	Bell 212
Operator	INAER	INAER

Engines

Type and model	Pratt & Whitney PT6T-3	Pratt & Whitney PT6T-3
Number	2	2

CREW**Pilot in command**

Age	52	58
License	CPL(H)	CPL(H)
Total flight hours	4,429	10,723
Flight hours on the type	914	3,728

INJURIES

	Fatal	Serious	Minor/None	Fatal	Serious	Minor/None
Crew		1		1		
Passengers						
Third persons						

DAMAGE

Aircraft	Destroyed	Destroyed
Third parties	Sealing on the reservoir	Sealing on the reservoir

FLIGHT DATA

Operation	Commercial aviation, Aerial work, Firefighting	Commercial aviation, Aerial work, Firefighting
Phase of flight	Maneuvering	Maneuvering

REPORT

Date of approval	19 September 2012
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1. SUMMARY OF THE EVENT

At 12:45¹ on Friday, 30 September 2011, a fire broke out just outside and north of the town of Bienservida (Albacete). Ground-based firefighting teams arrived on the scene in a few minutes and at 12:54, the COP² mobilized the two Bell 212 helicopters of the BIFOR A³ at the base of Molinicos to aid in the firefighting efforts. The base of Molinicos is approximately 33 km east of Bienservida in the province of Albacete.

At 12:57, the COP also mobilized the Bell 212 helicopter of the BIFOR B⁴ at the base of Liétor to aid in the firefighting efforts. The base of Liétor is some 58 km east of Bienservida in the province of Albacete.

At 13:04 the two helicopters from the base of Molinicos took off en route to the fire in Bienservida. The helicopters were EC-GXA (identified as H01) and EC-GIC (identified as H02). H01 was transporting a forestry technician plus six specialists, while H02 was carrying a supervisor and six specialists.

At 13:06 the helicopter from the base of Liétor took off en route to the fire in Bienservida. The helicopter was CC-CIS (identified as H13) and was transporting a forestry technician plus six specialists.

Each of the three helicopters was being flown by a single pilot.

At the same time, 13:06, ACO⁵-1, based in Quinto de Don Pedro (Toledo), some 140 km NW⁶ of Bienservida, was assigned to coordinate the activities of the three airborne assets from the air.

H01 and H02 arrived in Bienservida at 13:12. Their crews were offloaded near the site of the fire at 13:14 and 13:19, respectively.

H13 arrived in Bienservida at 13:22, the same time at which the coordination airplane (ACO-1) took off from the base in Quinto de Don Pedro.

¹ All times in this report are local. To obtain UTC, subtract two hours from local time.

² Provincial Operations Center: basic operating unit of the Forest Fire Prevention and Firefighting Operations Service of the INFOCAM Plan (Forest Fire Emergency Plan of Castilla La Mancha). This center plans and coordinates fire prevention and firefighting efforts in the province and manages the firefighting resources within the province.

³ Heliborne Reinforcement Forestry Brigade: personnel who are specially trained physically and technically to fight forest fires. They specialize in large fires and are mobilized as required by the COP.

⁴ Heliborne Forestry Brigade: personnel who are specially trained physically and technically to fight forest fires. They are automatically mobilized within a 50 km radius, beyond which they must be mobilized by the COP.

⁵ Observation and coordination airplane. Must be mobilized by the COR (Regional Operations Center), which plans and coordinates forest fire prevention and firefighting activities in the region, manages firefighting resources beyond the province, and tracks and evaluates the Forest Fire Prevention and Firefighting Operations Service of the INFOCAM Plan. Mobilized when there are three or more airborne assets at a fire.

⁶ Northwest

At 13:26 the brigade from H13 was offloaded near the site of the fire.

Water loads and water drops at the fire

The area selected for refilling the helicopters' bambi buckets was a reservoir located 2 km NE⁷ of Bienservida known as Balsa de Gómez.

The first helicopter to take on water was H01 at 13:17.

H02, after offloading its brigade, went to take on its first load of water at 13:23. H13 followed suit at 13:28, by which time H01 and H02 were already engaged in fighting the fire.

