



# Aviation Short Investigation Final Report

Missing Aircraft (UNK – Unknown)

Cessna 402B, C6-SPK

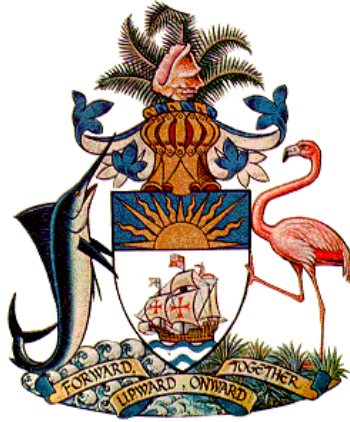
**Near Eleuthera, Bahamas  
19<sup>th</sup> August 2023**

**AAIA Aviation Occurrence Investigation**

**Report Number #OCC – 2023/0029**

**Final Report**

**19<sup>th</sup> August 2024**



Released in accordance with Section 25 and Section 1.445 of the *Aircraft Accident Investigation Authority Act 2019 and Regulations 2021, respectively.*

## **Publishing information**

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## About the AAIA

The Aircraft Accident Investigation Authority (AAIA) is the independent accident investigation agency under the Bahamas' Ministry of Energy & Transport (MOET) charged with the responsibility of investigating all aviation accidents and serious incidents in the Bahamas.

The AAIA's function is to promote and improve safety and public confidence in the aviation industry through excellence in:

- Independent investigation of aviation accidents and other safety occurrences
- Safety data recording, analysis and research
- Fostering safety awareness, knowledge and action.

**The AAIA does not investigate for the purpose of apportioning blame or to provide a means for determining liability.** At the same time, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the AAIA endeavors to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

The AAIA performs its functions in accordance with the provisions of the Aircraft Accident Investigation Authority Act 2019 and Regulations 2021, International Civil Aviation Organization (ICAO) Annex 13 and, where applicable, relevant international agreements.

The Aircraft Accident Investigation Authority is mandated by the Ministry of Energy & Transport to investigate aviation accidents and incidents, determine probable causes of accidents and incidents, issue safety recommendations, study transportation safety issues and evaluate the safety effectiveness of agencies and stakeholders involved in air transportation. The objective of a safety investigation is to identify and reduce safety-related risk. AAIA investigations determine and communicate the safety factors related to the transport safety matter being investigated.

The AAIA makes public its findings and recommendations through accident reports, safety studies, special investigation reports, safety recommendations and safety alerts. When the AAIA issues a safety recommendation, the person, organization or agency is required to provide a written response without delay. The response shall indicate whether the person, organization or agency accepts the recommendation, any reasons for not accepting part or all of the recommendation(s), and details of any proposed safety action(s) resulting from the recommendation(s) issued.

## About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.

## AIRCRAFT ACCIDENT INVESTIGATION AUTHORITY

**Manufacturer:** Cessna

**Serial Number:** 402B1054

**Aircraft Type:** 402B

**Nationality:** Bahamas\*

**Registration:** C6-SPK\*

**Place of Accident:** 17 NM southwest of North Eleuthera Int'l Airport (MYEH), Eleuthera, Bahamas

**Date and Time:** 19<sup>th</sup> August, 2023, 12:58 pm EDT (1658) UTC

**Notification:** Civil Aviation Authority Bahamas (CAA-B)  
National Transportation Safety Board (NTSB) United States  
International Civil Aviation Organization (ICAO)

**Investigating Authority:** Aircraft Accident Investigation Authority (AAIA)  
Ministry of Energy & Transport

**Investigator in Charge:** Saint-Tino Morley

**Accredited Representative:** Deepak Joshi (NTSB)

**Releasing Authority:** Aircraft Accident Investigation Authority

**Date of Final:** 19<sup>th</sup> August 2024

**Report Publication:**

\*Aircraft was removed from Bahamas Aircraft Registry on 17<sup>th</sup> July 2022.

