



Serious incident to the DE HAVILLAND - DHC6 - 400
registered **F-OMYR**
on 10 April 2022
overhead Saint-François aerodrome (Guadeloupe)

Time	Around 10:00 ¹
Operator	CAIRE
Type of flight	Operator Proficiency Check
Persons on board	Examiner captain, co-pilot
Consequences and damage	None

This is a courtesy translation by the BEA of the Final Report on the Safety Investigation. As accurate as the translation may be, the original text in French is the work of reference.

**Loss of separation with parachutists during the approach,
during proficiency check flight**

1 HISTORY OF THE FLIGHT

Note: the following information is principally based on statements, radio-communication recordings and radar data.

The crew of F-OMYR took off at 09:00 from Pointe-à-Pitre - Le Raizet airport in Guadeloupe for an IFR² proficiency check flight. Runway 12 of Pointe-à-Pitre airport was in use. The crew were in contact with Raizet Approach on 121.3 MHz in order to carry out a first RNP Z approach for runway 12. In the holding pattern at the IAF, the crew asked for clearance to carry out an RNP approach for runway 30 on completion of the RNP 12. From 09:10 to 09:32, the pilot of the Cessna 206 registered F-GERB was in radio contact with Raizet Approach for a parachute dropping in the Saint-François aerodrome drop zone. The FIS, TWR and APP frequencies were combined³ at Pointe-à-Pitre. The two aeroplanes were thus in contact with the same controller. At 09:34, the controller holding these three combined positions was relieved.

At 09:42, at around 9 NM from Saint-François, the pilot of F-GERB contacted the ATC again and reported that he planned to drop another group of parachutists at FL 100. The controller asked him to call back one minute before the dropping.

¹ Except where otherwise indicated, the times in this report are local. Six hours should be added to obtain the legal time applicable in Metropolitan France on the day of the event.

² The glossary of abbreviations and acronyms frequently used by the BEA can be found on its [web site](#).

³ In this case, all the radio messages are transmitted on the three frequencies.

At 09:49, at around 3 NM on final, the crew of F-OMYR were cleared for an option⁴ for runway 12. They carried out a go-around. At 09:51, after the go-around, F-OMYR was cleared to join a direct path to waypoint DULBO and then waypoint LOMPA for the RNP approach procedure for runway 30. At 09:55 (see **Figure 1**, point ①), the controller asked the crew of F-OMYR to call him back before proceeding to waypoint LOMPA and informed them of upcoming parachute dropping on Saint-François aerodrome.

At 09:59, the controller cleared the crew of F-OMYR to descend to 3,000 ft. The pilot of F-GERB reported that he was ready for the parachute dropping. At 09:59:41, the controller informed the pilot of F-GERB that there was no interfering traffic below and that F-OMYR was carrying out an RNP 30 approach. F-GERB was overhead Saint-François aerodrome (point ②) and F-OMYR had not yet started its turn to waypoint LOMPA (point ②). Around 15 s later, the controller asked the pilot of F-GERB to report dropping completed.

At 10:00, the dropping started with a tandem and a solo jump. The controller was then busy for around 30 s communicating with an aeroplane on the ground whose crew had asked for clearance for an engine start-up. At 10:00:29, the controller tried to contact the pilot of F-GERB to ask him if he had started the parachute dropping, "*Green bird 2221 correction euh romeo bravo vous avez débuté le largage?*" (point ③), the latter did not reply. By this time, the dropping had already started. F-OMYR was north of the drop zone (point ③).

A second tandem jumped overhead Douche beach. The tandem opened their parachute at around 5,900 ft, the canopy was fully deployed and in line of flight at 5,000 ft. They headed west to land at Saint-François aerodrome.

The controller contacted the crew of F-OMYR and gave them traffic information concerning F-GERB. The crew of F-OMYR asked for confirmation of the clearance to continue. The controller replied in the affirmative and asked if F-OMYR was effectively east of Saint-François aerodrome⁵ (point ④); the crew of F-OMYR confirmed this.

A short time later, F-OMYR cut across the runway track of Saint-François airport at around 3,200 ft and 1 NM east of the aerodrome and passed close to the second tandem, under the canopy, without perceiving their presence. The latter were sufficiently close to be able to read the aeroplane's registration and the name of the company.

F-OMYR then joined the holding pattern at waypoint LOMPA and carried out an RNP approach for runway 30 without any other particular incident.

