

الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY



Air Accident Investigation Sector

Accident

- Preliminary Report -

AAIS Case N°: AIFN/0011/2023

Helicopter Crash Overwater

Operator: Aerogulf Services Co (L.L.C)
Make and Model: Bell B212
Nationality and Registration: The United Arab Emirates, A6-ALD
Place of Occurrence: ARAS driller rig, Umm Al Quwain
State of Occurrence: The United Arab Emirates
Date of Occurrence: 7 September 2023



Occurrence Brief

Occurrence Reference:	AIFN/0011/2023
Occurrence Classification:	Accident
Name of the Operator:	Aerogulf Services Co (L.L.C)
Manufacturer:	Bell Textron Inc.
Aircraft Model:	B212
Engines:	Twin-Engines PT6T-3B Pratt & Whitney Canada
Nationality:	The United Arab Emirates
Registration Marks:	A6-ALD
Manufacturer Serial Number:	30809
Year of Manufacture:	1976
Time Since New (flight hours):	27,850.70
Cycles Since New:	31,591
Type of Flight:	Non-revenue training flight
State of Occurrence:	The United Arab Emirates
Place of Occurrence:	ARAS Rig, Umm Al Quwain
Date and Time:	7 September 2023, 16:06 UTC
Total Crewmembers:	Two pilots
Total Passengers:	None
Injuries to Passengers and Crew:	Two pilots (fatal)
Other Injuries:	None
Nature of Damage:	Destroyed

Investigation Objective

This Investigation is being conducted pursuant to the United Arab Emirates (UAE) *Federal Act No. 20 of 1991*, promulgating the *Civil Aviation Law, Chapter VII- Aircraft Accidents*, Article 48. It is in compliance with the *Air Accident and Incident Investigation Regulation (AAIR), Chapter 3*, and in conformity with *Annex 13* to the Convention on International Civil Aviation.

The sole objective of this Investigation is to prevent aircraft accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

The information contained in this Preliminary Report is derived from the data collected during the ongoing investigation of the Accident. Later interim statements, if any, or



the Final Report may contain altered information in case of appearance of new evidence during the ongoing investigation.

Investigation Process

The Air Accident Investigation Sector (AAIS) of the United Arab Emirates was notified about the Accident at 1654 UTC. The Occurrence was notified by Safety Manager, Aerogulf Services, to the AAIS Duty Investigator (DI) hotline number +971506414667.

The occurrence was classified as 'Accident' and the AAIS assigned an Accident Investigation File Number AIFN/0011/2023 for the case.

The AAIS formed the Investigation team led by the investigator-in-charge (IIC) and members from the AAIS for different investigation areas. The National Transportation Safety Board (NTSB) of the United States, being the State of the Manufacture and Design, and the Transportation Safety Board of Canada, being the State of Manufacture of the engines, were notified of the Accident and both States assigned accredited representatives assisted by advisers from Bell Textron Inc. and Pratt & Whitney. In addition, the Operator assigned an adviser to the IIC. The AAIS is leading the Investigation and will issue a Final Report.

This Preliminary Report is publicly available at:

<http://www.gcaa.gov.ae/en/epublication/pages/investigationReport.aspx>

Notes:

1. Whenever the following words are mentioned in this Report with first Capital letter, they shall mean the following:
 - (Accident) - this investigated Accident
 - (Helicopter) - the helicopter involved in this Accident
 - (Investigation) - the investigation into the circumstances of this Accident
 - (Pilot in Command) - the commander of this Accident flight
 - (Report) - this Preliminary Report
 - (Second in Command) - the copilot of this Accident flight.
2. Unless otherwise mentioned, all times in this Report are UTC time. Local time in the United Arab Emirates is UTC plus 4 hours.
3. Photos and figures used in this Report are taken from different sources and are adjusted from the original for the sole purpose to improve the clarity of the Report. Modifications to images used in this Report are limited to cropping, magnification, file compression, or enhancement of color, brightness, contrast, or addition of text boxes, arrows or lines.



