TITLE

GENERAL INFORMATION:

Name of Operator:	Air Services Limited
Aircraft Manufacturer:	Cessna Company
Aircraft Model:	Cessna U206F
Nationality and Registration Marks:	8R-GFM
Place of Accident/Region:	Near Mahdia Airstrip/Region#8, Guyana – 5 32 06.66N 59 28 05.52W
Date of Accident:	27th August 2017.
Time of Accident:	11:47hrs UTC

REPORT No. GAAIU 3/1/19

This investigation was conducted in accordance with ICAO Annex 13 and therefore, it is not intended to apportion blame, or to assess individual or collective liability. Its sole objective is to draw lessons from the occurrence which may help to prevent future accidents. Consequently, the use of this report for any purpose other than for the prevention of future accidents could lead to erroneous conclusions.

Note: - All times in this report are Coordinated Universal Time (UTC) unless otherwise stated. UTC is four hours ahead of Guyana Standard Time (GST).

CONTENTS:

GLOSSARY OF ABBREVIATIONS

AIP	-	Aeronautical Information Publication
AMO	-	Approved Maintenance Organisation
AOC	-	Air Operator Certificate
ASL	-	Air Services Ltd.
ATC	-	Air Traffic Control
ATS	-	Air Traffic Services
CO	-	Commanding Officer
DATCO	-	Duty Air Traffic Control Officer
EFCIA	-	Eugene F. Correia International Airport
ELT	-	Emergency Locator Transmitter
FIC	-	Flight Information Center
FOM	-	Flight Operations Manual
GAAIU	-	Guyana Aircraft Accident and Incident Investigation Unit
GARs	-	Guyana Aviation Requirements
GCAA	-	Guyana Civil Aviation Authority
GCARs	-	Guyana Civil Aviation Regulations
GDF SF	-	Guyana Defence Force Special Forces
ICAO	-	International Civil Aviation Organisation
MEL	-	Minimum Equipment List
OC	-	On-scene Commander
RCC	-	Rescue Coordination Center
SAR	-	Search and Rescue
SARSAT/COSPAS	-	Search and Rescue Satellite-Aided Tracking System to aid in the Search for Vessels in Distress.
SMC	-	SAR Mission Coordinator
S/N	-	Serial Number
TBO	-	Time before Overhaul
TSN	-	Time since New
TSO	-	Time since Overhaul
USMCC	-	United States Mission Control Center
VMC	-	Visual Meteorological Conditions

Synopsis:

The aircraft crashed while flying from Chi-Chi Airstrip (SYCC) to Mahdia Airstrip (SYMD).

The pilot, who was the sole occupant of the aircraft, died.

The aircraft was destroyed by the impact.

There was no fire.

1. Factual Information

1.1. History of the Flight

The aircraft left its base at the Eugene F. Correia International Airport, (EFCIA) Ogle on 26th August 2017, the day before the accident, to do a series of shuttles, in Region 8, between Mahdia and other airstrips in the area. Records indicate that eleven shuttles were done between 11:22hrs and 20:45hrs and the aircraft overnighted at Mahdia.

On 27th August 2017, the aircraft departed Mahdia Airstrip at 11:26hrs and proceeded to Chi-Chi Airstrip with a cargo of three drums of gasoline. A landing report for Chi-Chi was received at 12:12hrs. The aircraft departed Chi-Chi Airstrip at 12:17hrs with an estimated arrival time at Mahdia given as 12:47hrs.

The Distress Signal from this aircraft was detected by COSPAS/SARSAT at 13:08hrs, on 27th August and was relayed to the Aeronautical Information Service by the USMCC. This information was given to the Duty Air Traffic Control Officer (DATCO) in the Georgetown Flight Information Center (FIC).

1.2. Injuries to Persons

Table: 1- Showing Injuries to Persons

Injury	Crew	Passengers	Others	Total
Fatal	1	0	0	**1**
Serious	0	0	0	**0**
Minor/None	0	0	0	**0**
Total	**1**	**0**	**0**	**1**

1.3. Damage to aircraft

The aircraft was destroyed.

1.4. Other Damage

The trees and other foliage at the wreckage site were slightly damaged.