⁴ Full-stop landing, bailed landing or touch-and-go, the choice being left to the crew.

⁵ The controller thought that the parachute dropping had taken place overhead the aerodrome (see paragraph 2.4.1.2)

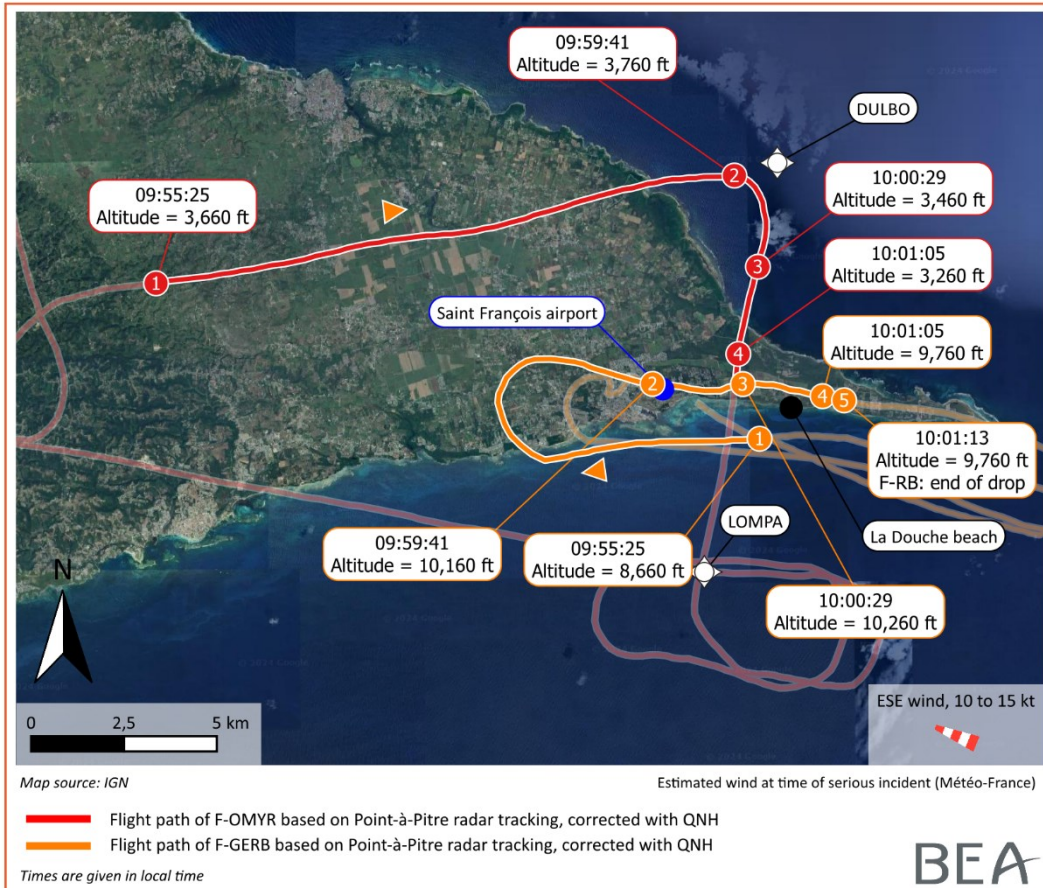


Figure 1: flight paths of F-OMYR and F-GERB

2 ADDITIONAL INFORMATION

2.1 Crew information

2.1.1 Crew of F-OMYR

2.1.1.1 Experience and ratings

The following table summarizes the experience and ratings of the crew:

	Captain, examiner	Co-pilot
Licence	ATPL (A)	CPL (A)
Ratings	ATR 42/72, DHC6, IR/ME (A), FI (A), IRI(A), CRI (A)	DHC6, IR/ME (A), MAP (land)
Total experience	9,063 flight hours	178 flight hours
Experience as captain	8,065 flight hours	76 flight hours

2.1.1.2 Statements

The crew indicated that while they were en route to waypoint DULBO, the controller informed them of the presence of F-GERB, which was climbing through 8,500 ft towards FL 100. The crew indicated that the controller had cleared them to continue to waypoint LOMPA to hold and had instructed them not to go further north than waypoint LOMPA. They then passed waypoint LOMPA in a southerly direction and turned left outbound to then directly enter the holding pattern. The crew indicated that on returning to the inbound flight path at 296° (see **Figure 2**),

they perceived the parachute dropping aeroplane descending towards Saint-François. The crew explained that they deduced from this that the dropping had taken place without knowing at what exact moment. They specified that they had not heard the radio exchanges between this aeroplane and the controller clearing the parachute dropping. For the crew, the purpose of the controller's instructions was to separate F-OMYR from the parachute dropping aeroplane and the flight path of the parachutists.

