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**FINAL INVESTIGATION REPORT ON ACCIDENT INVOLVING
M/S ARYAN AVIATION PVT. LTD. BELL 407 HELICOPTER
BEARING REGISTRATION VT-BKA NEAR GAURIKUND, UTTARAKHAND
ON 15 JUNE 2025**

**GOVERNMENT OF INDIA
MINISTRY OF CIVIL AVIATION
AIRCRAFT ACCIDENT INVESTIGATION BUREAU**

FOREWORD

In accordance with Annex 13 to the Convention on International Civil Aviation Organization (ICAO) and Rule 3 of Aircraft (Investigation of Accidents and Incidents), Rules 2025, the sole objective of the investigation of an Accident/Incident shall be the prevention of accidents and incidents and not to apportion blame or liability. The investigation conducted in accordance with the provisions of the above said rules shall be separate from any judicial or administrative proceedings to apportion blame or liability.

This document has been prepared based upon the evidences collected during the investigation, opinion obtained from the experts and laboratory examination of various components. Consequently, the use of this report for any purpose other than for the prevention of future accidents or incidents could lead to erroneous interpretations.

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GLOSSARY

AAIB	Aircraft Accident Investigation Bureau
AAI	Airports Authority of India
ATC	Air Traffic Control
C of A	Certificate of Airworthiness
CAM(NR)	Continuing Airworthiness Manager (Northern Region)
CAR	Civil Aviation Requirement
CPL(H)	Commercial Pilot License (Helicopter)
C of R	Certificate of Registration
CG	Centre of Gravity
CVR	Cockpit Voice Recorder
DAW	Directorate of Airworthiness
DFDR	Digital Flight Data Recorder
DGCA	Director General of Civil Aviation
FADEC	Full Authority Digital Engine Control
FL	Flight level
FPM	Feet per minute
FRTTO	Flight Radio Telephone Operator's License
Hrs	Hours
ICAO	International Civil Aviation Organization
IMD	India Meteorological Department
IST	Indian Standard Time
IIC	Investigator-in-charge
MEL	Minimum Equipment List
NM	Nautical miles
OEM	Original Equipment Manufacturer
PIC	Pilot in Command
ROC	Rate Of Climb
RT	Radio Telephony
SDRF	State Disaster Response Force
SOP	Standard Operating Procedures
UCADA	Uttarakhand Civil Aviation Development Authority
UTC	Universal Time Coordinated
VOR	VHF Omnidirectional Range

SYNOPSIS

M/s Aryan Aviation Pvt Ltd Bell 407 helicopter VT-BKA was involved in an accident while operating a shuttle flight from Shri Kedarnath to Guptkashi, Uttarakhand on 15/06/2025. There were six passengers on board the helicopter with 01 pilot.

On 15/06/2025, the Bell 407 helicopter VT-BKA was scheduled to operate a shuttle flight, Guptkashi-Shri Kedarnath-Guptkashi. The flight from Guptkashi to Shri Kedarnath helipad was uneventful. This was the first shuttle of the morning. The helicopter took-off from “Shri Kedarnath Helipad” at approximately 0520 IST for Guptkashi helipad. The take-off and commencement of descent was uneventful. As the Pilot approached Gaurikund, pilot noticed a cloud patch at the exit point of the Shri Kedarnath valley, and transmitted on RT, “I can see a cloud at the exit point.” Subsequently, pilot again transmitted; “At 9,200 ft cannot see, turning...” Thereafter, there was no further RT call received from the helicopter. During this process the helicopter entered into clouds and while making turn, the Pilot got disoriented and the helicopter impacted a hill at an altitude of about 9000 feet. All seven occupants on board received fatal injuries and the helicopter was destroyed during the accident.

The occurrence was classified as Accident as per the Aircraft (Investigation of Accidents and Incidents) Rules, 2017. Director General, AAIB ordered an investigation to identify the probable cause(s) and contributor factor(s) leading to the accident vide Order No. INV-11011/09/2025-AAIB dated 17.06.2025.

Initial notification of the accident was sent to concerned states along with ICAO as per requirement of ICAO Annex 13 and state(s) appointed Accredited Representative and Technical Advisor(s) to participate in the investigation.

Unless otherwise indicated, recommendations in this report are addressed to the regulatory authorities of the State having the responsibility for the matters with which the recommendation is concerned. It is for those authorities to decide what action is taken.

SUMMARY

Final Investigation Report on Accident involving M/s Aryan Aviation Pvt. Ltd. Bell 407 helicopter bearing registration VT-BKA near Gaurikund, Uttarakhand on 15 June 2025			
1.	Aircraft	Type	Bell 407
		Nationality	Indian
		Registration	VT-BKA
2.	Owner		M/s Aryan Aviation Pvt. Ltd.
3.	Operator		
4.	Pilot-In-Command		CPL (H)
5.	No. of Persons on board		Total: 07; Pilot: 01 and Passengers: 06
6.	Extent of Injuries		All 07 Fatal injuries
7.	Date & Time of Accident		15 June 2025, 0527 IST
8.	Place of Accident		Near Gaurikund, Uttarakhand
9.	Co-ordinates of Accident Site, AMSL		Latitude: 30° 38' 59.0" N, Longitude: 79° 00' 35.0" E
10.	Last point of departure		Kedarnath Helipad
11.	Intended landing place		Guptkashi Helipad
12.	Type of Operation		Non-Scheduled Operations (Kedarnath Shuttle Service)
13.	Phase of operation		Cruise
14.	Type of Occurrence		Controlled Flight Into Terrain (CFIT)

(All the timings in this report are in IST unless otherwise specified)

1. FACTUAL INFORMATION

1.1 History of flight

On 15th June 2025, a Bell 407 helicopter bearing registration VT-BKA belonging to M/s Aryan Aviation Pvt Ltd. was planned to operate shuttle sorties from Guptkashi to Kedarnathji as the operator carries out the shuttle sorties from Guptkashi.

As per the procedure, the Uttarakhand Civil Aviation Development Authority (UCADA) publishes time slot allotment/schedule for each day for all operators conducting shuttle operations for Shri Kedarnath Shrine. As per the documented schedule wherein time slot allotment is provided to the operators by UCADA, the operators who are given the first slot in the morning (starting from 0600 Hrs IST) are allowed to start the shuttle operations from the sunrise. On 15 June 2025, the operator was given the first slot in the morning i.e. between 0600 Hrs to 0700 Hrs IST. As per the provision, the operator planned to start the shuttle operations from sunrise and as per the practice being followed by the operator, the sunrise timings were obtained from online websites which on that day was reported to be 0510 Hrs IST.

As per the statement given by the operations personnel of the operator, the pilot arrived at the helipad at around 0430 hrs IST and as per practice did the BA test. The pilot then checked the CCTV footages of the valley to analyse the weather conditions in the valley which they found conducive to operate the shuttle flights. The pilot then carried out pre-flight checks on the helicopter VT-BKA, and no abnormality was reported. Thereafter, the helicopter VT-BKA took-off from Guptkashi helipad at around 0510 Hrs for Shri Kedarnathji. The helicopter landed uneventfully at Kedarnath helipad at around 0520 Hrs IST. No abnormality was reported by the pilot.

VT-BKA was the first helicopter to operate the shuttle flight to Kedarnath in the morning followed by two other helicopters bearing registration VT-TBF and VT-TBC operated by M/s Trans Bharat Aviation Pvt. Ltd. The helicopter VT-TBC took-off from another helipad in Guptkashi and helicopter VT-TBF took-off from Phata. The helicopter VT-BKA was the first in sequence followed by VT-TBF from Phata and then by VT-TBC from Guptkashi. After disembarking the passengers carried from Guptkashi, the helicopter VT-BKA then took-off from Kedarnath with 06 passengers who boarded from Kedarnath. As per procedure, the disembarkation and boarding of the passengers at Kedarnath helipad is carried out with rotors running. No abnormality was observed while the helicopter took-off and subsequently entered the Kedarnath valley as seen in the CCTV footage. Accordingly, no abnormality was reported by the pilot on RT.