1.5 Personnel Information - Pilot

Gender:	Male
Date of Birth/Age:	22nd July 1975/42 years
Nationality:	Guyanese
License:	CA000289
Date of issue:	28th February 2011
Date of last medical:	12th June 2017
Valid until:	31st December 2017
Aircraft type rating:	C172, C206, C208,
Last Proficiency Check on Type:	28th July 2017
Total hours:	7072hrs(approx.)
Total Hours on Type:	4803hrs (approx.)
Hours in last 90 days:	305:23hrs
Hours in last 30days:	99:32hrs
Hours in last 7 days	22:59hrs
Hours in last 24 hours:	7:56hrs

There are no limitations on the pilot's Class 1 Medical, which is valid until 31st December 2017.

Company records indicate that the pilot had successfully completed recurrent Cessna 206 ground school on 8th February 2017 and company Emergency Equipment and Drills on 24th May 2017.

1.6 Aircraft Information

1.6.1 General

Manufacturer:	Cessna Aircraft Company
Year of Manufacture:	1972
Aircraft Model:	Cessna U206F
Aircraft S/N:	20601731
Certificate of Registration:	Issued – 24th October 1995
Certificate of Airworthiness:	Valid until 8th May 2018
Total Airframe Hours:	30352:28hrs
Maximum Take-off Weight:	3,800lbs

Last Scheduled Inspection:	50hrs
Time since last Inspection:	23:43hrs
Next Inspection Due:	100hrs
Engine Model:	TCM IO-520 F43B
Engine S/N:	1034005
Engine TSN:	405:30hrs
Propeller Type:	Hartzell PHC-C3YF-1RF/F8468A-6R
Propeller S/N:	EE3847B
Propeller TSO:	417:10hrs

The Cessna U206F is a six-seater single-engine general aviation utility aircraft. It is powered by a 285hp Continental IO-520 engine. It is equipped with a pilot side door and large clamshell rear door serving the two rows of seats at the rear of the aircraft. This allows easy loading of oversized cargo. The aircraft has a conventional tail unit and fixed tricycle landing gear.

1.6.2. Maintenance

Examination of the aircraft maintenance records indicates that there were no outstanding maintenance issues. All required and scheduled maintenance had been performed and all Airworthiness Directives had been complied with. There were no outstanding MEL items on the aircraft.

1.6.3. Mass and Balance

The aircraft departed Chi-Chi with three empty drums. The aircraft was not overweight.

1.7 Meteorological Information

This accident occurred in daylight. There is no weather observation or recording facility near to the location of the accident site. However, it was reported that, at this time of day, low-lying areas in the vicinity of the accident site would normally have lingering mist, which would clear as the day became warmer. On the day of the accident, it was reported that, at the time, the cloud over the wreckage was thicker than normal as it took longer to disperse.

1.8 Aids to Navigation

There are no aids to navigation along this route.

1.9 Communications

The frequencies available for communications between Air Traffic Services (ATS) and the aircraft are; 124.2MHz, 130.125MHz, 8855KHz and 6730.5KHz. There were no reported malfunctions of the aircraft or FIC communications systems at the time. There was no direct communication between the aircraft and ATC for the day. The previous takeoff and landing reports were relayed by the company.

1.10 Aerodrome Information

Not applicable

1.11 Flight Recorders

This aircraft is not required by regulation to be equipped with a flight recorder.

1.12 Wreckage and Impact Information

The wreckage was located in a very treacherous area that is considered to be inaccessible, except by the Guyana Defence Force Special Forces (GDF SF), who expended considerable effort to extract the pilot's body.

The GDF SF reported that it was apparent that the aircraft hit the mountain side at a 45° angle with the left side of the aircraft suffering the brunt of the impact. The nose of the aircraft was pointing upslope. The cockpit was completely smashed. The port wing was destroyed. The starboard wing was detached from the fuselage. The engine was separated from the rest of the aircraft and was found resting partially on the pilot's body, which was about ten to fifteen feet north of the aircraft.

1.13 Medical and Pathological Information

The pilot's body was examined by a Guyanese forensic pathologist. The post mortem report showed evidence of multiple blunt trauma to the body and evidence of crush injuries. The cause of death was stated as multiple injuries.