2.1.2 Pilot of F-GERB

The pilot held a CPL (A) along with the SEP, MEP and IR/ME (A) ratings. He had logged around 1,300 flight hours including around 1,150 hours as pilot-in-command. He indicated that due to the easterly wind, he had had to offset the dropping point to the east. He explained that he did not know where F-OMYR was situated and that he had displayed waypoint DULBO on his GPS to understand its flight path. He specified that the presence of clouds and the search for a gap in the cloud layer had resulted in him dropping the last tandem later. He indicated that in his two years as parachute dropping pilot, the controller had only asked him to delay dropping around five times.

2.2 Meteorological information

According to Météo-France, in the vicinity of Saint-François aerodrome, a line of cumulus clouds with a coverage of around 4 to 5 octas extended north-westwards without any precipitation or phenomena likely to reduce visibility. More precisely, the incident area was under the influence of a narrow convective cell with no precipitation and a few gaps. The cloud bases were estimated at between 3,000 and 4,000 ft and their tops at between 6,000 and 8,000 ft. The wind between the ground and 5,000 ft was from the east-south-east at 10 to 15 kt.

2.3 Pointe-à-Pitre - Le Raizet airport air traffic control service information

2.3.1 Airspaces and approach procedure

The Pointe-à-Pitre - Le Raizet control unit provides the control service, flight information and alerts in the airspaces of the Guadeloupe archipelago. Saint-François is an uncontrolled aerodrome situated in class G airspace. Radio communication take place on the A/A frequency 123.5 Mhz and flight information is available on request from the FIS on 129.8 MHz. Overhead Saint-François aerodrome, the floor of the class D Pointe-à-Pitre TMA 1 is 2,500 ft AMSL and its ceiling FL 105. The associated approach frequency is 121.3 MHz.

The DULBO-LOMPA segment of the RNP procedure for runway 30 is located east of Saint-François aerodrome, the minimum altitude at waypoint LOMPA is 3,000 ft. Points DULBO and LOMPA are RNAV "fly-by" waypoints. The transition from one segment to another is carried out on a flight path calculated by the on-board computer, which passes close to but not over the waypoint.