Abbreviations

AAIR	<i>Air Accident and Incident Regulation</i> of the United Arab Emirates
AAIS	The Air Accident Investigation Sector of the United Arab Emirates
ADF	Automatic direction finding
AOC	Air operator certificate
ARAS	ARAS driller rig site
ARC	Airworthiness review certificate
ATC	Air traffic control
ATIS	Automatic terminal information system
ATPL-H	Air transport pilot license-Helicopter
CAT I	Category operations
CSI	Cycles since installed
CSN	Cycles since new
CSO	Cycles since overhaul
FC	Flight cycles
FH	Flight hours
FMS	Flight management system
GCAA	The General Civil Aviation Authority of the United Arab Emirates
GPS	Global positioning system
ICAO	The International Civil Aviation Organization
IIC	Investigator-in-charge
ITT	Interstage turbine temperature
METAR	Meteorological terminal air report
MSN	Manufacturer serial number
NTSB	The National Transportation Safety Board of the United States
OM-D	<i>Operations manual – part D</i>
OMDW	ICAO code of Al Maktoum International Airport (known also as Dubai World Central)
PF	Pilot flying
PM	Pilot monitoring
QRH	<i>Quick reference handbook</i>
RA	Radio altimeter
RO	Radio operator
SOP	Standard operating procedures
TAF	Terminal aerodrome forecast
TSB	The Transport Safety Board of Canada
TSI	Time since installed
TSN	Time since new



TSO Time since overhaul
UTC Coordinated universal time
VOR Very high frequency omnidirectional radio range



Table of Contents

Occurrence Brief	ii
Investigation Objective	ii
Investigation Process	iii
Abbreviations	iv
Table of Contents	vi
List of Figures.....	vii
List of Tables.....	vii
1. Factual Information.....	1
1.1 History of the Flight	1
1.2 Injuries to Persons	2
1.3 Damage to Helicopter.....	2
1.4 Other Damage.....	2
1.5 Personnel Information	2
1.6 Helicopter Information	3
1.6.1 General data.....	3
1.6.2 Engine data	3
1.7 Meteorological Information	4
1.7.1 OMDW weather report.....	4
1.7.2 ARAS rig weather report (Umm Al Quwain)	5
1.8 Aids to Navigation	5
1.9 Communications	6
1.10 Helideck Information.....	6
1.11 Flight Recorders.....	6
1.12 Wreckage and Impact Information.....	7
1.13 Medical and Pathological Information.....	8
1.14 Fire.....	8
1.15 Survival Aspects.....	8
1.16 Tests and Research	8
1.17 Organizational and Management Information.....	8
1.18 Additional Information.....	9
1.18.1 Training of Flight Crew Policy	9
1.18.2 Syllabus of training for Night Operations to offshore helipads	9
1.18.3 The flight purpose	9
1.19 Useful or Effective Investigation Techniques	9
2. Ongoing Investigation Activities	10
3. Safety Concerns and Actions.....	10



List of Figures

Figure 1: The Helicopters' flight path for the three landings	1
Figure 2: Underwater wreckage recovery	7
Figure 3: Wreckage recovered (cockpit and main transmission gear).....	8

List of Tables

Table 1. Flight crew data	2
Table 2. Helicopter data	3
Table 3. Engine data	4
Table 4. Terminal aerodrome forecast (TAF).....	4
Table 5. ARAS rig weather report.....	5
Table 6. Helicopter navigation aids.....	5

1. Factual Information

1.1 History of the Flight

On 7 September 2023, an Aerogulf Bell Textron Inc. (Bell) B212 Helicopter, registration marks A6-ALD, was scheduled for a non-revenue training flight for night operations to offshore helideck under call sign Alpha Lima Delta (ADL).

The Helicopter took off at 1518 UTC from runway 30 of Al Maktoum International Airport (OMDW), Dubai, the United Arab Emirates, for the offshore ARAS driller rig located in Umm Al Quwain. There were two flight crewmembers onboard.

The Commander occupied the left seat and took the responsibility of pilot monitoring (PM), whereas the Copilot was the pilot flying (PF) from the right seat.