1.14 Fire

There was no fire.

1.15 Survival Aspects

The report from the crash site indicated that this accident was not survivable.

1.16 Tests and Research

No special tests or research were carried out.

1.17 Organisational and Management Information

1.17.1 Air Services Ltd.

Air Services Ltd (ASL) is a commercial aircraft operator that holds Guyana Air Operator Certificate # 001. It is primarily a domestic charter operator, with operations from its base at the EFCIA. The company operates a variety of aircraft including BN2A Islanders, Cessna Single Engine Variants, Turbo Thrush Commanders and helicopters. Only two management staff, the Operations Manager and the Chief Pilot, are named to manage the operations of all these aircraft.

At the time of this accident, the company's Flight Operations Manual (FOM) did not have any specific guidelines for its operations ground staff in relation to handling of overdue or missing aircraft.

The company also holds Guyana Approved Maintenance Organization Certificate #003. The AMO has the required management, supervisory and line staff to effectively carry out the tasks it undertakes and utilizes the AMEL system as the basis for maintenance certification. The maintenance facility is co-located with aircraft operations at the EFCIA and includes hangar space, offices, and several specialized workshops. Base and line maintenance are done on airframes, engines, avionics, instruments and propellers for aircraft below 5700kg. The company is approved to carry out these tasks on the various aircraft types they own.

1.18. Other Information

1.18.1. The Authority

The certifying authority for ASL is the Guyana Civil Aviation Authority (GCAA). The Authority's staffing and facilities for both operations and maintenance oversight of the company is satisfactory.

The GCAA is the aviation Search and Rescue (SAR) authority in Guyana. The Air Traffic Services (ATS) Division of the Air Navigation Services (ANS) Directorate of the GCAA is responsible for activation of the Rescue Coordination Center (RCC) through which the SAR service is provided.

1.18.2. Search and Rescue Operations

1.18.2.1. General

SAR operations is carried out on a 24 hours basis by the RCC which is located at the Timehri Control Tower Complex at the Cheddi Jagan International Airport (CJIA). Upon determination that an aircraft and its occupants are in an emergency and requires help, the Duty Air Traffic Control Officer (DATCO) in the Flight Information Center (FIC) should immediately activate the RCC and initiate SAR operations until relief is provided by a senior officer of the GCAA. This senior officer will assume the role of SAR Mission Coordinator (SMC) until the Director General of GCAA designates a SMC.

Depending on the scope of the search it may be necessary to establish a sub-base, headed by an On-Scene Commander (OC), who will coordinate operations between the sub-base and the RCC. Several other agencies comprise the SAR organization, including the Guyana Defence Force (GDF), local aircraft operators, Guyana Police Force, the Guyana Fire Service and the Ministry of Health, who are all expected to contribute their resources to the operation.

When it is confirmed that the aircraft and its occupants are in distress, the RCC will go straight into the Distress Phase and take actions in keeping with this phase to expedite relief to the victims.

1.18.2.2. ATS Report

ATS reported that the aircraft was on its second shuttle of the day, flying from Chi-Chi to Mahdia. The aircraft departed Chi-Chi at 12:17hrs and was estimated to land

at Mahdia at 12:47hrs. At 12:52hrs, ATS enquired from the company for a landing report, but the company had no information on the aircraft. At 13:08hrs, the first report about the possibility of the aircraft being in distress was received by the Aeronautical Information Service, from the USMCC. This Report indicated that the Distress Signal was detected by SARSAT11 from the 406MHZ emergency frequency and identified the ELT user as 8R-GFM. This message was relayed to the DATCO in the FIC. The RCC was immediately activated from the FIC. Several unsuccessful telephone calls were made. It was difficult to contact several persons because it was a Sunday. Between 13:08hrs and 13:15hrs, the RCC made several attempts to contact Force Control by telephone and Emergency Radio; and the GDF Air Corps and GDF Ops at Timehri. The aircraft operator was notified of the Distress message and was asked to provide the latest weather report for the area. The company provided the weather reported for 12:30hrs, which indicated bright sunshine, ceiling 2500ft, visibility 8km with mountains visible.