## History of Flight

On 19<sup>th</sup> August 2023 at approximately 12:25 pm local (1625 UTC<sup>1</sup>), a Cessna 402B aircraft which was last registered in The Bahamas until 17<sup>th</sup> July 2022 as C6-SPK (serial number 402B1054), departed from the Fort Lauderdale International Airport (KFLI), Fort Lauderdale, FL, USA with one (1) person on board enroute to the North Eleuthera International Airport (MYEH), Eleuthera, Bahamas. The aircraft was expected to return to KFLI shortly after 2:00 pm later that afternoon, however, it never arrived at its intended destination.

It was reported that at approximately 12:58 pm (1658 UTC), KFLI air traffic control observed the aircraft in a rapid descent from an altitude of approximately 8,400 ft. mean sea level (MSL) to about 4,500 ft. MSL, while at coordinates 25.84N 78.90W, approximately some 70 nautical miles south east of KFLI, or approximately 18 nautical miles north east of Bimini, Bahamas.

The aircraft was not observed on radar after the rapid descent.

Upon notification that the aircraft was overdue, search and rescue protocols were initiated with coordination between the United States Coast Guard (USCG), Royal Bahamas Defence Force (RBDF), Royal Bahamas Police Force (RBPF), with assistance from the Bahamas Air Sea Rescue Association (BASRA).

During search and rescue, aerial and marine assets from the US Coast Guard and RBDF responded to areas in vicinity of the last known position of the aircraft, initially identified at coordinates 25.84N 78.90W.

An updated position of the aircraft was later provided by the US Coast Guard and identified at coordinates 25°20'35.00"N 76°59'46.00"W, at a distance of approximately 17 nautical miles southwest from MYEH.

Assets also searched the updated position with combined search efforts extending up to 21<sup>st</sup> August 2023.

As of the time of release of this report, neither the pilot nor the aircraft has been located.

## Injuries to Persons

Injuries	Crew	Passengers	Total
Fatal	1	0	1
Serious	0	0	0
None	0	0	0
TOTAL	1	0	1

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<sup>1</sup> UTC (Coordinated Universal time) - a single time standard for global aviation based upon the time at 0 degrees East/West (the Greenwich Meridian)

## Investigation Findings

### Pilot

The pilot in command of the aircraft was 70 years of age at the time of the accident. He possessed an Airline Transport Pilot certificate with Airplane Single Engine Land and Multi Engine Land ratings issued by the Federal Aviation Administration (FAA) on 7<sup>th</sup> August 2023.

He held type ratings for the Convair 240, 340, and 440 aircraft as well as for the Lockheed L-1329 and LR-JET.

The pilot also held an advanced Ground Instructor certificate issued by the FAA on 28<sup>th</sup> November 2022 and a Flight Instructor certificate for Airplane Single, Multi Engine and Instrument Airplane issued by the FAA on 20<sup>th</sup> April 2023.

The pilot was also a certified mechanic with Airframe and Powerplant ratings issued by the FAA on 1<sup>st</sup> October 2010.

The First Class Medical held by the pilot was issued by the FAA in March 2023 with the limitations “Must use corrective lens(es) to meet vision standards at all required distances”.

On the 10<sup>th</sup> June 1996, the Federal Aviation Administration issued an Emergency Order of Revocation to the pilot in command for all airmen certificates held including Airline Transport Pilot.

This action was taken by the FAA after it was determined that the pilot operated a Cessna 402C aircraft for compensation or hire during a period between November 1995 – April 1996 between Miami International Airport (KMIA), Miami, FL and The Bahamas after the aircraft was removed from the Operating Specifications<sup>2</sup> of a registered Florida based Air Operator Certificate (AOC<sup>3</sup>) holder.

Around the 7<sup>th</sup> February 1996, the pilot was issued a letter of investigation informing him that the operator certificate was dormant and that continued operation would be a regulatory violation.

It was also determined that the pilot did not meet the requirements of *US Code of Federal Regulations Part 135.293(a)* and *Part 135.293(b)*, as he had served as pilot in command of an aircraft since the beginning of a 12 calendar month period since that service without passing a written or oral test given by the Administrator or an authorized check pilot and without passing a competency check in that class aircraft by the Administrator or an authorized check pilot.

The Emergency Order of Revocation was amended on 17<sup>th</sup> July 1996 when his Airline Transport Pilot and Commercial Pilot privileges were revoked but his Private Pilot Privileges were only suspended for a 30 day period ending 10<sup>th</sup> July 1996.