The Helicopter climbed to 1,100 feet and proceeded towards ARAS rig as per the *flight operational plan (OFP)*. At 1530, the Commander communicated with the radio operator, who operates from the radio station located on the rig and provided an estimated time of arrival at 1549. Furthermore, the PM communicated that the Helicopter was operating at a height of 1,000 feet above ground level (AGL), and there were two pilots on board with remaining fuel of 2 hours 30 minutes. The radio message was acknowledged by the radio operator.

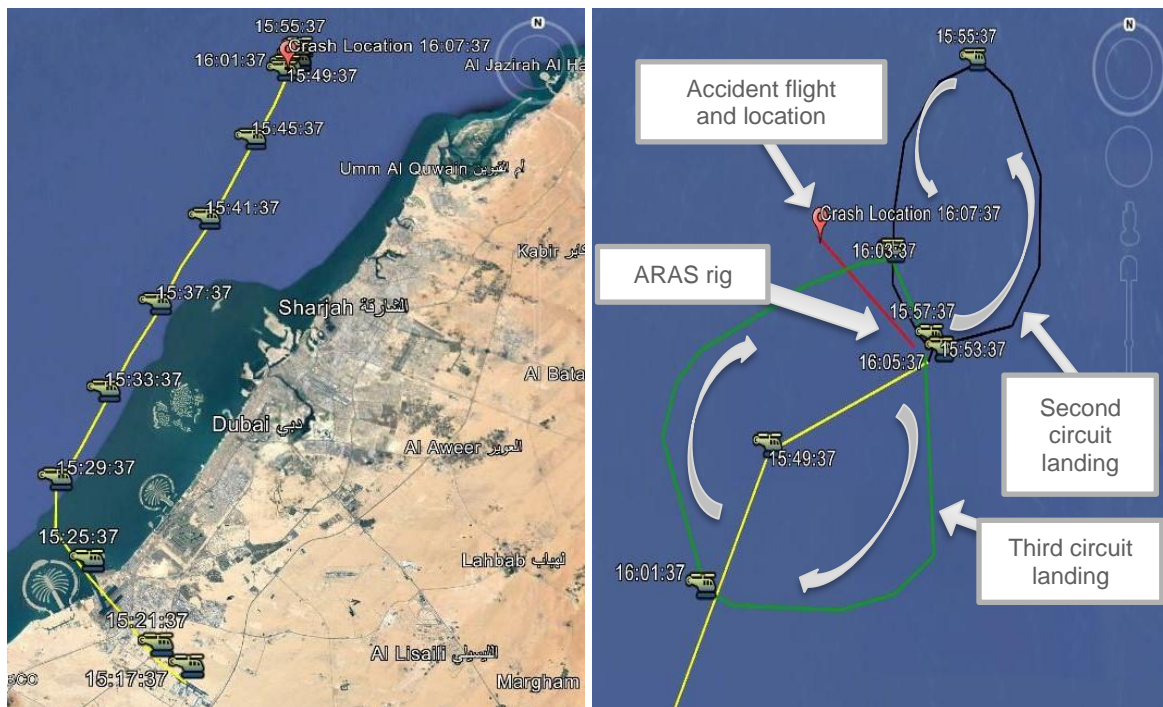


Figure 1. The Helicopter's flight path for the three landings

During his second call at 1538, the PM informed the radio operator that they were 10 minutes away from landing, and he asked for the latest weather information. The radio operator passed on the weather conditions, reporting a variable windspeed ranging from 7 to 9 knots coming from the 60 degrees, visibility between 7 to 8 knots, and 1002 millibar air pressure.

At 1546, the PM contacted the radio operator once more, informing him that they were two minutes away from landing. In reply, the radio operator confirmed the information by stating "green deck", which refers to the ARAS rig helideck designated for landing helicopters.



At 1550, the Helicopter landed at the rig helideck, heading southeast. Thereby the crew have successfully completed the initial landing procedure as one of five landings on the helideck according to the *OFP*.

After the first landing, the Helicopter took off again at 1552 and started a north-eastern direction. Within three minutes, the Helicopter turned back and descended for a second landing, heading southeast similar to the previous landing. Later, at 1559, the Helicopter took off once more, and the crew performed a second circuit around the rig before landing again at 1603 for the third time, heading southeast.