At 13:10hrs contact was established with the GCAA Flight Operations Inspector, who was advised of the Distress Message received from COPAS-SARSAT pertaining to 8R-GFM. He was asked to relay this information to the Director General. At 13:11hrs, two aircraft which were operating in the Mahdia area, were identified as assets and were requested to do aerial surveys in the general area, 05 17.3N 059 16.4W, identified by the COSPAS SARSAT message.

At 13:15hrs, the Supervisor of the Area Control Center reported that he assumed the role of Search and Rescue Mission Coordinator (SMC), thereby allowing the DATCO to concentrate on active traffic. At this time, the SMC contacted the Operations Officer of the GDF Air Corps and briefed him on the situation. He was requested to coordinate with other branches of the GDF. At 13:20hrs, The GDF Ops Officer informed the RCC that the Bell 206 helicopter (GDF1) and Special Forces were available and were preparing for deployment.

Between 13:33hrs and 13:45hrs, senior officials of the GCAA, including the Director General (DG), were updated on the situation. The DG informed the SMC that Air Services Limited will be providing transportation for Special Forces to Mahdia; he also informed that the GDF helicopter will be heading in to Mahdia from the GDF Headquarters, Camp Ayanganna.

At 13:40hrs, relief from active duty was provided for the DATCO in the Flight Information Center. However, he remained in situ, to assist with the SAR operation.

At 13:46, contact was established with Force control and a cell number for the Police Outpost at Mahdia was obtained. At 13:47, the Mahdia Police Outpost was contacted, and the Sergeant was briefed on the situation. He was requested to check if the aircraft had landed Mahdia. At 14:10hrs, the Police at the Mahdia Aerodrome reported that the aircraft did not land at Mahdia.

At 14:14hrs the first aircraft reported over the area of the wreckage, it was receiving the ELT signal. At 14:22hrs, this aircraft reduced the search area to a radius of 1NM. At 15:42hrs the crash site was identified and at 15:56hrs the downed aircraft was positively identified at the crash site, Coordinates 05 17.9N 059 16.9W.

At 14:30hrs, 13 GDF Special Forces (SF) soldiers had assembled at Timehri Control Tower and were awaiting transportation and clearance to be deployed. At 15:04hrs, a Cessna Caravan landed at Timehri to transport Special Forces to Mahdia. Instructions for the SF troops to be deployed was received and at 15:38hrs, the Cessna Caravan departed for Mahdia with the troops. This late departure was due to them having to wait on clearance from the Chief of Staff. This aircraft landed at Mahdia at 16:19hrs.

At 16:15hrs, the ASL helicopter landed at Mahdia.

At 16:19hrs the second GDF Bell 206 helicopter, GDF2, was deployed from Timehri and landed at Mahdia at 17:24hrs. The On-scene Commander travelled to Mahdia on this helicopter. He coordinated movements of aircraft between Mahdia and the crash site and provided regular reports to the RCC.

At 21:57hrs the RCC was advised that the GDF SF team had reached the crash site and the pilot was confirmed dead. It was dark by this time and a decision had been made to move the body to the landing zone for extraction the next day, 28th August. The soldiers were asked to take as many pictures as possible to aid in the investigation.

Throughout the operation the Director General, SATCO–OPS and DANS were continuously briefed by the SMC on all developments.

The RCC was closed for the day at 22:00hrs. Although the SAR operation was considered to be completed at this time, the required supporting administrative functions that had to be carried out by the RCC, were not given sufficient consideration. The SMC, the DATCO and a few other officers, remained on SAR duty until 03:30hrs the next day to complete the report and wrap up operations. This long duty period, which exceeded 16hrs, was tedious for some of the officers involved.

Contrary to the procedure in the Aeronautical Search and Rescue Plan (SAR Manual), the functions of the RCC were done from the active ATC facilities, the FIC and the Area Control Center (ACC). The room identified for RCC functions could not be accessed because the keys were not available.

It was noted that members of the SAR Unit and other ANS staff are required to travel, sometimes in single-engine aircraft, in the execution of their duties. It was confirmed that no insurance coverage is provided for these staff.

The issue of availability of senior personnel, both within and outside of the GCAA who are authorized to make crucial decisions, was raised. It was noted that some of these persons are not available at all times, and this often causes unacceptable delays in the execution of the operational SAR process.