The pilot was made aware of his eligibility to reapply for both certificates with requisite testing and checks to be conducted only after 10<sup>th</sup> July 1996.

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<sup>2</sup>**Operations Specifications** means a document that contains terms, authorizations, conditions and limitations that facilitate the Authority’s administration of the AOC by ensuring that the Authority and the certificate holder have a mutual and clear understanding of how the certificate holder will conduct its operations

<sup>3</sup> **Air Operator Certificate (AOC)** is a certificate authorizing an operator to carry out specified commercial air transport operations

## The Aircraft

The Cessna 401 and 402 are series of 6 to 10 seat, light twin, piston engine aircraft. This line was manufactured by Cessna from 1966 to 1985 under the name Utiliner and Businessliner.

The Cessna 401 and 402 were developments of the Cessna 411. All 401s and 402s are powered by 300 horsepower (224 kW) turbocharged Continental engines with three-bladed, constant speed, fully feathering propellers. On later models cruise power was limited to 75% to reduce cabin noise.

The Cessna 401s, 402s, 402As and some 402Bs built from 1966 to 1971 had four small oval windows, which gave the aircraft a similar appearance to the pressurized Cessna 340. Starting half-way through the production of the Cessna 402B the window configuration was changed to the more distinctive five rectangular windows, an arrangement that was retained through the 402C model, until the completion of production in 1987.

## Maintenance

During the course of this investigation, there was no evidence or documentation obtained pertaining to the maintenance of the aircraft to indicate that it was maintained in accordance with the manufacturer's specifications.



*Fig. 1: Photo of aircraft (US Coast Guard)*

## Aircraft Registration

In a correspondence dated 6<sup>th</sup> July 2022, the pilot in command of the aircraft was informed by the Accountable Manager of a Bahamas based operator that Cessna 402B C6-SPK was going to be removed from the operator's Air Operator Certificate as well as from The Bahamas' aircraft registry.

This action was carried out on 17<sup>th</sup> July 2022 when the Accountable Manager of the operator, in a formal letter to the Civil Aviation Authority Bahamas (CAA-B), officially requested for the removal of C6-SPK from its certificate and Bahamas' aircraft registry.

# Aircraft Accident Investigation Authority

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## Weather

<b>Conditions at Accident Site</b>	<b>Condition of Light</b>
Unknown	Day
<b>Observation Facility</b>	<b>Observation Time</b>
Lynden Pindling Int'l Airport (MYNN), Nassau, Bahamas	1600 UTC
<b>Distance From Accident Site</b>	<b>Temperature/ Dewpoint</b>
34 NM	25°C/24°C
<b>Lowest Cloud Condition</b>	<b>Wind</b>
FEW015CB	150/15 knots
<b>Altimeter Setting</b>	<b>Visibility</b>
30.02 in. Hg	> 6 Statute Miles

Weather information was provided by the Bahamas Meteorological Department via a comprehensive weather package that included the Bahamas Area Forecast, METAR<sup>4</sup> information, satellite imagery, and surface analysis charts.

Additionally, a Meteorology Specialist Analysis Report and a Meteorology Specialist Factual Report was provided by the National Transportation Safety Board (NTSB) in support of the investigation into this occurrence.