As per the established SOP for Kedarnath shuttle operations, during the return flight i.e. while exiting the Kedarnath Valley, the helicopters are required to maintain 9000 feet altitude. Accordingly, while returning, the pilot of VT-BKA was maintaining 9000 feet altitude while approaching the valley exit point. As per the statement of the other two helicopter pilots who were behind VT-BKA, when the pilot of VT-BKA had reached Bhimballi, the pilot gave a call 'Bhim descending – clouding at exit seems to be lower now'. To this, the pilot of VT-TBF who was next in sequence gave a call, 'Do not go above the clouds, exit below the clouds' which was acknowledged by the VT-BKA pilot. The pilot of VT-TBF again gave a call, 'Do not go over the clouds, go below the clouds'. This was acknowledged by pilot

of VT-TBC. When the pilot of VT-TBF reached Gaurikund, he observed clouding at about 8500 towards the exit ridge with height of the clouds at centre at approximately 8800 feet altitude. Subsequently, the pilot of VT-TBF heard a call from VT-BKA “9200, unable to see ahead turning right”. The helicopter VT-TBF continued and exited the valley at a considerably lower altitude. The pilot of VT-TBF continued giving calls to the helicopter VT-BKA, but there was no response. The pilot of VT-TBC also gave calls to VT-BKA but there was no response from VT-BKA. As advised by the pilot of VT-TBF, the helicopter VT-TBC also exited the valley exit at a considerably lower altitude by avoiding the clouds.

Thereafter, as there was no response from VT-BKA, both the helicopters i.e. VT-TBF and VT-TBC after disembarking the passengers at their respective helipads at Phata and Guptkashi, took-off again in search of the helicopter VT-BKA. However, they could not locate it and there was no response from VT-BKA to the RT calls made by them. Both the helicopters after unsuccessful attempt came back to their respective helipads. Later, the operations manager of the operator received call from local authorities that the helicopter VT-BKA has crashed into the nearby hills of Gaurikund. State Disaster Response Force (SDRF) team reached the accident site and recovered the dead bodies. All the 07 occupants on board received fatal injuries. The aircraft caught fire and was destroyed during the accident.

1.2 Injuries to Persons

Injuries	Crew	Passengers	Others
Fatal	01	06	Nil
Serious	Nil	Nil	Nil
Minor/None	Nil	Nil	Nil

1.3 Damage to aircraft

The helicopter was destroyed in the accident. Only some part of the helicopter wreckage could be recovered. Details of helicopter damages are given in para 1.12 of this report.

1.4 Other damage

There was no other damage.

1.5 Personnel Information

1.5.1 Pilot Information

Date of Birth	11 April 1986
License	CPL (H)
Date of Issue	29 Oct 2024
Valid up to	28 Oct 2034
Date of Class I Medical Exam.	18 Dec 2024
Class I Medical Valid up to	17 Jan 2026
Date of issue of Flight Radio Telephone Operator's Licence (FRTOL)	22 Apr 2024
FRTOL Valid up to	21 Apr 2034

Endorsements as Pilot-In-Command (PIC)	Bell 407, DHRUV
Total flying experience	2086:37 Hrs
Total flying experience on type (Bell 407)	144:57 Hrs
Last Flown on type	14 June 2025
Total flying experience during last 1 year	173:07 Hrs
Total flying experience during last 6 Months	150:37 Hrs
Total flying experience during last 90 Days	142:55 Hrs
Total flying experience during last 30 days	71:05 Hrs
Total flying experience during last 07 Days	12:25 Hrs
Total flying experience during last 24 Hours	03:25 Hrs
Rest period before flight	16:35 Hrs
Whether involved in Accident/Incident earlier	No
Date of latest Flight Checks and Ground Classes	29 April 2025 & 04 April 2025

The pilot started flying in the Kedarnath valley since the start of the Chardham Operations that year i.e. from 02 May 2025. Prior to this, the pilot was not having any previous experience of flying in the Kedarnath Valley. The high altitude (above 10,000 feet) release check for the pilot was carried out on 29 April 2025 with a DGCA approved type rated examiner.

1.6 Aircraft Information

1.6.1 General Description: Bell 407 Helicopter

The Bell 407 is a high-performance, single-engine, four-bladed light helicopter, developed by Bell Helicopter Textron, and based on the Bell 206 L-4 Long Ranger. The helicopter is certified under the normal category for both Category A and Category B operations. It seats up to seven occupants. Its features include a composite main rotor system and equipped with the Rolls-Royce 250-C47B turboshaft engine with FADEC. Initially designed for Visual Flight Rules (VFR), modern variants support Instrument Flight Rules (IFR) when equipped accordingly.

Performance and Weight Limits

- Max Takeoff Weight (Internal Load):
 - 2,268 kg (5,000 lbs) standard
 - 2,381 kg (5,250 lbs) with kit 407-706-020
- Max Takeoff Weight (External Load):
 - 2,722 kg (6,000 lbs)
- Max Operating Altitude:
 - 20,000 ft pressure altitude at or below 2,268 kg
 - 10,000 ft density altitude above 2,268 kg

Dimensions

- Total Length (rotors turning): 41.40 ft (12.62 m)
- Fuselage Length: 34.20 ft (10.42 m)

- Width: 7.25 ft (2.21 m)
- Height: 10.18 ft (3.10 m)
- Main Rotor Diameter: 35.00 ft (10.67 m)
- Tail Rotor Diameter: 5.42 ft.

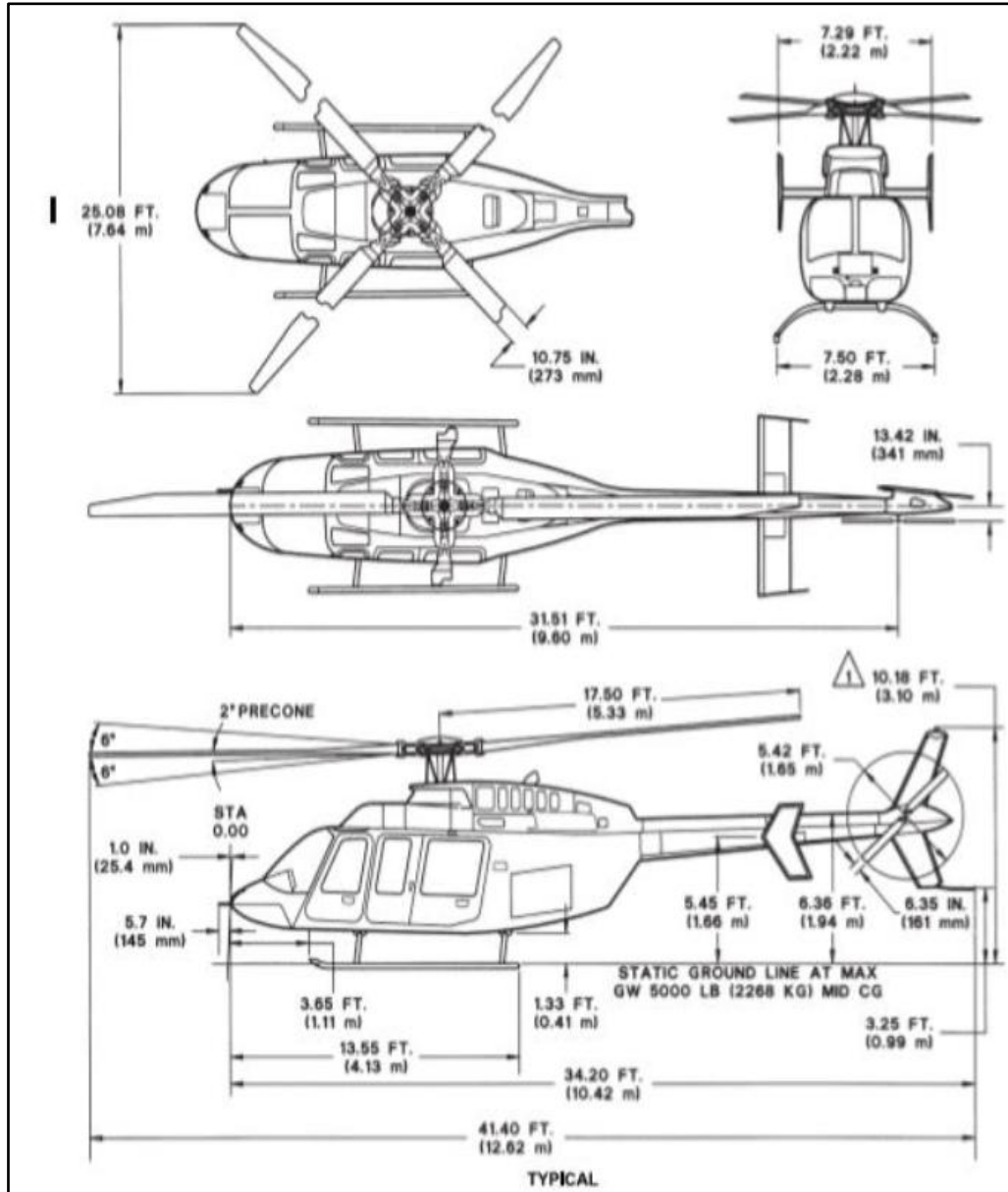


Figure 1 Principal Dimensions of Bell 407 Helicopter.