1.18.2.3. Search Activities

The accident message and the need for SAR were relayed to the GDF SF troops and they were ready for deployment within 1 ¼ hours after notification. They did not actually deploy until more than 1 hour after readiness. The SAR equipment, including chain saw, GPS, Digital Camera, stretcher, rappelling equipment, satellite phones, air-ground radios, are stored at the GDF Base at Timehri. For personal equipment, they have safety gloves, but no masks or bio-hazard suits.

The GDF SF Troops did not receive any specific instructions from the RCC. All their instructions are issued by the Chief of Staff, but the GDF Air Corps Operations Officer was present in the RCC and was communicating between the RCC and the Army.

All SF personnel are trained first aiders, but they have no specific training in relation to handling corpses and other dangerous goods.

While on the way to Mahdia, the helicopter carrying the Officer-in-Charge of the GDF SF carried out an aerial reconnaissance and identified the wreckage site from the air and a suitable landing zone where the SF team would be inserted.

At 18:30hrs, the two helicopters, with a team of seven SF soldiers were deployed from Mahdia to the identified landing zone, approximately 3km from the crash site and approximately 7 minutes flying time from Mahdia. Due to the terrain, there was no other suitable area, closer to the wreckage, that could have been designated as a landing zone.

The GDF SF team navigated to the crash site using GPS and arrived there at 21:57hrs. The wreck was found on the side of a mountain, just west of the Ebini Mountain Range, 7.8miles west of Mahdia and 1500ft AGL.

Upon arrival, they made an assessment and confirmed that the pilot had died. By this time, it was already dark, and it would have been unsafe to attempt to traverse the dangerous terrain in the dark. A decision was taken to spend the night at the crash site. The jungle survival kit from the crashed aircraft was found. The luminous wrap from this kit was used to wrap the pilot's body, which was placed on the stretcher and fetched out. Depending on the terrain, two or four persons took turns to fetch the stretcher.

The team departed the crash site at 11:00hrs the next morning and walked for almost 8hrs back to the landing zone, but extraction of the body was further delayed for another day due to bad weather. It was also observed that the available helicopters were too small and light to attempt the extraction exercise, given the terrain and the weather. The body of the pilot started to decompose by the third day. The flare gun was used to shoot flares to indicate the troop's position, as they walked out to the landing zone.

It was noted that the trip to the site took a little over three hours, because the team was motivated by the possibility that the pilot may have still been alive. The team traversed a high-risk route of narrow ledges and jumped across ravines to get to the site. Being encumbered, having to fetch the body out, it was impossible to make the outward trip via this route, as it could have resulted in death or injury to the troops and possibly loss of the corpse.

Pictures were taken at the wreckage site. These included pictures of the cockpit, wings, general airframe and engine, and the pilot's body. The pilot's body was found intact 10-15ft north of the aircraft, he was lying on his back, with his hands clenched. The engine was resting partially on the body. There were no blood trails, his face was smashed, this is the only area where blood was visible.

The nose of the aircraft was pointing upslope. It is surmised that the impact caused the engine to separate from the airframe, fly up into the air and then come back down. Most parts of the engine were broken or bent. The propeller was about 30ft down the mountainside below the main wreck. It was bent. It was apparent that it had cut a path down the mountain.

The wheels of the under carriage were visible, the right wheel was almost under the airframe and the left wheel was downslope near to the propeller.

It was determined that the aircraft went in left side first and hit the mountain side at a 45° angle. The left side of the aircraft bore the brunt of the impact. The left wing was completely destroyed. The right wing was detached but not badly battered. The cockpit was completely destroyed. The left seat was badly damaged. The right seat was intact but was hanging out of the aircraft. The left controls were destroyed. The right controls were in better condition. No GPS was found in the aircraft. The spot tracker was identified but was badly destroyed.

Some trees and foliage around the accident site were damaged. Impact with one tree caused the separation of the right wing from the airframe. This tree was approximately 1½ft in diameter and the point of impact was identified about 20-25ft above ground level.

No documents were salvaged as pages were fuel-soaked and scattered around the site.