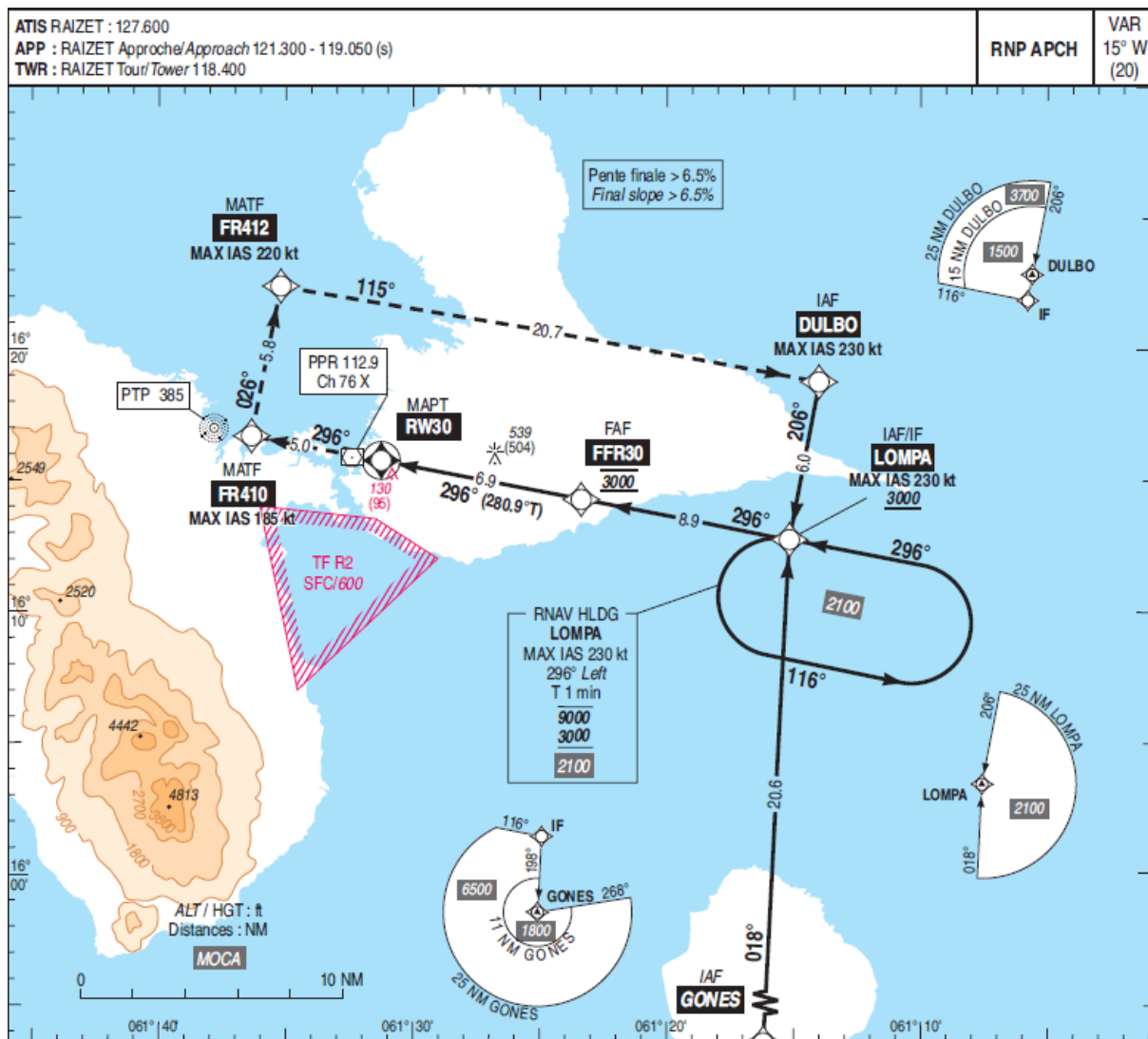


Figure 2: RNP 30 approach procedure (source: AIS)

2.3.2 Manning of positions

At the time of the occurrence, two controllers were on duty. The air traffic control officer held the combined GND/TWR/APP positions, and the tower supervisor held the approach assistant position. As the tower, approach and FIS frequencies were combined, the IFR traffic at Pointe-à-Pitre - Le Raizet airport and the parachute dropping activity at Saint François aerodrome were handled by the same controller. In the hour preceding the occurrence, the frequency was busy on average 23% of the time for the three frequencies.

2.3.3 Work methods in connection with parachute dropping activity

The work methods associated with the parachute dropping activity were the subject of a "Parachuting" section in the Control Tower Operations Manual (OM). They were also detailed in the memorandum of understanding between the Pointe-à-Pitre - Le Raizet control unit and the parachuting company, Caraïbe Parachutisme.

At the time of the occurrence, for droppings at Saint-François, this memorandum particularly specified that:

- the pilot of the dropping aircraft is in radio contact with the approach frequency (121.3 Mhz) and the Saint-François A/A frequency (123.5 MHz);
- on first contact, before 2,500 ft in climb, the pilot specifies the dropping altitude;
- the pilot of the dropping aircraft will request approval for the parachute dropping on the Raizet Approach frequency at least one minute before the start of the dropping;
- the Approach controller will inform the pilot of any traffic/event/activity that may interfere with the dropping.

2.3.4 Use of IRMA⁶ radar display

To help controllers monitor air traffic, the Pointe-à-Pitre control tower was equipped with the IRMA radar display. This system can be configured to display certain zones and associate them with the APW⁷ function. This function is used to generate alerts for flights entering predefined volumes of airspace.

In the OM, at the time of the event, the parachute drop zone located overhead Saint-François aerodrome was not one of the configured zones. The APW function was therefore not available for this zone. This zone was referenced in AIP ENR 5.5, identified as 9715, between the ground and FL 165 and centred on Saint-François aerodrome.

The IRMA system can also be used to display the approach procedures according to the runway in use. On the day of the occurrence, the approach procedures for runway 12 were therefore displayed on the controller's screen. At the time of the occurrence, the crew of F-OMYR were following an approach procedure for runway 30 for training purposes. This procedure was not displayed on the radar screen. Waypoints DULBO and LOMPA were displayed.