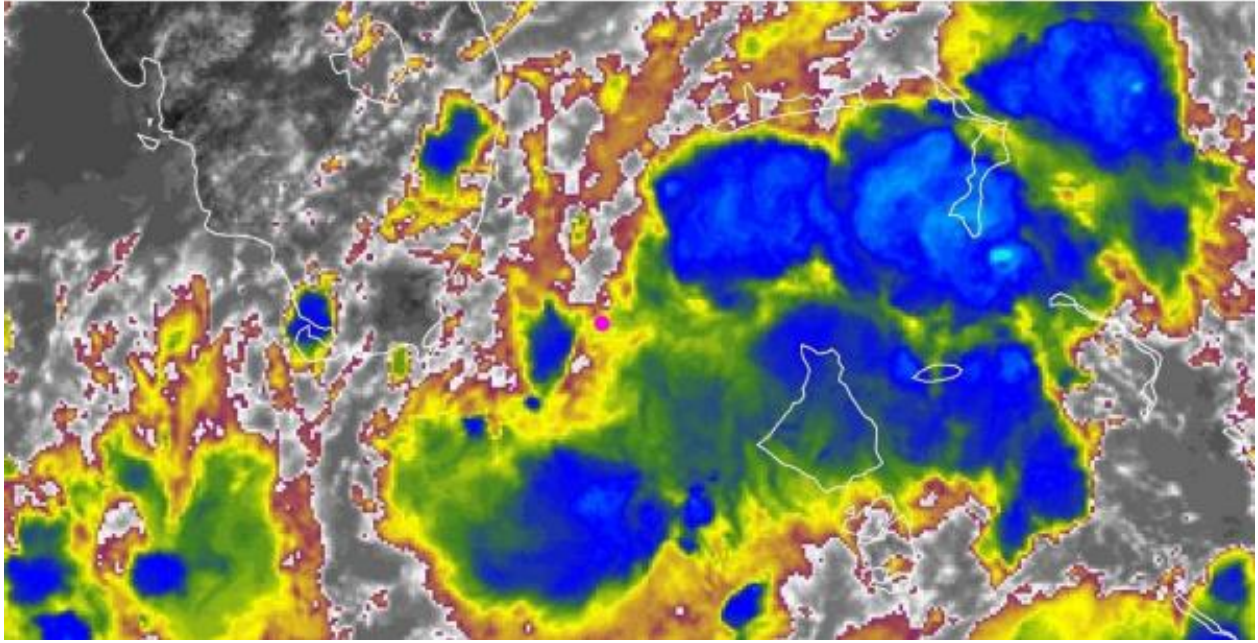
At 11:55 am on 19<sup>th</sup> August 2023, the National Weather Service Aviation Weather Center issued Convective Sigmet<sup>5</sup> 24E that was valid until 1:55 pm for the area southeast off the coast of Fort Lauderdale, Florida. It warned of an area of thunderstorms with tops above 45,000 feet.

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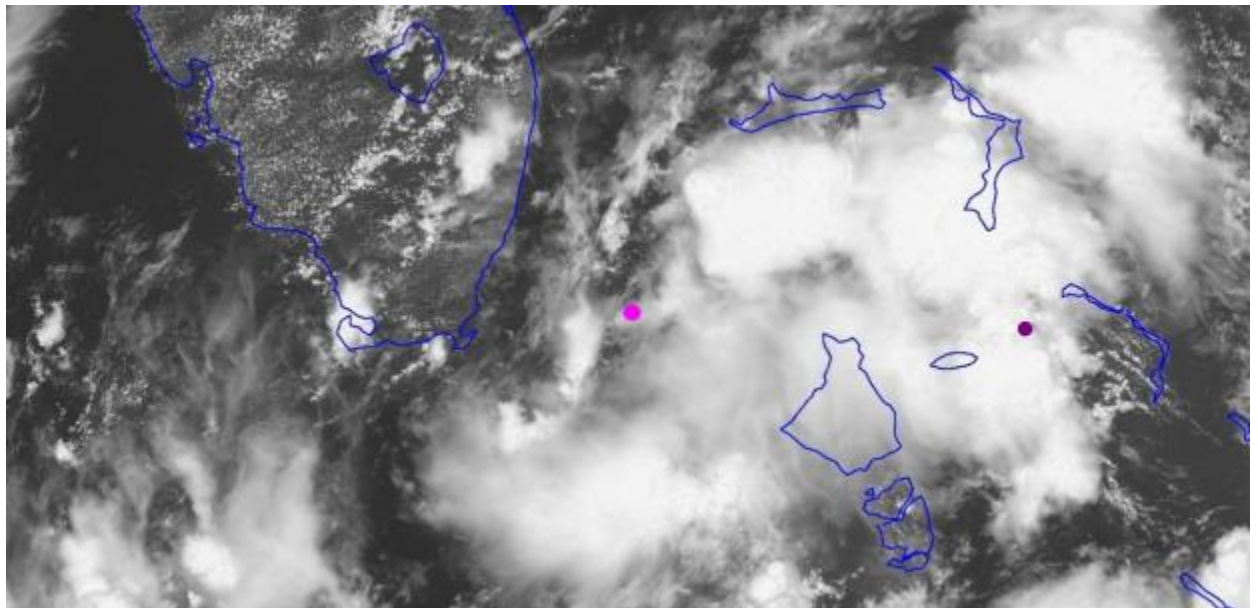
<sup>4</sup> **METAR** -is a format for reporting weather information.