At 1605, the Helicopter took off and changed heading for 180 degrees northwest and continued the flight. One minute later, at 1606, the Helideck Landing Officer (HLO) contacted the radio operator reporting that the Helicopter with the registration ALD had crashed approximately 600 meters away from the rig in the northwest direction.

At 1608, the radio operator promptly notified the management and initiated a distress call for search and rescue.

1.2 Injuries to Persons

The two flight crewmembers were fatally injured.

1.3 Damage to Helicopter

The Helicopter was destroyed due to impact forces.

1.4 Other Damage

There are no other damages.

1.5 Personnel Information

The flight crew data is illustrated in table 1 below:

Table 1. Flight crew data		
	Commander	Copilot
Age	57	52
Type of license	ATPL-H	ATPL-H
Valid to	9 December 2025	22 October 2027
Rating	B212/B412/AWS169	B212/412
Total flying time (hours)	9,011.2	7,030.5
Total last 90 days (hours)	210.5	190.1
Total last 7 days (hours)	5.4	3.1
Total last 24 hours (hours)	2	0
Last proficiency check	17 June 2023	3 March 2022
Medical class, validity	Class 1, 30 September 2023	Class 1, 16 February 2024
Medical limitation	VDL	VNL

Both flight crewmembers possessed a valid air transport pilot license for helicopters (ATPL-H) issued by the General Civil Aviation Authority of the United Arab Emirates (GCAA). Additionally, their instrument rating (IR) was also valid.



Both flight crewmembers possessed a valid class 1 aviation medical certificate. The Commander (who was the trainer and the PM), had a diagnosed vision limitation requiring correction for distant vision (VDL). Additionally, the Copilot (who was the PF), had a diagnosed vision limitation requiring correction for near vision (VNL).

1.6 Helicopter Information

1.6.1 General data

Tables 2 illustrates the Helicopter general data.

Table 2. Helicopter data	
Manufacturer	Bell Textron Inc
Model	B212
MSN	30809
Year of manufacture	1976
Nationality and registration marks	United Arab Emirates, A6-ALD
Name of the owner	Aerogulf Services Co (LLC)
Name of the Operator	Aerogulf Services Co (LLC)
Certificate of registration	
Number	04/86
Issuing authority	GCAA
Issuance date	16 September 186. Reissued on 15 August 2000
Certificate of airworthiness	
Number	AGS/09
Issuing authority:	GCAA
Issuance date	Original issue date: 14 September 1987. Reissued on: 2 May 2013
Airworthiness review certificate (ARC):	Issued on: 27 January 2023 Expires on: 1 February 2024
Time since new (hours)	27,850.70
Cycles since new	31,591
Last major inspection check, type, date and hours/cycles	600 Hours/12 Months Inspection, done on 19 June 2023 (at 27,846.2 hours, 31,574 cycles)
Time since last major inspection	4.5
Cycles since last major inspection	17
Last inspection, type, date and hours/cycles:	25 Hours/7 Days Inspection
Maximum take-off weight: (pounds)	11,410
Zero fuel weight (pounds)	7,742
Fuel capacity (pound)	1,600 lb
Take-off weight (from OMDW)	9,342 lb

1.6.2 Engine data

Tables 3 illustrates the engine data.



Table 3. Engine data		
Engine manufacturer	Pratt & Whitney Canada	
	No.1 engine	No.2 engine
Model	PT6T-3B	PT6T-3B
Serial number	TB0117	63621
Date installed	6 February 2023	7 September 2020
Time since new (hours)	9,439.9	10,797.6
Cycles since new	30,345	45,152
Time since last inspection (hours)	76.7	814.9
Cycles since last inspection	149	1,426

1.7 Meteorological Information

1.7.1 OMDW weather report

The terminal aerodrome forecast (TAF), which covered a period of 30 hours duration, was provided by OMDW. Typically, the Operator's dispatch office at OMDW obtains the weather information ahead of flights. The crew usually receives updates on the weather from the radio operator stationed at the rig. This operator operates a specialized weather station located on the rig itself. The TAF report is illustrated in table 4.