Collision at the reservoir

At 13:33, H02 and H13 collided above the reservoir, falling into it. The pilot of H02 was able to exit the cockpit under his own power and survived the accident. The pilot of H13 perished in the accident.

It was the fourth time H02 had taken on water at the reservoir, and the third for H13. H01 had refilled its tanks for the sixth time at 13:32 and was proceeding to make a water drop at the time of the accident.

The airborne resources coordination airplane arrived at the fire at 13:57, i.e. 24 minutes after the accident took place.

2. STATUS OF THE INVESTIGATION

The weather information obtained shows that the wind at the accident site was from the SE⁸ at between 5 to 10 kt, with occasional gusts. Visibility conditions were optimal for visual flight, with barely any clouds.

Although flight recorders were not required to be installed on this type of aircraft for this type of operation, H02 had an operational CVR installed, the contents of which were able to be downloaded, despite having been submerged in the reservoir for over 24 hours. This gave investigators access to the verbal communications among the aircraft and between the aircraft and the ground. At no time was an in-flight failure reported by any of the aircraft, and the inspections of the wreckage ruled out the presence of any failures prior to the mid-air collision.

⁷ Northeast

⁸ Southeast

All three helicopters taking part in the firefighting efforts were also equipped with an operational "Fleet Tracking System" consisting of GPS beacons that every so often (on the order of 15-20 seconds) relayed the following information via telephone: UTC⁹ (hour, minute, second), geographic coordinates, altitude, heading and speed. A study of the data from the three helicopters allowed investigators to reconstruct the flight paths of all three.

The layout of the wreckage and the impact marks on the aircraft revealed that the collision between the two aircraft took place above the reservoir. Neither aircraft had any translational¹⁰ speed and both were a few meters above the reservoir in a level attitude in terms of both bank and tilt.

A study of the flight crew documentation revealed that both pilots had valid commercial helicopter pilot (CPL(H)) licenses and type and operational ratings. Both pilots also had valid medical certificates.

The documentation for both aircraft was in order.

An analysis of the weight and balance of both aircraft showed that the two aircraft were operating within these limits.

The maintenance documentation inspected for both aircraft did not reveal anything out of the ordinary and was in keeping with established maintenance programs.

The tables below show the last maintenance inspections made on H02 (EC-GIC):

Airframe

Last inspection	Date	Flight hours
25-hour / 30-day	25/08/2011	23,923:55
25-hour / 30-day	22/09/2011	23,936:15
600-hour / 6-month	19/05/2011	23,894:25
600-hour / 12-month	22/11/2010	23,816:05

⁹ Coordinated Universal Time

¹⁰ They were above the reservoir, practically centered atop it, in position to descend to load the bucket (or to climb after filling the bucket), meaning that any speed would have been essentially vertical.

Interim Statement A-037/2011

Engines

Last inspection	Date	Flight hours
25-hour / 30-day	25/08/2011	#1: 6,425:10 #2: 9,002:20
25-hour / 30-day	22/09/2011	#1: 6,437:30 #2: 9,014:40
100-hour	30/06/2011	#1: 6,409:10 #2: 8,986:20

As for the maintenance inspections conducted on H13 (CC-CIS), these are shown in the tables below:

Airframe

Last inspection	Date	Flight hours
25-hour / 30-day	02/08/2011	23,770:54
25-hour / 30-day	15/09/2011	23,786:40
600-hours / 12-month	11/04/2011	23,736:24

Engines

Last inspection	Date	Flight hours
25-hour / 30-day	02/08/2011	#1: 8,024:12 #2: 11,498:42
25-hour / 30-day	15/09/2011	#1: 8,040:42 #2: 11,515:12
100-hour ¹¹	11/04/2011	#1: 7,989:24 #2: 11,463:54

3. WORK PENDING

The investigation is focusing on determining the reason for the lack of coordination between the aircraft taking part in the firefighting duties; specifically, on the region of Castilla La Mancha's procedures for coordinating firefighting efforts, on the procedures for communicating between aircraft and on the procedures for lining up to take on and drop off water.

¹¹ Coincided with the 600-hour or annual inspection.