Construction

- Fuselage:
 - 3 Sections (Forward, Intermediate, and Tailboom)
 - Forward Section is major load carrying elements of the forward cabin and is made up of aluminum honeycomb & carbon graphite.
 - Intermediate Section is a semi-monocoque structure which uses bulkheads, longerons and carbon fibre composite side skins.

- Tailboom is of aluminum monocoque construction which transmits all stresses through its external skins.
- Transmission System
 - Made up of a top support case and lower case which contains an input pinion and bevel gear arrangement, a planetary gear train, and an accessory gear drive. Its integrated oil system provides lubrication for transmission, mast, and freewheel unit.
- Main Rotor System
 - Four-bladed, soft-in-plane composite hub
 - hub contains a glass/epoxy composite yoke for flapping. It has Elastomeric bearings and dampers as well as droop/flap/lead-lag stops.
 - Blades are of composite design utilizing a glass/epoxy spar, glass/epoxy skins, and a nomex core afterbody
- Tail Gearbox:
 - 90° bevel gear system with self-contained lubrication
- Tail Rotor System
 - Is a two-bladed teetering rotor
 - Location at Left side of tailboom, clockwise rotation (viewed from left)
- Landing Gear: Skid-type
- Flight Controls
 - Consist of cyclic, collective, and anti-torque controls which are hydraulically boosted
- Engine: Rolls-Royce 250-C47B
 - Type: Free-turbine turboshaft with FADEC
 - Compressor: Single-stage centrifugal
 - Gas Generator: Two-stage turbine
 - Power Turbine: Two-stage, gas-coupled
 - Combustion: Single chamber with single injector and igniter
 - Output: Splined shaft below engine centerline, upward exhaust
- Engine Lubrication System
 - Dry sump with External tank, oil cooler (aft fuselage), gear-driven pressure & scavenge pumps
 - Pump Assembly: One pressure and four scavenge elements

1.6.2 VT-BKA Specific Information

Bell 407 helicopter VT-BKA S/N 53832 has been manufactured on March 2008. The helicopter is operated by M/s Aryan Aviation Pvt. Ltd. Certificate of Registration No. 3884/5, under Category 'A' which was issued on 23-12-2008. The Certificate of Airworthiness No. 5093 was issued under normal category sub-division passenger issued by DGCA on 30.12.2008 and specifying minimum crew as one. The C of A was valid at the time of accident. ARC Ref No. 2024/DAW/RAC/000000572 and valid up to 09.10.2025. The maximum authorized all up weight is 2268 kgs. The aircraft was flown with

Aeromobile Licence No. A-109/WRLO-21 and valid up to 30.04.2026. This helicopter was operated under Non-scheduled operator's permit No. 13/2009 and is valid up to 07.04.2029. Bell 407 helicopter VT-BKA has logged 4548:16 A/F Hrs as on 14.06.2025.

Bell 407 helicopter and Engines are being maintained under continuous maintenance as per maintenance program consisting of calendar period-based maintenance and Flying Hours / Cycles based maintenance as per maintenance program approved by Office of The Deputy Director General of Civil Aviation (NR), New Delhi.

Accordingly, the last 300 Hrs/12 Months Airframe Major was carried out at 4347:42 A/F Hrs on 30-April-25. Subsequently all lower inspections, after last flight inspection and preflight checks were carried out as and when due before the accident.

The helicopter was last weighed on 26-Sep-23 at state government hangar, Sahasradhara, Dehradun, Uttarakhand and the weight schedule was prepared and duly approved by DAW, DGCA, New Delhi. As per the approved weight schedule the Empty weight is 1433 kg. Maximum usable Fuel capacity is 435.98 kg. Maximum permissible load with Fuel and Oil tank full is 427.02 kg for dual pilot and 347.32kg for single pilot. Empty weight CG is 3296.36 mm (Dual pilot) and 3304.08 mm (Single pilot) aft of datum. As there has not been any major modification affecting weight & balance since last weighing, hence the next weighing is due on 26.09.2028.

All the concerned Airworthiness Directive, Service Bulletins, DGCA Mandatory Modification on this helicopter and its engine have been complied with as & when due.

All inspections including Pre-flight, Transit and post flight and other higher inspections were carried out by M/S Aryan Aviation Pvt. Ltd. as per the manufacturer's guidelines specified in Flight Manual, Maintenance Planning Information (MPI) and as approved by the CAM (NR).

The last fuel microbiological test was carried out on 30-Apr-25 at recognized facility and the colony count was within acceptable limits.

ENGINES

The Bell 407 helicopter is fitted with single RR 250-C47B Turboshaft engines manufactured by Rolls-Royce. VT-BKA was fitted with Engine S/N CAE 848116. This Engine had logged with 4087:44 Engine Hrs and 5777 cycles.

ROTOR BLADES

The Bell 407 helicopter VT-BKA is fitted with four On-condition Main Rotor Blades. Details are as below:

S/N	PART NO.	SERIAL NO.	COMPONENT HRS
1	407-015-001-137	A-4180	4347:42
2	407-015-001-137	A-4119	4347:42
3	407-015-001-137	A-4182	4347:42
4	407-015-001-137	A-4117	4347:42

The status of all Airworthiness Directives as issued by DGCA through mandatory modification for helicopter including Main Rotor blades were also checked and found satisfactory.

There is no special maintenances programme applicable to Main Rotor Blades as it is covered with the helicopter maintenance programme.

1.7 Meteorological Information

1.7.1 MET Information

There is no MET facility available in the Kedarnath Valley, however, there is an Automated Weather Instrument (AWI) installed at Shri Kedarnath Ji Helipad which provides live weather information and is connected to a computer. The weather information is not recorded by any means; however, the screenshot of this computer is shared periodically in the common WhatsApp group of the operators by one of the security personnel of UCADA. The instrument provides information about winds, visibility, temperature, pressure, humidity, dew point, etc., however, it does not provide any information about clouds. Scrutiny of the WhatsApp group messages revealed that on the day of accident, the weather information at the time of operating the first flight was not shared in the WhatsApp group. On enquiring about the same it was informed that as a practice this information is usually provided later in the day.

The METARS for Delhi, Bareilly and Dehradun are available and passed on daily along with the flight clearances. The METAR issued for VIBY (Bareilly Airport) for 0400 IST on 15 June 2025 is as given below: -

Time (IST)	Wind (°/Kts)	Visibility	Cloud	Temperature/ Dew Point	QNH	Trend
0400	060/03 KT	6000 M	SCT030/SCT100	31°C / 26°C	0997	NOSIG

1.7.2 Assessment of local weather through CCTV footage

In addition to the Automated Weather Instrument available at Kedarnath Helipad, the local weather i.e. visibility/cloud cover for shuttle operations in Kedarnath Valley is determined by CCTV footages being installed in various locations in the valley. The operators observe the weather through three live camera feeds which shows the weather at Valley Entry Point, Rudra Point (Lincholi) and Shri Kedarnathji (near helipad). The live feeds from these three cameras are available with the operator and accordingly the pilots decide on the viability of the shuttle sorties. To assess the local weather during the time of accident, the CCTV footages of these three cameras for 15 June 2025 was recovered by the investigation team. The CCTV footages gave valuable input for determining the prevailing visibility in the valley during the time of accident. Scrutiny of the CCTV footages revealed that during the return leg of these helicopters, the valley exit point was covered with clouds. The other two helicopters which were behind VT-BKA exited the valley at a lower altitude by avoiding the clouds.