Table 4. Terminal aerodrome forecast (TAF)	
Validity	07-Sep-2023 1200 UTC to 08-Sep-2023 1800 UTC
OMDW TAF	TAF OMDW 071100Z 07120818 32015KT 3000 DU NSC BECMG 0712/0714 7000 NSW BECMG 0715/0717 06007KT BECMG 0801/0803 16015KT PROB30 0803/0806 16020G30KT 3000 BLDU BECMG 0809/0811 33015KT BECMG 0815/0817 08006KT
Surface wind	NW'LY 15KT, BECOMING NE'LY 07KY FROM 1500Z-1700Z TODAY BECOMING SSE'LY 15KY FROM 0100Z-0300Z FRIDAY, 30% PROBABILITY OF SSELY 20KT GUSTING UP TO 30KT BETWEEN 0300Z-0600 FRIDAY BECOMING NW'LY 15KT FROM 0900Z-1100Z FRIDAY BECOMING E'LY 06KT FROM 1500-1700Z-FRIDAY
Visibility	3000M BECOMING 06-10 KM FROM 1200Z-1400Z TODAY 30% PROBABILITY OF 3000 M BETWEEN 0300Z-0600Z FRIDAY
Weather	DUSTY BECOMING FINE FROM 1200Z-1400Z TODAY 30% PROBABILITY OF BLOWING DUST BETWEEN 030-0600Z FRIDAY
Cloud	NIL SIGNIFICANT
Temperature	MIN TEMPERATURE 30° C AROUND 0200Z FRIDAY MAX TEMPERATURE 43° C AROUND 1000Z FRIDAY
Humidity	MAX HUMIDITY 75% AROUND 0200Z FRIDAY MIN HUMIDITY 20% AROUND 1000Z FRIDAY
Wind Shear	NIL SIGNIFICANT
Temperature	NIL SIGNIFICANT



Inversion	
Comments	NIL

Based on TAF, the weather report indicates that at the time of departure from OMDW, the prevailing wind was forecasted to be 17 knots, blowing from 320 degrees. Visibility was 3,000 meters, and there was no significant weather forecasted. An hour later, between 1200 and 1400 UTC, visibility was forecasted to improve to 7,000 meters, and there was no significant weather forecasted. For the following two-hour period (1500 to 1700 UTC), the TAF predicted a shift in wind direction of 60 degrees, at 7 knots speed. The weather information after 1700 UTC was not relevant to the Accident.

1.7.2 ARAS rig weather report (Umm Al Quwain)

The weather information of Umm Al Quwain-3, on 7 September 2023, at 1800 LT (1400 UTC), is illustrated in table 5.

Wind	8-10 knots/32 degrees variable
Visibility	5-6 nautical miles
Temperature	32°C
QNH	1001 hPa

The weather information received from the Umm Al Quwain-3 radio station, which was transmitted at 1800 local time, showed that the wind speed varied between 8 and 10 knots, blowing from 032 degrees. The visibility was measured to be between 5 and 6 nautical miles, and the temperature was 32°C. The barometric pressure was 1001 hectopascals (hPa).

1.8 Aids to Navigation

The ARAS rig radio operators (employed at the jack-up) monitors all helicopters operating in their field under the callsign 'ARAS DRILLER'. The flight safety information provides notifications or alerts regarding the functionality of non-directional beacon (NDB) or automatic direction finder (ADF). There were no other navigational aids available at the rig.

The Helicopter was fitted with global positioning system (GPS), very high frequency omnidirectional radio range (VOR), instrument landing system (ILS) receiver, and distance measuring equipment (DME) receiver, ATC transponder, weather radar, auto direction finder, flight data computer and autopilot (Heli-pilot) computer as mentioned in table 6.

Equipment name	Manufacturer	Model
GPS	Garmin	GPS MAP 296
VOR & ILS	Sperry	NR 106A
DME	Bendix King	KN 63
ATC transponder	Bendix King	KT 76A
Weather radar	Bendix King	RDR 2000
Auto direction finder	Bendix King	KDF 805
Fight data computer	Bendix King	FZ-701
Heli-pilot computer	Honeywell	SP-711



1.9 Communications

All communication between air traffic control and the Helicopter was recorded by a ground-based voice recording equipment for the period between departure from OMDW at 1458 until 1522. However, ARAS rig did not have an equipment to record the communication between the radio operator and the Helicopter.