<sup>5</sup> **Convective SIGMET** - A weather advisory concerning convective weather significant to the safety of all aircraft. Convective SIGMETs are issued for tornadoes, lines of thunderstorms, embedded thunderstorms of any intensity level





*Fig 2: Infrared Imagery from 1658 UTC (NTSB Specialist's Factual Report)*



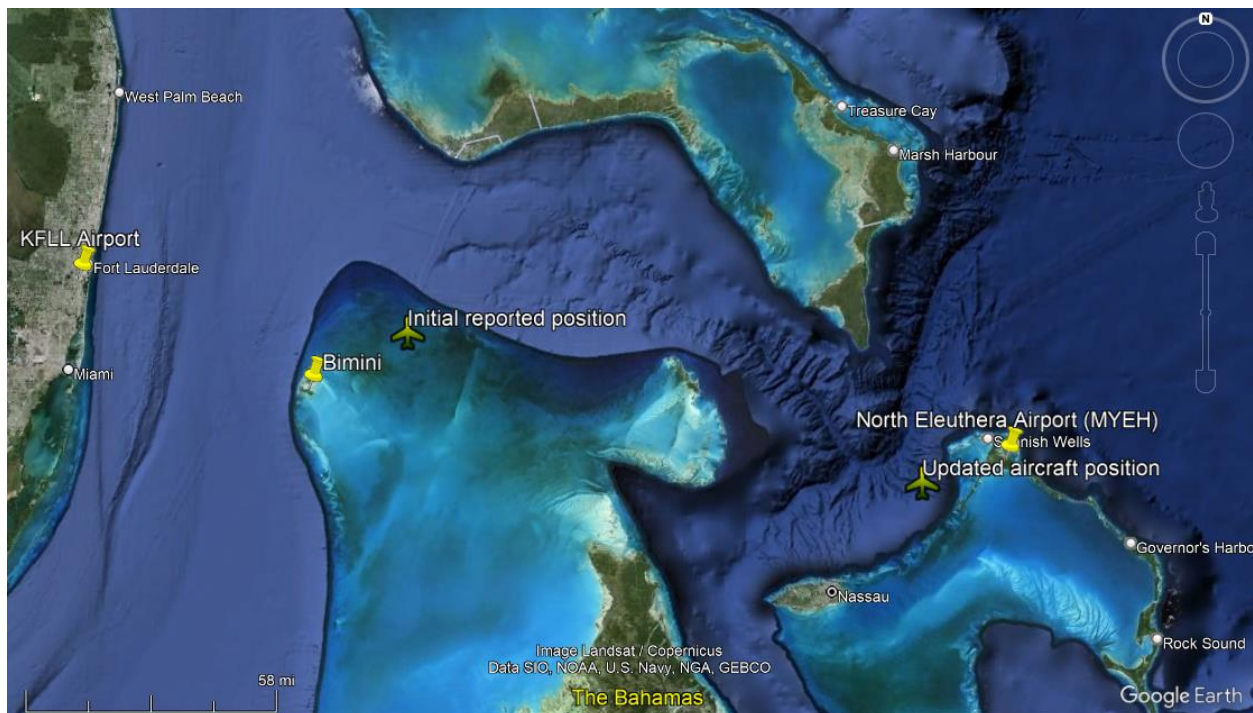
*Fig.3: Satellite Imagery from 1658 UTC (NTSB Specialist's Factual Report) purple dots are approximate initial and updated aircraft positions*

The imagery depicts cloudy conditions over the accident region with features consistent with deep convection.

## Wreckage and Impact Information

The aircraft was observed in a rapid descent by air traffic control from an altitude of approximately 8,400 ft. mean sea level (MSL) to about 4,500 ft. MSL, while at coordinates 25.84N 78.90W, approximately some 70 nautical miles south east of KFLL, or approximately 18 nautical miles north east of Bimini, Bahamas.