The troops were in constant contact with the helicopters that were airborne at intervals throughout the rescue/recovery phase. Information passed to the helicopters was relayed to the RCC. Food supplies, (dry rations and water) were dropped to the troops at intervals. The drops were done from a height of about 50ft above the trees.

In view of the difficulty experienced, it was recommended that no attempt should be made to return to the crash site to extract any components.

2. Analysis

2.1. The Pilot

The pilot was properly qualified for the flight. He was experienced on the route, having flown it several times. There was no evidence of any pre-existing medical or behavioural conditions which may have adversely affected the pilot's performance during this flight. His rest and duty period were within company limits.

2.2. The Aircraft

2.2.1. Maintenance

The aircraft has a Certificate of Airworthiness which is valid until 8th May 2018. Records indicate that the aircraft was being maintained in accordance with the approved maintenance schedule. There were no noted defects or deferred maintenance items from the previous flight.

2.2.2. Mass and Balance

The aircraft's cargo was three empty 45-gallon drums. The aircraft was not overweight.

2.3. The Weather

This accident occurred during the morning in daylight. It was noted that at the time of this occurrence visibility is usually poor in the area due to lingering mist. It was reported that the cloud over the wreckage was thicker than normal as it took longer to disperse.

2.4. The Company

The management of this company is qualified and experienced, but its effectiveness may be limited given the quantity and variety of aircraft it operates.

The operations ground staff will benefit from guidance about how to handle overdue/missing aircraft.

2.5. ATS Report

The ATS personnel on duty were not familiar enough with the SAR Manual. They carried out the operational parts of the SAR very satisfactorily, but there were some failings in the administrative functions. This was most glaring in the report writing, as several actions that were taken, were not recorded. This deficiency may have been eliminated if the duty Aeronautical Information Officer was co-opted to assist as catered for in the SAR Manual.

A review of the checklist forms to be used during the emergency was done. These are not user-friendly and should be adjusted.

2.6. The Search and Rescue Effort

Both the aircraft operator and ATS had confirmed reports that the aircraft had departed Chi-Chi at 12:17hrs and was estimated to land at Mahdia at 12:47hrs. At 12:52hrs, ATC enquired from the company for a landing report, but the company had no information on the aircraft.

The first notification of distress was received at 13:08hrs, and the RCC was immediately activated. The Duty Supervisor assumed the role of SMC, 7 minutes later. Coordination between the RCC and the Army was effective. This was enhanced due to the relationship, between the SMC and the CO of the GDF SF Troop, that had been fostered over the years. Although the GDF SF has to wait for instructions from the Chief of Staff, the direct communication between the CO and the SMC, allowed the CO to start preparing his troops to move as soon as the instruction was given. The SF are on call and were ready to respond at short notice. It was noted that the SF are all trained first aiders and would have been able to give limited assistance to the pilot if he was still alive.

This exercise points to the need for special training for the SF, especially as the investigators would not be able to get to the site, due to the hostile terrain. This training should include accident investigation photography. It was also recognized, as a matter of urgency, that the SF should be properly equipped, especially with personal safety gear, that would help to keep them safe during operations like this one. Generally, it is considered that the GDF SF did an excellent job that resulted in recovery of the pilot's body from very hazardous and hostile terrain.

The most outstanding need, identified to make SAR more efficient and effective, is a suitably equipped heavy-lift helicopter that would be able to function effectively given the terrain.

3. Conclusion

3.1. Probable Cause

The probable cause of this accident is unknown. However, it was noted that if the aircraft was on the direct path from Chi-Chi to Mahdia, the left side of the aircraft would have been on the safe side (away from the high ground). It was therefore believed that the aircraft may have been spiraling to get under the layer of mist and this brought the left side of the aircraft into contact with the high ground.

3.2. Contributory Causes

When the wreckage site was first pin-pointed from the air, it was noted that there was a thick layer of mist over the area. There was also mist, coinciding with the aircraft's flight path on the escarpment. This mist caused poor visibility and may have contributed to the pilot not being aware that he was approaching high ground.

3.3. Findings

3.3.1. The Pilot

1. The pilot's licence was valid, and he was qualified and experienced to carry out the intended operation.
2. His last APC on type was satisfactorily completed on 28th July 2017.
3. The pilot was familiar with this type of operation.
4. The pilot was killed in this accident.