1.8 Aids to Navigation

Apart from standard instrumentation, the Bell 407 helicopter has GPS onboard for navigation.

1.9 Communications

There is no established Air Traffic Control in the valley. Blind RT calls, with position reports, are given by the pilots and monitored from the bases on Icom sets on the VHF frequency of 122.9 MHz, subject to reception of these calls. As per the statement of the other two pilots who were behind VT-BKA in sequence, the pilot of VT-BKA was maintaining the RT calls as per the SOP and the last call out given by the pilot of VT-BKA was "9200, unable to see ahead turning right" when the helicopter was at Kedarnath valley exit point. Thereafter, there was no call made by the helicopter VT-BKA even after number of attempts made by other two helicopters.

1.10 Aerodrome Information

Kedarnath Helipad is located in District Rudrapur, Uttarakhand at an altitude of 11000 feet near Kedarnath Shrine. The helipad is used primarily for seasonal shuttle operations during Kedarnath Yatra, which happens during the months of May-June and Sept-October every year. The helipad is maintained by UCADA. The co-ordinates of Helipad are N 30° 43' 53", E 079° 04' 00". The helipad dimensions are 30 X 45 mtr. The Take-off and approach path is along the valley and one way approach and reciprocal take-off is available.

The helipad at Shri Kedarnath comprises of two helipads for simultaneous operation by helicopters. At a given time, ideally, one helicopter is taking off, one is on the helipad, and two are on the final approach to land. There is sufficient space ahead of the helipads for any emergent requirement to switch off, leaving the helipads clear for continued operation.

The operations are carried out as per a Joint SOP approved by DGCA. As per the SOP operator is required to have an independent Helipad meeting the guidelines of CAR 4/B/V for Helipads in Regular Use. Aryan Aviation operates from their Helipad located at Guptkashi at an elevation of 4600 ft. The Co-ordinates of Guptkashi Helipad are N 30° 32' 23", E 079° 04' 43". The Take-off and Approach Direction is 150°/280°. Helipad Dimension is 65X29 Mtr.

1.11 Flight Recorders

The helicopter did not have any CVR or DFDR fitted on board. The helicopter was not required to be equipped with any Flight Recorders as per the prevailing regulations.

1.12 Wreckage and Impact Information

1.12.1 Helicopter Wreckage

The helicopter was maintaining an altitude of approximately 9000 feet altitude (as required by the SOP) and crashed into the mountain on the right side of its flight path near the Kedarnath valley exit point. The accident site was at an ariel distance of about 5.65 Nm from the Kedarnath helipad on radial 32.1°. The co-ordinates of the accident site were 30° 38' 59.0" N, 79° 00' 35.0" E with elevation of 9051 feet. The helicopter impacted the terrain and caught fire. The wreckage parts were found scattered but were confined to the main wreckage area.

Most of the helicopter wreckage parts such as cockpit, cabin section, main rotor blades, etc were destroyed and found burnt. Some of the airframe parts such as cockpit doors, cabin doors and the tail boom were recovered from the accident site and shifted to Dehradun for further examination.

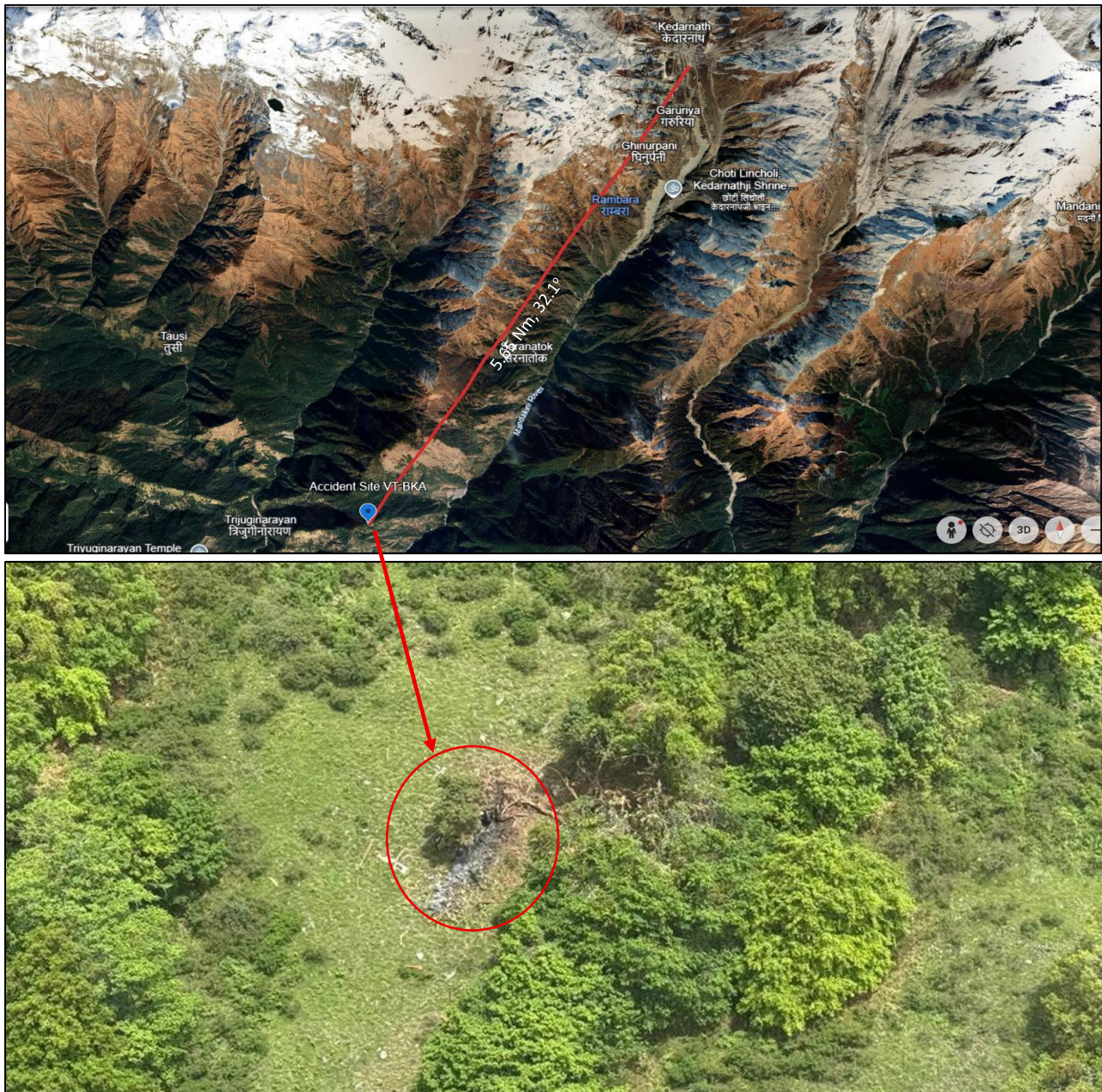


Figure 2 Aerial view of the accident site and its location in respect of Kedarnath helipad.

1.12.2 Damage to the Helicopter

Some of the recovered helicopter wreckage parts were visually examined with the assistance of Technical Advisor from the OEM i.e. Bell Textron inc. Some of the salient observations during the visual examination of these components are appended below.

Airframe

- The cockpit doors and cabin doors recovered from the site were found fractured in multiple locations.

- The tail boom was the major part recovered and suffered major impact damages on its right side.
- The tail boom was found fractured at mid-point aft of the tail boom attachment and the horizontal stabilizer.
- The tail rotor gearbox support casting fractured at the tail boom joint attachment.
- The tailboom had an impact damage to the right side behind the horizontal stabilizers.
- The left stabilizer and the finlet were found intact.
- The right stabilizer had a large impact damage on its leading edge. The finlet fractured horizontally about mid-point from the bottom and was twisted/delaminated.
- The vertical fin had a large impact damage on its lower leading edge with deformation of the shape towards the right.
- The stinger was intact and no damage was found.

Tail rotor and drive system

- The tailboom tail rotor driveshaft was mostly present with its driveshaft cover. The mid driveshaft had some impact marks and was deformed.
- The hanger bearings were rotating so was the tail rotor gearbox.
- The tail rotor gearbox chip detector didn't reveal any presence of metal and was clean.
- The oil color was normal.
- The tail rotor gearbox separated at the disc attachment (input quill) and at the gearbox support casting due to impact forces.
- The aft fuselage driveshaft separated at the oil cooler blower and was fractured on its aft end. No pre-impact anomalies were found with the portion that was assessed.