This position was initially identified as the last position of the aircraft, however, an updated aircraft position at coordinates 25°20'35.00"N 76°59'46.00"W, a distance of approximately 17 nautical miles southwest of North Eleuthera International Airport (MYEH) was later revealed via the United States Coast Guard based on further analysis conducted.



*Fig.4: Initial and updated position of aircraft*

## Search and Rescue

At 6:45 pm, the Royal Bahamas Defense Force (RBDF) Operations Command Center (OCC) received notification of missing aircraft, Cessna 402B C6-SPK, which was enroute to the North Eleuthera International Airport (MYEH), Eleuthera, Bahamas, with one (1) person on board.

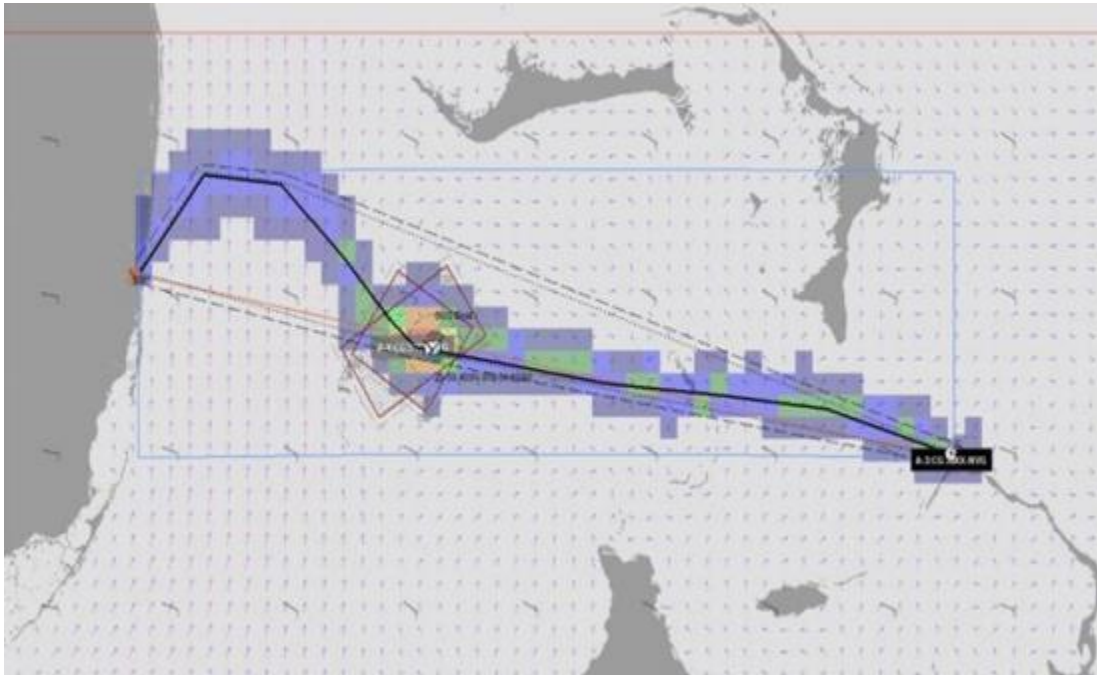
Coordinated efforts were then subsequently facilitated between RBDF Search and Rescue (SAR), United States Coast Guard, and the Bahamas Air Sea Rescue Association (BASRA).

Checks were made at airports throughout The Bahamas on various islands including Andros, Eleuthera, and New Providence which all yielded negative results.

The last known position of the aircraft was initially identified at coordinates 25.84N 78.90W, approximately some 70 nautical miles south east of KFLL, or approximately 18 nautical miles north east of Bimini, Bahamas

An updated position of the aircraft was later provided by the US Coast Guard and identified at coordinates 25°20'35.00"N 76°59'46.00"W, at a distance of approximately 17 nautical miles southwest from MYEH.

US Coast Guard aircraft designated “144” conducted initial search within the areas identified between 8:21 pm until after 1:00 am on 20<sup>th</sup> August 2023. Their search yielded negative results.



*Fig. 5: Flight track of US Coast Guard aircraft 144*

On the 20<sup>th</sup> August 2023, a US Coast Guard C130 aircraft continued search and rescue efforts between 1:00 – 5:00 am when a possible debris field was sighted, but there was no confirmation based on further

inquiry.