The Investigation will analyze the recoded voice in the Final Report.

1.10 Helideck Information

ARAS rig is located in Umm Al Quwain, the United Arab Emirates, at about 18 nautical miles from Sharjah coast. Its location coordinates are 25°40'57.36" N 055°22'05.10" E. The landing mark is heading 60 degrees. The helideck height is 134 feet and the air gap is 74 feet.

1.11 Flight Recorders

The Helicopter was not equipped with a flight data recorder (FDR) or cockpit voice recorder (CVR), and it was not required to be equipped with these recorders according to FDR/CVR relevant provisions in *CAR-OPS 3 – Commercial & Private Air Transportation (Helicopter)*, *Civil Aviation Regulations* of the United Arab Emirates. These provisions were not applicable to the Helicopter since it had been issued its first certificate of airworthiness (C of A) before the date of the applicability date stated thereon. The Helicopter first C of A date of issue was on 14 September 1987.

Alternatively, the Helicopter was equipped with a monitoring recording device (Altair system), which monitors exceedances of some parameters at a rate of 5 times per second (except the interstage turbine temperature 'ITT' which is measured at a rate of 50 times per second). This is all downloaded when there is an exceedance indicated, when the memory light on the device indicates the memory is full, or at the 200-hour scheduled inspection. The following are the parameters recorded in this system:

- Outside air temperature
- Airspeed
- Altimeter
- Engines 1 and 2 compressor shaft speed (N1), and power turbine speed (N2)
- Rotor speed (revolution per minute 'RPM')
- Engines 1 and 2 torque
- Engines 1 and 2 interstage turbine temperature (ITT)
- Alternative current (AC) bus voltage
- Combined torque
- Static pressure.

The Altair system recording device (Smartcyclic+) was found in the recovered wreckage and is currently under repair to retrieve data. The Investigation is in touch with the devise manufacturer to assist in the repair and data retrieve.

The Helicopter was also equipped with Skytrac system (DSAT 300E) portable transceiver device, which transmits the Helicopter position coordinates, altitude, and speed every two minutes.

The Investigation has received the Skytrac parameters data that is remotely transmitted and captured by the manufacturer.

1.12 Wreckage and Impact Information

At 1609, the radio operator promptly informed the National Search and Rescue (SAR) center. Meanwhile, a rescue boat from the ARAS rig was sent to the anticipated water impact location to search for the two pilots. The ARAS rescuers could not find the pilots, but they could only identify a life raft that had inflated with some wreckage pieces attached to it.



Figure 2. Underwater wreckage recovery

The SAR rescue team reached the site in about 45 minutes after they were notified. The team swiftly initiated operation within the designated area. About 1 hour 20 minutes after the initial notification, a SAR helicopter arrived at the site. Equipped with powerful high beam focus lights fitted on it, the SAR helicopter conducted an intensive survey of the anticipated site. At the same time, the SAR rescue boat gathered all floating debris, which encompassed a small part of the Helicopter.

The following day after the Accident, the search operation resumed, but no traces of the wreckage were found. On the day after that (9 September), the SAR team discovered a significant amount of wreckage pieces that were scattered across two separate locations, approximately 100 meters apart. (Figure 2)

Later, the SAR team managed to successfully recover additional parts of the wreckage, including the cockpit, the main transmission gear, and various structural pieces (figure 3). The search efforts are still underway, and a detailed analysis of the relevant parts' examinations will be included in the Final Report.



Figure 3. Wreckage recovered (cockpit and main transmission gear)

1.13 Medical and Pathological Information

One of the pilots' bodies was located next day of the Accident (8 September 2023), whereas the body of the other pilot was found two days later. The Investigation requested the forensic pathologist to collect samples of body fluids and specimens from the main organs' tissues for further analysis. The purpose of this analysis is to identify any substances that could have affected the pilots' performance, determine if there were any pre-existing medical conditions that may have impaired their performance, and explore potential bio-engineering clues that could provide insights about their state at the impact.