Flight Controls

- The pilot's tail rotor control pedals separated from the airframe.
- The control tube connecting horizontally from the pedals to the 1st bellcrank fractured about 4-5 inch from the rod end connection due to overload.
- The pilot cyclic was twisted to the left and fractured at the base.
- The collective control fractured at the base and was on bare metal without the throttle control present.
- The tailboom tail rotor control tube had fractured both forward and aft at corresponding tailboom fractures location.
- The control tube had a deformation, similar to the tailboom shape to the right of the aircraft.

- The tail rotor pitch change mechanism operated normally with corresponding movement of the tail rotor.
- One tail rotor pitch link was deformed but was otherwise connected to the tail rotor.



Figure 3 Tail Section recovered from the Accident Site

Some of the photographs of the wreckage at the accident site is enclosed in “Appendix A” of report.

1.13 Medical and Pathological Information

PIC had undergone Breath analyser test for alcohol in the morning before start of operations and the result was satisfactory. As per the post mortem report, the cause of death of pilot was mentioned as “Based on the available remains and circumstances, cause of death cannot be ascertained with certainty, however, the findings are consistent with death due to multiple injuries and extensive burns sustained in a helicopter crash”

1.14 Fire

The helicopter was engulfed in fire after the accident. The accident site was at top of a hill at the middle of a jungle and was not easily accessible. Owing to difficult terrain and adverse weather, by the time the local villagers and subsequently the rescue team reached the site, the wreckage got burnt significantly before the fire could be extinguished.

1.15 Survival Aspects

As per the factual information provided in the above para 1.14, the accident was not survivable.

1.16 Tests and Research

Nil

1.17 Organizational and Management Information

1.17.1 Aryan Aviation Private Limited

M/s Aryan Aviation Pvt Ltd Limited (AAPL) operates under Non-Schedule Operator's Permit (NSOP) No. 13/2009 valid up to 07/04/2029.

The Company is headed by two Directors, assisted by a team of professionals of various departments. The Flight Safety Department is headed by Chief of Flight Safety approved by DGCA. The Safety Manager in the company reports directly to the Directors.

M/s Aryan Aviation Pvt Ltd Limited has following fleet of aircraft:

- 01 Bell 407
- 01 AS 365 N2 Dauphin Helicopter
- 01 AS 355 N Ecureuil Helicopter
- 02 Stemme S6 RT Motor Gliders

M/s Aryan Aviation Pvt Ltd, also engages in charters for providing helicopter services to clients. It provides helicopter services at high altitudes for the pilgrims visiting Shri Kedarnath in Uttarakhand.

1.17.2 Uttarakhand Civil Aviation Development Authority (UCADA)

Uttarakhand Civil Aviation Development Authority was established by the Government Order No. 106/PG/2013 dated 30 May 2013 of Transport and Civil Aviation Section-2 of Uttarakhand Government. The authority is constituted as an autonomous body and its structure is as follows: -

- Civil Aviation Minister, Uttarakhand - Ex-officio Chairman
- Chief Secretary, Government of Uttarakhand - Ex-officio Vice President
- Principal Secretary/Secretary Civil Aviation Department- Ex-officio Chief Executive Officer
- Principal Secretary/Secretary Finance, Tourism, Industrial Development, Transport and Personnel- Ex-officio Member
- Representative of the Director General of Civil Aviation, Government of India as Special Commissioner with the permission of the chairman.
- Additional Chief Executive Officer appointed by the Government - Member Secretary

As per procedure, the operators are being awarded the tender based on bidding process. All helicopter operators submit their tender and the L1 are being selected through bidding process. M/s Aryan Aviation Pvt. Ltd. was one of such bidders who was awarded the tender for the operations. The tender was valid for period of 3 years from 2023-2025.

As on date of accident, the technical surveillance/inspection were carried out by DGCA. UCADA only carries out administrative inspections which includes facilities at helipads, facilities/arrangements for passengers, etc. However, whenever there is any kind of observation on operations/technical aspects they intimate it to DGCA for further necessary action.

As per the procedure being followed every season, the operations in the Char Dham sector (including shuttle service in Kedarnathji) every season is started only after the inspection/surveillance of DGCA is carried out and UCADA ensures that the observations therein are actioned. They also carry out inspection in-between during the operations to check if the requirements are maintained. Most of the requirement has been made part of the DGCA circular in this regard which was in force as on date of accident.

1.17.3 Directorate General of Civil Aviation (DGCA)

DGCA has issued Civil Aviation Requirements (CARs) on different subject for compliance of concerned operators and stakeholders. Apart from CARs, DGCA also issues circulars in order to issue regulatory requirements/guideline which requires immediate compliance for safe operations. Earlier, there was no regulatory requirements/guidelines issued by DGCA for Char Dham operations including Kedarnathji Shuttle operations. The operations in the valley were conducted as per a joint SOP formulated in this regard. However, the SOP was later amended and re-issued as a DGCA operations circular in the year 2023 after an accident which occurred in Kedarnath in October 2022 i.e. at the end of the 2022 season and subsequently in April 2023 i.e. at the start of the next season. The salient SOPs as defined in the circular is given below.

1.17.3.1 DGCA Operations Circular 02 of 2023

DGCA has issued an operations circular 02 of 2023 regarding “Conduct of Helicopter Pilgrimage Operations” dated 24th February 2023 which was applicable as on date of the accident.

The circular has been issued keeping in view that most of the pilgrimage shrines are located in the hills where the weather conditions change rapidly including sudden clouding and/or precipitation. These operations are undertaken from various Govt owned/privately owned helipads to shrine helipads owned or managed by the respective Shrine Board/District Administration. The circular lays down the responsibilities of the helicopter operators and certain guidance/guidelines to respective Shrine Boards/District Administration to ensure safe and smooth operations. The said circular is applicable to all Helicopter Operators and State Administration/Shrine Boards involved with the conduct of helicopter operations for the purpose of various pilgrimages/seasonal operations in India.

Appendix B of the said circular provides SOP for shuttle flying operations for Kedarnathji. The Salient procedures laid down in the appendix are provided below: -

- All flying is to be conducted on standard altimeter setting of 1013.25 HPa.
- Operator Helipad to Kedarnath: After takeoff from respective helipad the helicopter is to climb so as to reach 8500 ft by valley entry. The helicopters shall maintain right side of the valley and give standard calls at reporting points. There are few helipads / open spaces enroute to make emergency landing in case of an exigency. On reaching Sonprayag the helicopter will turn to the right and follow the valley past Gaurikund till it reaches Shri Kedarnath helipad. The helicopter is to positively achieve 9000 Feet by Gaurikund and 10000 Feet by Bhimballi. The helicopter will then continue climb towards Lincholi and thereafter make a visual approach and land at Shri Kedarnath helipad.