*Fig. 6: Photo of possible debris spotted by USCG C130*

RBDF aircraft and marine assets in conjunction with US Coast Guard aircraft continued search and rescue efforts until 21<sup>st</sup> August 2023. The pilot neither the aircraft were located during that time.

**Total hours searched by USCG Aircraft**

<b>SEARCH AREA</b>	<b>TIME SEARCHED</b>	<b>AREA SEARCHED</b>
AIRMIA HC-144	9HRS	458
AIRCLR HC-130	6.5HRS	560
AIRMIA HC-144	6.2HRS	844
	<b>TOTAL: 21.7 HRS</b>	<b>TOTAL: 1,862 SQNM</b>

**Total hours searched by RBDF Assets**

<b>NAME OF ASSEST</b>	<b>TIME SEARCHED</b>	<b>AREA SEARCHED</b>
<b>HMBS KAMALAMEE</b>	<b>3HRS</b>	<b>35SQNM</b>
<b>RB01</b>	<b>1HR</b>	<b>20SQNM</b>
<b>C6CDF</b>	<b>1HR &amp; 30MIN</b>	<b>50SQNM</b>

## Analysis

Due to the nature of this occurrence, specifically with reference to the pilot nor the aircraft ever being located and in the absence of aircraft maintenance documentation, there were understandably some gaps in the information available to be used for an analysis.

However, the evidentiary information and documentation obtained during the investigation did identify issues of concern that when combined, does provide some insight into the event.

In the first instance, it was determined early on that the aircraft flown by the pilot in command was no longer on the Bahamas' aircraft registry as C6-SPK had been removed from the registry as well as from the Air Operator Certificate (AOC) of a Bahamas based operator since 17<sup>th</sup> July 2022.

It was apparent that despite that action being taken, the registration "C6-SPK" was still being utilized for flight.

This was seen as consistent with previous actions by the pilot in command who, on the 10<sup>th</sup> June 1996, was issued an Emergency Order of Revocation by the Federal Aviation Administration for all pilot certifications held after it was determined that the pilot operated a Cessna 402C aircraft for compensation or hire during the period November 1995 – April 1996 between Miami International Airport (KMIA), Miami, FL and the Bahamas after the aircraft was removed from the Operating Specifications of a registered Florida based AOC holder.

From a Human Factors perspective, collectively, these decisions by the pilot to operate outside of the regulatory provisions suggests an adoption of the first of the five (5) hazardous attitudes within aviation, *Anti-authority*.

Aviation regulatory agencies around the world, including the FAA, have gone to great lengths to inform the aviation and wider public of the dangers of adopting any of the 5 hazardous attitudes which can lead to occurrences that can result serious injury and/or death.

The anti-authority attitude is one where adherence to rules and regulations are not seen as mandatory and subsequently, inappropriate actions can be taken.

This was further characterized by the pilot's decision to continue to operate in contravention of the regulations prescribed in *US CFR Part 135*, despite being forewarned in a correspondence by the FAA dated 7<sup>th</sup> February 1996.

The other factor of consideration was the weather and the conditions that existed during the course of the accident flight.

It was deemed necessary to request assistance from the NTSB Office of Aviation Safety via the provision of a Meteorology Specialist's Analysis Report and Specialist's Factual Report.

The reports provided information on weather conditions and forecasts applicable to the accident region.

Textual and graphical weather data and information presented in both reports revealed that the meteorological environment within the accident region contained convective hazards that might have included instrument meteorological conditions (IMC), extreme turbulence and icing at higher altitudes.

# Aircraft Accident Investigation Authority

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Ultimately, it was determined in the report that the meteorological environment supported a potential encounter with IMC and other convective hazards.

Although the information contained in the NTSB reports provided expert analysis carrying significant weight, there still remained gaps in the information available to definitively determine to what extent, if any, the weather may have contributed to the accident.

## Findings

These findings should not be read as apportioning blame or liability to any particular organization or individual.