3.3.2. The Company

1. The company holds an Air Operator Certificate and an Approved Maintenance Operator Certificate.
2. The company's maintenance is suitably staffed and equipped for its operations.
3. The company operates a sub-base at Mahdia Airstrip that provides support for its shuttle operations in the area.
4. The company's operations management structure may not be adequate for the quantity and variety of aircraft operated by it.
5. The FOM is lacking in guidance for operations ground staff in relation to handling overdue/missing aircraft.

3.3.3. The Aircraft

1. The aircraft had a valid Certificate of Airworthiness and was maintained in compliance with regulations.
2. There were no outstanding maintenance or MEL issues with the aircraft.
3. The aircraft was destroyed when it came into contact with high ground, possibly during poor visibility.

3.3.4. The Weather

There was heavy mist along the probable route of flight and over the wreckage site. This may have contributed to the pilot losing situational awareness and crashing into high ground.

3.3.5. Air Traffic Services

1. The ATS staff were not as familiar as they should have been with the SAR Manual.

2. The work done by the ATS, in responding to the SAR requirement was commendable. This, however, does not obviate the need for regular SAR training exercises to include both operational and administrative functions.

3. Better use could have been of the available AISO.

3.3.6. The Search and Rescue Effort

1. Coordination between the RCC and the GDF SF was effective.
2. The GDF SF had to wait for instructions to deploy from the Chief of Staff.
3. The GDF SF are not properly equipped to carry out search and rescue/recovery exercises.
4. The GDF SF will benefit from specific training related to aircraft SAR.
5. The GDF SF are commended for their efforts in this exercise.
6. SAR activities will benefit from the availability of a heavy-lift helicopter that would provide greater stability for rappelling and other necessary activities for effective SAR operations in the terrain.

4. Safety Recommendations

1. Regular simulated SAR exercises, that include all ANS staff will be beneficial to the ANS, as the unit that has responsibility for aircraft SAR in Guyana.
2. Regular simulated SAR exercises should include the other agencies that comprise the SAR organization; the Guyana Defence Force (GDF), local aircraft operators, Guyana Police Force, the Guyana Fire Service and the Ministry of Health, this will allow these agencies to remain familiar with their functions during SAR operations.
3. The GCAA should c0nsider acquiring insurance coverage for all staff who are required to travel in the course of their duties. Coverage for travel in single-engine aircraft should be included.
4. It is recommended that a checklist should be prepared to give guidance to the first responders, as to what to look for and what kind of pictures to take, what documents to look for etc. upon arriving at an accident site.
5. Specific training, related to aircraft SAR should be provided to the GDF SF.
6. Safety equipment including bio-hazard suits should be made available to the GDF SF, who are required to participate in aircraft SAR operations.
7. The requirement for the GDF SF to await deployment instructions from the Chief of Staff should be reviewed. Consideration should be given to another officer, possibly the Commanding Officer of the Special Forces, to authorize deployment of the troops in these circumstances, as time may prove to be life-saving for victims.
8. The Company, ASL, should reassess the effectiveness of its management structure to determine if the appointment of fleet captains for its various aircraft types, would be a beneficial safety tool.
9. The company should prepare guidance material for use of its operations ground staff in relation to handling overdue/missing aircraft. The guidance material should be supplemented with training.

5. Actions Taken Since This Accident

1. Two AIG Guidance Papers – “Guidance for first responders to general aviation (small) aircraft accident sites in Guyana”; and “Accident investigation photography” have been prepared and distributed to the Guyana Defence Force. Copies have also been sent to the Air Navigation Services of the GCAA, for placement in the RCC, for distribution to first responders to future occurrences as necessary.
2. The persons identified for the SAR Unit in the ANS Directorate of the GCAA has been exposed to international training.
3. One simulated exercise involving other ANS Staff was conducted.
4. Other simulation SAR exercises are planned for all ANS staff and staff of other agencies that comprise the SAR organization; the Guyana Defence Force (GDF), local aircraft operators, Guyana Police Force, the Guyana Fire Service and the Ministry of Health.