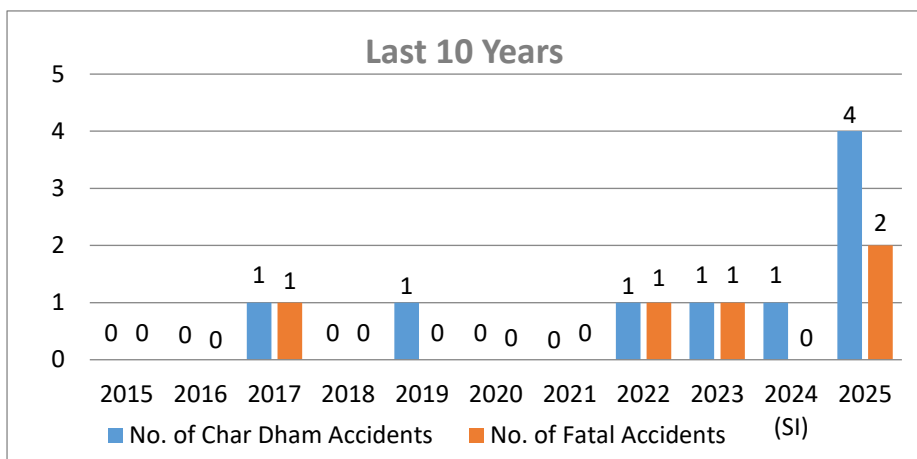
- Kedarnath to Operator Helipad: The return path is through the same valley ensuring a comfortable speed during descent and maintain minimum 10500 Feet at Bhimballi and 9500 Feet at Gaurikund and vacating the valley at 9000 Feet. Thereafter turn left and maintain on right side of valley, the helicopter shall not descend below 7500 Feet till it has positively crossed Mike. This is to ensure separation from inbound traffic airborne from Sersi and Sitapur.
- Number of Helicopters: There shall not be more than 04 helicopters at any given time flying within the Kedarnath Valley. A maximum of 06 helicopters may be airborne provided spacing is ensured in a manner so as to have only 04 helicopters in the Kedarnath Valley.
- Stagger Plan: UCADA shall provide to operators block operating hours, extending from sunrise to half an hour before sunset, to ensure only six helicopters are operating within the block for Kedarnath operations. The stagger plan shall ensure equitable distribution of operators from each cluster / location. Stagger will be followed by operators to ensure only four helicopters (2 inbound and 2 outbound) are operating within the Kedarnath valley at any one time.
- R/T Calls: All helicopters operating in the valley shall operate on 122.9 MHz (Main) and 122.7 MHz (Stby) frequency, and give the following mandatory R/T calls (Informatory blind transmissions): -
 - Before Start Up – For e.g. “VT-XYZ Starting Up at xxxx Helipad Gupkashi for Kedarnath”.
 - Before Take-Off – For e.g. “VT- XYZ taking off from xxxx Helipad Gupkashi for Kedarnath”.
 - Abeam Pinnacle Helipad – For e.g. “VT- XYZ abeam Pinnacle, xxxx ft Climbing” (give current flight altitude passing through)
 - Abeam UT/Prabhatam Helipad Phata – For e.g. “VT- XYZ abeam Phata, xxxx ft Climbing”.
 - Abeam Himalayan Helipad Sersi – For e.g. “VT- XYZ abeam Mike, xxxx ft Climbing”.
 - Before commencing reciprocal turn at 7000 Feet (This call is only for helicopter airborne from Sitapur / Sersi Helipad) – For e.g. “VT- XYZ carrying out reciprocal turn and joining climbing route pattern, 7000 Feet”.
 - Abeam Entry to Kedarnath Valley – For e.g. “VT- XYZ entering Valley, 8500 ft”.
 - At Gaurikund – For e.g. “VT- XYZ abeam Gaurikund, 9000 ft Climbing”.
 - At Bhimballi – For e.g. “VT- XYZ abeam Bhimballi, 10000 ft Climbing”.
 - At Lincholi – For e.g. “VT- XYZ abeam Lincholi, xxxx ft Climbing”.
 - On Finals at Kedarnath – For e.g. “VT- XYZ Finals for Kedarnath”.
 - Before Take-Off from Kedarnath – For e.g. “VT-XYZ taking off Kedarnath”.
 - At Garudchatti – For e.g. “VT-XYZ abeam Garudchatti, xxxx ft Descending”.
 - At Bhimballi – For e.g. “VT-XYZ abeam Bhimballi, 10500 ft Descending”.

- At Gaurikund – For e.g. “VT-XYZ abeam Gaurikund, 9500 ft Descending”.
- At Exit from Valley – For e.g. “VT- XYZ Exiting Valley, 9000 Feet”.
- Abeam Himalayan Helipad Sersi – For e.g. “VT- XYZ abeam Mike, 7500 ft Descending”.
- Abeam UT/Prabhatam Helipad Phata – For e.g. “VT- XYZ abeam Phata, xxxx ft Descending”.
- Abeam Pinnacle Helipad – For e.g. “VT-XYZ abeam Pinnacle, xxxx ft Descending”.
- On Finals - For e.g. “VT- XYZ on finals for xxxx Helipad, Guptkashi”

1.18 Additional Information

1.18.1 Accidents in Char Dham Sector

In the recent past there have been number of helicopter accidents in the Char Dham sector.



The investigation team analysed the accident data of last ten years i.e., from the year 2015 to 2025. It was observed that there has been a total of 09 occurrences including 08 Accidents and 01 Serious Incident in the Char Dham sector during this period.

Figure 4 Number of accidents in Char Dham from year 2015 to 2025

The investigation team analyzed the following aspects in these accidents:

- Accidents (Fatal & Non-Fatal) in the Char Dham sector.
- Probable cause/Contributory factor(s) leading to these accidents.

Out of these 08 accidents, 05 accidents were fatal. There was no accident in 2015 & 2016 as the Char Dham operations during that time were very limited. From the year 2017 to 2019 there were 02 accidents out of which 01 was fatal. In the year 2020 & 2021, the operations were very limited owing to COVID-19 protocols and no accidents were reported during this period. However, from the year 2022 onwards there has been atleast 01 accident/serious incident every year. The occurrence in the year 2024, was classified as serious incident. In the last year i.e. 2025 there were 04 accidents reported which is the maximum number of accidents occurred in a single year and that too within the month of May & June. Out of these 04 accidents, 02 accidents were fatal in nature.

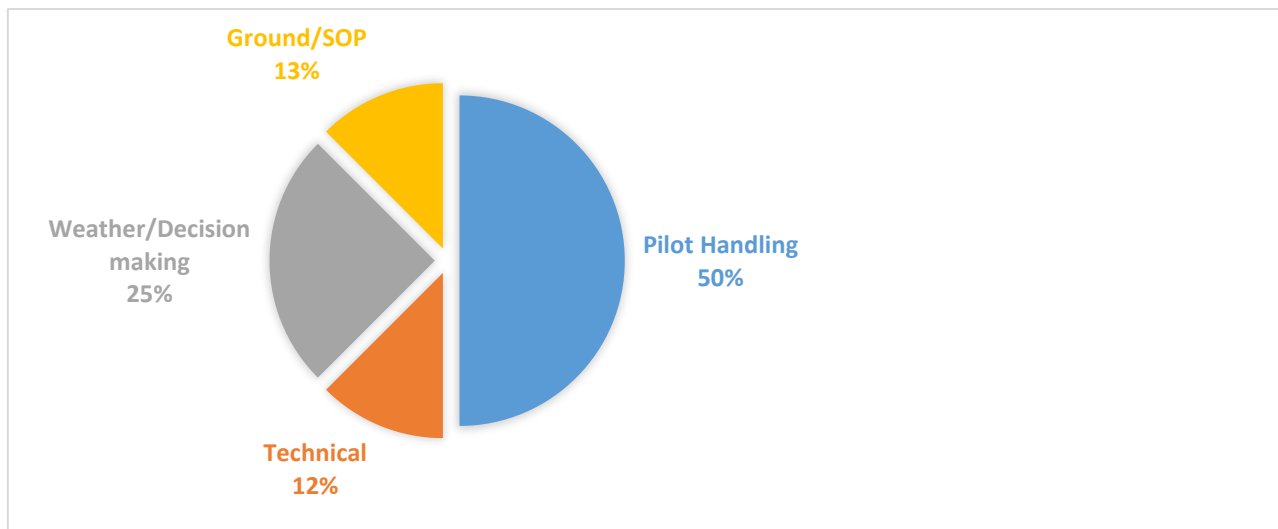


Figure 5: Probable Cause/Contributory Factors of Char Dham accidents

Probable cause/contributory factor(s) of these accidents were analyzed to understand the nature of these accidents. It was observed that most of these accidents occurred due to non-adherence to SOP associated with handling of the helicopter by the crew and their decision making during adverse conditions such as weather/high altitude operations. (Refer Figure 5).

1.19 Useful or Effective Investigation Techniques

NIL

2. ANALYSIS

2.1 Aircraft Serviceability

The aircraft had a valid C of A and ARC as on date of accident. The last Airworthiness Review Certificate (ARC) was issued on 09 Oct 2024 at 4202:36 airframe hours and was valid up to 10 Oct 2025. Scrutiny of Log books revealed that as on 15 June 2025 i.e. before operating the accident flight, the helicopter had accumulated a total of 4548:16 hrs (Time Since New) and the engine had accumulated 4087:44 Hrs (Time Since New).

The last major airframe inspection carried out was 300 Hrs/12 Months at 4347:42 airframe hours on 30 April 2025. The last major engine inspection carried out was 150 Hrs /12 Months engine inspection at 3984:27 engine hours on 29 May 2025.