1. The aircraft was last registered in The Bahamas as C6-SPK until 17<sup>th</sup> July 2022 when the aircraft was removed from the Bahamas Registry and the Operating Specifications of a Bahamas based AOC holder.
2. It was apparent that the aircraft continued to operate after having been removed from The Bahamas' aircraft registry.
3. There was no evidence or documentation obtained to indicate which State of Registry the aircraft belonged at the time of the accident.
4. There was no evidence or documentation obtained pertaining to the maintenance records for the aircraft to indicate whether or not the aircraft was maintained in accordance with the manufacturer's specifications.
5. The aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR); neither was required by regulations.
6. The pilot in command possessed an Airline Transport Pilot certificate with Airplane Single Engine Land and Multi Engine Land ratings issued by the Federal Aviation Administration (FAA) on 7<sup>th</sup> August 2023.
7. The pilot in command also held an advanced Ground Instructor certificate issued by the FAA on 28<sup>th</sup> November 2022 and a Flight Instructor certificate for Airplane Single, Multi Engine and Instrument Airplane issued by the FAA on 20<sup>th</sup> April 2023.
8. The First Class Medical held by the pilot was issued by the FAA in March 2023 with the limitations "Must use corrective lens(es) to meet vision standards at all required distances".
9. On the 10<sup>th</sup> June 1996, the Federal Aviation Administration issued an Emergency Order of Revocation to the pilot in command for all airmen certificates held including Airline Transport Pilot.
10. At the time of revocation, the FAA determined that the pilot operated a Cessna 402C aircraft for compensation or hire during a period between November 1995 – April 1996 between Miami International Airport (KMIA), Miami, FL and the Bahamas after the aircraft was removed from the Operating Specifications of a registered Florida based Air Operator Certificate (AOC) holder.
11. The Emergency Order of Revocation was amended on 17<sup>th</sup> July 1996 when the pilot's Airline Transport Pilot and Commercial Pilot privileges were revoked but his Private Pilot Privileges were only suspended for a 30 day period ending 10<sup>th</sup> July 1996.
12. On the 19<sup>th</sup> August 2023 at approximately 12:25 pm local (1625 UTC) the aircraft departed from the Fort Lauderdale International Airport (KFLL), Fort Lauderdale, FL, USA with one (1) person on board enroute to the North Eleuthera International Airport (MYEH), Eleuthera, Bahamas.



# Aircraft Accident Investigation Authority

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13. It was reported that at approximately 12:58 pm (1658 UTC), KFLL air traffic control observed on radar, the aircraft in a rapid descent from an altitude of approximately 8,400 ft. mean sea level (MSL) to about 4,500 ft. MSL, while at coordinates 25.84N 78.90W, approximately some 70 nautical miles south east of KFLL, or approximately 18 nautical miles north east of Bimini, Bahamas.
14. The aircraft was not observed on radar after the rapid descent.
15. The aircraft never arrived at its intended destination of MYEH.
16. Based on the National Transportation Safety Board (NTSB) Meteorology Specialist Analysis Report and Specialist's Factual Report, the meteorological environment within the accident region contained convective hazards that might have included instrument meteorological conditions (IMC), extreme turbulence and icing at higher altitudes.
17. Based on the NTSB Meteorology Specialist Analysis Report and Specialist's Factual Report, it was determined that the meteorological environment supported a potential encounter with IMC and other convective hazards.
18. After the aircraft was determined to be overdue, coordinated efforts were then facilitated between RBDF Search and Rescue (SAR), United States Coast Guard, and the Bahamas Air Sea Rescue Association (BASRA).
19. Checks conducted at airport throughout the Bahamas yielded negative sighting of the aircraft.
20. Search and rescue efforts with the use of aerial and maritime assets by the US Coast Guard and RBDF were conducted between the 19<sup>th</sup> – 21<sup>st</sup> August 2023 and yielded negative sightings of the pilot or the aircraft.
21. At the time of release of this accident report, neither the pilot nor the aircraft has been located.

## Probable Cause

The AAIA was unable to determine a probable cause in relation to this occurrence and subsequently classify the probable cause as *unknown* or *undetermined*.

Based on the information revealed during the course of the investigation, it seemed apparent that weather may have potentially been a contributory factor to what ultimately resulted in the missing pilot and aircraft, but there was insufficient evidence to definitively come to that conclusion.