1.14 Fire

As per the statement of the ARAS rig HLO, he witnessed a small fire after witnessing the Helicopter oscillating and diving towards the sea. He stated that the flame disappeared within seconds. However, there was no traces of fire identified on the wreckage pieces recovered so far.

1.15 Survival Aspects

Will be discussed in the Final Report.

1.16 Tests and Research

Will be discussed in the Final Report.

1.17 Organizational and Management Information

Aerogulf Services Co (LLC) was founded in Dubai in 1976 as a commercial helicopter operator and aviation maintenance facility. It specializes in providing aerial operations for offshore oil platforms in the emirate of Dubai. The company holds an air operator certificate (AOC) No. AC-0003 issued by the GCAA to perform helicopter commercial operations in



accordance with *operations manual* and the *Civil Aviation Regulations* of the United Arab Emirates.

The Final Report will provide additional details about the organizational aspects.

1.18 Additional Information

1.18.1 Training of Flight Crew Policy

The *operations manual-part D (OM-D)*, states that:

“It is a company policy that every pilot who may be required to fly offshore at night, completes an initial night competency check appropriate to their role. This requirement exceeds the Civil Aviation Regulations-Air Operations (CAR-AIR OPS) competency requirements. A night check is administered by a designated Training Captain.

A separate night check is required for each helicopter type flown offshore at night. After the initial night check, flight crew will keep their night recency using a FFS or the real aircraft completing 3 night take off, each followed by a traffic pattern and a subsequent landings every 90 days. This 3 takeoff and Landing are also covering the 90 days recurrency requirements.”

1.18.2 Syllabus of training for night operations to offshore helipads

OM-D also states:

“The night offshore training should cover the items listed in the table below as applicable to the type of operation, and type of helicopter. For offshore pilots the night check must include at least 3 approaches and landings on an offshore platform. Where possible at least one approach and landing should be made to both a fixed structure and a movable rig or ship.”

The syllabus outlines the following topics based on the phase of the flight and the associated item:

- Preflight: Night weather considerations and flight planning
- Circuit: Basic night circuit, let-down to circuit height, use of flight management system (FMS)/GPS, and use of flight director
- Approach and Landing: Knowledge of night approach profile, crew brief, approach path and speed, landing, overshoot/go-around, and PM duties on final approach.
- Takeoff: Take-off brief, cockpit checks/setup, take-off procedure, transition to circuit, departure en-route
- General: Airmanship/decision-making, crew resource management, PM duties, use of aircraft equipment, ATC liaison, and R/T operations and content.

1.18.3 The flight purpose

As per the *OFP*, the nature of the flight was a non-revenue training flight. As per the statement of the Operator’s Safety Manager, the flight objective was to renew the Copilot’s recency on night operations in accordance with *OM-D*.

1.19 Useful or Effective Investigation Techniques

The techniques employed during this Investigation will be outlined in detail in the Final Report.



2. Ongoing Investigation Activities

The search efforts are currently underway to locate the main components that are still submerged underwater. Special focus is being given to finding the engines, main rotor, tail rotor, and tail rotor shaft. Once all or part of the remaining wreckage is located, the Investigation plans to conduct a forensic examination of these components in collaboration with both the Helicopter and engine manufacturers.

The Investigation plan is as follows:

- Continue the efforts to locate and recover the main parts from underwater
- Analyze the Helicopter's maintenance history
- Analyze the Helicopter's performance
- Review the human factors aspects based on the available data
- Review the organizational aspects
- Identify any other safety issues that may arise during the course of the Investigation.

All relevant factual information and its associated analysis, conclusions, and safety recommendations will be included in the Final Report.

3. Safety Concerns and Actions

To date, the Investigation had not identified any safety issues that necessitates a prompt rectification.

As a precautionary measure, the Operator has suspended all helicopter operations until further notice.

This Report is issued by:

**The Air Accident Investigation Sector
The United Arab Emirates**

P.O. Box 6558
Abu Dhabi, United Arab Emirates
E-mail: aai@gcaa.gov.ae
Website: www.gcaa.gov.ae