Scrutiny of the aircraft records revealed that ADs, SBs and all mandatory modifications were compiled with as on date of accident. Further, scrutiny of the technical logbook revealed that there was no defect pending on the helicopter before operating the flight and the helicopter was not released under MEL on 15 June 2025.

Further, no abnormality on the aircraft was reported by the pilot during the entire flight and no distress call was made. This was also corroborated with the CCTV footages installed at various locations in the valley which captured the part of helicopter flight in the valley including at Guptkashi helipad from where the helicopter took-off and Kedarnath helipad where it landed and subsequently took-off. No abnormality was observed in the helicopter attitude in any of the available footages.

From the above, it is concluded that the serviceability of the aircraft was not a contributory factor to the accident.

2.2 Weather

As on date of accident, all the helipads in the valley including Kedarnath and Guptkashi were uncontrolled helipads wherein no dedicated MET facility was available. In the absence of MET facility, as a practice, the METARS for Delhi, Bareilly and Dehradun were taken and passed on daily along with the flight clearances. However, there is a considerable difference in weather in the valley to that of Delhi, Bareilly or even Dehradun. In order to have actual real-time weather in the valley, various arrangements were made such as an Automated Weather Instrument was installed at Shri Kedarnath Ji Helipad along with installation of CCTV cameras in various locations in the valley. But these arrangements also have limitations. The Automated weather instrument provides information about winds, visibility, temperature, pressure, humidity, dew point, etc., however, it does not provide any information about clouds. The screenshot of the weather information is generally shared in the WhatsApp group periodically for information of all operators operating the shuttle operations in the valley. Scrutiny of the WhatsApp group messages revealed that on the day of accident, the weather information at the time of operating the first flight was not shared in the WhatsApp group. On enquiring about the same it was informed that this information is usually provided later in the day.

In addition to the Automated Weather Instrument available at Kedarnath Helipad, the local weather i.e. visibility/cloud cover for shuttle operations in Kedarnath Valley is determined by CCTV footages being installed in various locations in the valley. The operators observe the weather through three live camera feeds which shows the weather at Valley Entry Point, Rudra Point (Lincholi) and Shri Kedarnathji (near helipad). On the day accident, before operating the first flight, the operator and subsequently the pilot assessed the live feeds through these cameras and decided that the weather is conducive to operate the shuttle flights. The operator uses online platform to refer the sunrise timings and as per the information provided online, the sunrise timing for the day of accident was recorded to be 0510 IST. Apart from the operator, two other helicopters belonging to another operator also decided to start the shuttle operations from sunrise time.

The scrutiny of the CCTV footages by the investigation team revealed that at the time of helicopters entering the valley through the valley entry point clouds were started to build at the ridge of the hills, however, the flight path through the center was clear. However, the clouds at the valley exit point during this time started to building up at the top and was seen moving downwards at a faster rate, hence covering the flight path of the return leg of these helicopters which is 9000 feet. Accordingly, during the return leg of these helicopters, the valley exit point was covered with thick clouds and the valley beyond the exit point was not visible. This was consistent with the call out made by the pilot of VT-BKA who observed clouds at 9000 feet and decided to turn back. The same was also stated by the pilot of VT-TBF who was behind VT-BKA in sequence.

In view of the above, it is concurred that the clouds started to build up at the valley exit point and was coming down at a faster rate thereby blocking the standard return flight path of the helicopter.

This sudden build up of clouds at the valley exit point degraded the pilot's visual cues. Hence, the weather was a contributory factor to this accident.

2.3 Pilot qualification and decision making

2.3.1 Pilot qualification

The pilot had a valid license and rating as on date of accident. The pilot possessed all the required training/medical for operating the flight and were valid as on date of accident. The pilot was a CPL(H) holder qualified on type and had a total flying experience of about 2086:37 hours including about 144:57 hours on type.

The pilot was not having any previous experience of flying in the Kedarnath Valley where the weather is very dynamic and changes very frequently. The pilot started flying in the Kedarnath valley since the start of the Chardham Operations last year i.e. from 02 May 2025. The high altitude (above 10,000 feet) release check for the pilot was carried out on 29 April 2025 with a DGCA approved type rated examiner. Hence, the pilot was qualified to operate the flight on 15 June 2025 as per the DGCA requirements in place.

2.3.2 Decision making

Before operating the shuttle flight on 15 June 2025, the pilot had checked the real time weather through the live feeds available with the operator of the footages of CCTV cameras installed at three various locations in valley. As per the assessment of the pilot, the visibility and subsequently the cloud cover was found satisfactory to operate the shuttle flight. Accordingly, the pilot decided to operate the flight and took-off from the Guptkashi helipad for Kedarnath. The pilot made all the RT calls required as per the SOP during the flight. No abnormality call was reported by the pilot. As per the statement of the pilot operating helicopter VT-TBF who was behind VT-BKA in sequence, during the return leg i.e. Kedarnath to Guptkashi, when the helicopter VT-BKA reached Bhimballi, the pilot of VT-BKA gave a call "Bhim descending – clouding at exit seems to be lower now". On hearing this the pilot of VT-TBF made a call out 'Do not go above the clouds, exit below the clouds' which was acknowledge by the pilot of VT-BKA. However, when the aircraft VT-BKA reached near the valley exit point the pilot of VT-BKA called out "9200, unable to see ahead turning right". This was the last call made by the pilot of VT-BKA. The last call made by the pilot indicates that the pilot was maintaining the altitude of 9000 feet as required by the SOP and tried to navigate through the valley maintaining the same altitude without realizing that the clouds where descending at a faster rate and by the time, the pilot decided to turn, the helicopter VT-BKA had already entered into the clouds. The pilot then probably lost the visual cues and was disoriented. During the process of turning back, the helicopter VT-BKA impacted with the terrain i.e. impacted the hills on the right-hand side of the flight path at an altitude of about 9000 feet.

From the above, it is inferred that, the pilot's decision to continue and navigate the flight on the usual flight path even after observing the clouds ahead at the valley exit point and not deviating or delaying the turn back was the major contributory factor to the accident. The error in judgment of not realizing the faster descending clouds approaching the flight path can be attributed to pilot's limited experience of flying in the Kedarnath valley wherein the weather is very dynamic and changes very

frequently. Hence, for a pilot with limited flying experience in the valley (as in this case) can become challenging during the critical phases of flight specially while encountering adverse weather conditions as the shuttle operations in the valley are mostly single pilot operations.

2.4 Char Dham helicopter accidents

The investigation team analysed the accident data of last 10 years i.e., from 2015 to 2025 involving helicopter operating at Char Dham sector. It was observed that there has been sharp increase in accident rates in the recent past. A total of 08 accidents and 01 serious incident occurred in the Char Dham region during this period. Out of these 08 accidents there have been 05 accidents wherein fatalities were involved. During the year 2025, and within the month of May to June there have been 04 accidents reported out of which 02 (including this case) were fatal in nature.

Looking at the trend, it is observed that the most number of accidents including fatal accidents were attributed to pilot handling and decision making during adverse conditions. As most of these operations are single pilot operations, the pilots are entrusted with the responsibility of handling the role of Pilot flying as well as pilot monitoring. Apart from this, the pilot is to ensure that the weather update is also conveyed on RT. With frequent change in weather conditions in the valley this procedure of total dependency on pilots' perception cannot be relied on every time. This aspect was also brought out in the earlier accident investigations in the Char Dham sector conducted by AAIB. The responsibility of flying operations in the sector was fully entrusted to the individual operators and the pilots. There was no mechanism for supervision of these operations being carried out in the sector and there was no controlling of traffic. Further, most of these operations are being carried out on a smaller helicopter with no flight data recording medium like CVR, DFDR, etc. Hence, it is difficult to have a control or oversight by the DGCA in the absence of any recording media such as ATC tape, Surveillance Radar, etc.

Accordingly, AAIB gave safety recommendations to address these issues and to prevent re-occurrence of these type of occurrences. The safety recommendations pertained to setting up of MET facility in the valley, setting up of ATC control, licensing the helipads as there were regular operations for six months in the valley, etc.

In view of the safety recommendations issued by the AAIB, DGCA amended the earlier existing joint SOP for Char Dham operations and thereafter re-issued these SOPs in the form of Operations Circular 02 of 2023 dated 24 February 2023. However, some of the issues raised by AAIB in their report were not addressed in the said Circular. The circular was again amended recently on 11 September 2025 owing to series of accidents within a span of two months between May & June 2025. The amendments catered for most of the safety recommendations issued by AAIB. The circular now covers some of the aspects required for enhancing the safety oversight by DGCA and also for improving safety of flying operations in the valley as they will have more resources to supervise/oversight of the flying operations in the valley. The amended circular provides provision of establishing a Control Center at Sitapur area by UCADA for the safe and efficient control of shuttle flying operations for Shri Kedarnath Yatra. It is mentioned that the Control Center shall be manned during the conduct of flying operations by a suitably qualified Control Center In-Charge (to be

deputed by UCADA) who shall be responsible for the safe conduct of flying operations. The Control Center In-Charge shall be assisted by an Air Traffic Controller (to be deputed by AAI) and a Meteorological Officer (to be deputed by IMD). However, there is no requirement laid down in the circular for supervision of this control center by DGCA. Also, there is no mention of any recording media of the RT calls made by the control center. Hence, the communication between the control center and the pilot becomes that much important. A recording medium for recording the conversation between the control center and the flight crew will further enhance the safety of operations in the valley and its oversight. This aspect is not covered in the said circular issued by DGCA.

2.5 Circumstances Leading to the Accident

The pilot was qualified to operate the flight and met the minimum requirements as laid down in the relevant DGCA CAR to undertake the shuttle flight in Kedarnath valley. The pilot started flying in the Kedarnath valley since the start of the Chardham Operations in the year 2025 i.e. from 02 May 2025. The Kedarnath valley where the weather is very dynamic and changes very frequently possesses different challenges compared to other regions. Hence, limited experience of operating in such conditions impacts the decision making of a pilot in critical phases of flight even though the pilot met the minimum requirements to undertake the shuttle flights in the Kedarnath valley.

In the morning of 15 June 2025, based on the assessment made by observing the video feeds from the valley it was decided to start the shuttle operations from sunrise time which on that day was reported to be 0510 Hrs IST for Guptkashi. Accordingly, the pilot carried out pre-flight inspections which was satisfactory and no abnormality was reported. The helicopter took-off from Guptkashi and landed at Kedarnath uneventfully. The helicopter then took-off from Kedarnath and approached towards the valley. The flight until this point was uneventful. The pilot had made all the call outs on RT as per the standard procedures. No distress call was made by the pilot or any abnormality was reported during the entire flight.

When the helicopter reached Bhimballi, the pilot observed the clouds at the valley exit point were descending and approaching the flight path and accordingly made a call on RT 'Bhim descending – clouding at exit seems to be lower now'. On hearing this the pilot of VT-TBF who was behind VT-BKA made a call out 'Do not go above the clouds, exit below the clouds' which was acknowledge by the pilot of VT-BKA. However, the pilot instead of deviating from the flight path or turning back the helicopter, continued the flight maintaining the standard route and altitude of 9000 feet as defined in SOP. The pilot tried to navigate through the clouds and could not judge the fast-approaching clouds towards the flight path. By the time, the pilot decided to turn back, the pilot had already entered the clouds and was disoriented due to loss of any visual cues. This was evident from the last call the pilot made by the pilot which was "9200, unable to see ahead turning right". During this process the helicopter impacted the terrain on the right side and immediately caught fire. As the location of the accident site was not easily accessible and by the time the local villagers and the rescue team reached there, the helicopter was burnt substantially and all the occupants received fatal injuries.

3. CONCLUSION

3.1 Findings

- 3.1.1 The Certificate of Airworthiness, Certificate of Registration and Airworthiness Review Certificate of the helicopter were valid on the day of accident.
- 3.1.2 The load & trim for the first flight was prepared and the C.G was within the limits.
- 3.1.3 There was no reported snag pending on the helicopter prior to the accident.
- 3.1.4 The helicopter VT-BKA was maintained as per the laid down procedures in maintenance manual.
- 3.1.5 The pilot was qualified and met the minimum requirement criteria to operate the flight as per the requirement specified in DGCA CAR Section 8, Series O, Part IV.
- 3.1.6 The pilot did not had prior experience of flying in the Kedarnath valley and started flying in the valley from the start of the season on 02 May 2025. The dynamic nature of weather phenomenon in the Kedarnath valley and its topography requires special skill and adequate experience to carry out single pilot operations.
- 3.1.7 On the day of accident, the operator was given the first slot in the morning and accordingly they decided to operate the shuttle from sunrise which as per online platform reported to be 0510 Hrs IST.
- 3.1.8 The weather assessed through the CCTV video feeds in the valley were found conducive by the operator and the pilot to start the operations.
- 3.1.9. No abnormality was reported in the aircraft by the pilot after the pre-flight inspections or during the entire flight till accident.
- 3.1.10. The pilot made all the RT calls during the flight as required by the SOP.
- 3.1.11. From the CCTV feeds, it was observed that the clouds started to build up at the valley exit point and was descending fast towards the return flight path of the helicopter.
- 3.1.12 The pilot observed the descending clouds at the valley exit point when the helicopter reached Bhimballi and made a call out on RT.
- 3.1.13 The pilot maintained the altitude of 9000 feet as required by the SOP and tried to navigate through the clouds near valley exit point maintaining the same altitude. In this process, the pilot lost visual cues and got disoriented. The pilot having no visual cues probably tried to make a right turn to land back at Kedarnath during which it impacted the terrain on the right side of the flight path.
- 3.1.14 The helicopter got engulfed in fire after impact and all the seven occupants received fatal injuries.
- 3.1.15 Owing to difficult terrain, the local villagers and the rescue team could not reach the accident site in time.

3.1.16 Based on the safety recommendations issued by AAIB through its earlier investigation of accidents in the Char Dham sector, DGCA issued operations circular 02 of 2023. The circular was later amended in September 2025 owing to series of accidents last year in the sector to improve the safety standards and minimize the re-occurrence of accidents/incidents in the sector. However, it did not cater for requirements for oversight of DGCA on the established control center at Sitapur and also regarding recording media of the RT calls made by the control center.

3.2 Probable Cause of the Accident

The accident occurred as the crew could not assess the fast-descending clouds towards the flight path thereby continued the flight wherein it got disoriented and impacted the terrain on the right side. The deviation from the track was probably due to the pilot attempted a turn back to Kedarnath with no visual cues.

The following factors contributed to the accident: -

- The sudden buildup and faster descending clouds.
- Crew decision to continue the flight on the same route/altitude and not deviating or turning back in time even after observing the buildup and fast approaching clouds.
- Limited flying experience in Kedarnath valley.

4. SAFETY RECOMMENDATIONS

4.1 There is a requirement to look into the specific experience/skill possessed by the individual pilot before they are released for the first time for operating in the critical high-altitude operations like that of Kedarnath valley wherein single pilot operations are carried out. The dynamic nature of weather phenomenon and the topography in such region requires special skills along with adequate experience of flying in the valley. Hence, it is recommended that DGCA may consider amending the specific requirements as laid down in the DGCA CAR Section 8, Series O, Part IV to include the requirement of minimum 50 hrs of dual sorties with an experienced pilot in hill operations before a pilot is released for hill flying as single pilot operations for the first time in the valley/region.

4.2 A control center has been set up in Sitapur to manage the traffic in the Kedarnath Valley. The two-way communication will be carried out by RT set as per the requirement stipulated in DGCA Operations circular 02 of 2023 which was recently amended aftermath of recent accidents in the valley. However, the circular did not cater for requirement of oversight of DGCA on the established control center at Sitapur and also regarding recording media of the RT calls made by the control center & helicopters. Hence, it is recommended that DGCA may include the provisions of oversight of the established control center in the said circular and direct UCADA to make necessary arrangements for recording the RT communication between controller and

flight crew which can be utilized for proper supervision during audits/surveillance and can be a critical evidence for investigating any safety related occurrences.

Date: 13 October 2026

Place: New Delhi

PHOTOGRAPHS OF WRECKAGE AT ACCIDENT SITE.



Figure 6 Wreckage completely burnt



Figure 7: Burnt Engine



Figure 8: Separated Tail Boom