2.3.5 Phraseology

The French phraseology manual for general air traffic produced by the SIA⁸ indicated that the controller was to use the phraseology, "*Largage approuvé, rappelez fin de largage*" (dropping approved, report dropping completed) for parachute operations under VFR in controlled airspace. When in uncontrolled airspace, the controller was to use the phrase, "*Rappelez fin de largage*" (report dropping completed). The controller used the second expression to clear F-GERB which was in controlled airspace at the time, at FL 100 in class D TMA. The crew of F-OMYR indicated that they had not heard the radio exchange authorizing the dropping and that they had not realised that it was in progress (see paragraph 2.1.1.2).

The July 2022 local safety commission indicated that the single phrase, "*Rappelez fin de largage*" is the phraseology usually used by the controllers at Pointe-à-Pitre. Controllers contacted by the BEA in the scope of the investigation explained that there would be some reluctance to explicitly approve the dropping, as it took place in controlled airspace, but the parachutists' flight path continued in uncontrolled airspace. They indicated that in this case, the actual traffic would not have been known to the controllers.

⁶ *Indicateur Radar de Mouvements d'Aéronefs* (aircraft movement radar display).

⁷ Area Proximity Warning.

⁸ On the day of the serious incident, the ninth issue of the manual was available. The tenth issue was published in April 2023.

2.3.6 Uncommon situations

According to the statistics provided by Caraïbe Parachutisme covering droppings prior to the occurrence, only 3 of the previous 200 droppings were put on hold by air traffic control. The July 2022 local safety commission's analysis was that the interference between air traffic in controlled airspace and the drop zone being very rare, this may have led to the belief that interference could not exist.

As Guadeloupe is located in an inter-tropical region, it benefits from a trade wind, an east-to-west prevailing wind. Runway 30 is rarely used, and only when there is no trade wind. On average, runway 30 is used around 30 days a year. The infrequent use of runway 30 and the associated procedures contributed to the rare number of conflicts with the parachuting activity.

2.3.7 Controller training

The approach conversion course was designed for controllers previously assigned to an ACC and who were about to begin training in a unit for approach and aerodrome control ratings⁹. The ENAC specified that this was a reactivation of the initial training and not a preparation for an operational context, which was the responsibility of the unit of assignment. The practical part of this course was composed of aerodrome and approach control simulation sessions. The handling of a parachuting activity was not covered during these simulations.

Due to the closure of the ENAC in the context of the Covid-19 pandemic, these simulation sessions did not take place. However, the theoretical part of the course was delivered by the ENAC via remote learning. This special arrangement had been coordinated with the DSAC and the DSNA.

For the unit training, the Pointe-à-Pitre unit indicated that it had organised more simulations than usual, given the context. Parachuting was not covered in these simulations.

One lesson in the theoretical part of the unit training for aerodrome control summarised the memorandum of understanding with the parachute club (see paragraph 2.3.3). It was not made explicit that the controller had to issue approval before a dropping.

The specific situation of a conflict between parachute dropping at Saint-François and an aircraft on approach to runway 30 had not been identified in the training requirements.

2.4 Controller information

2.4.1.1 Air traffic control officer

The controller had been assigned to Pointe-à-Pitre in 2020 and had obtained all the unit endorsements a few months before the occurrence. Before this assignment, he had exclusively held a regional air traffic control position for around nine years in an ACC. After remotely following the theoretical part of the approach conversion course, the controller followed the training in the unit at Pointe-à-Pitre. He first obtained the unit endorsement allowing him to hold the GND/TWR positions and then the unit endorsement for the APP position. The controller

⁹ This course had been attended by the controller on the frequency at the time of the occurrence (see paragraph 2.4.1.1).

indicated that he had only worked with the runway 30 configuration a few times in simulation and a few times in real conditions. The day of the occurrence was the first time that he had handled parachute dropping in this configuration.

He had handled parachute droppings in an ACC but the handling was very different to that for the approach control. In most cases, there was a complete segregation between the IFR traffic and the parachute dropping traffic. Very often, a red zone was displayed on the controllers' screens, in the same way as a military zone was displayed. This is why he indicated that intuitively, it seemed inconceivable to him that an approach procedure could be in conflict with a parachuting zone.

2.4.1.2 Statements

The controller had had three days off before his shift. He indicated that he had woken early on the day of the occurrence, at around 04:00, for family reasons. He explained afterwards that he would have declared himself unable to carry out control duties if the operational context of the unit had been different. According to him, the consequences of a controller's absence could sometimes go as far as closing the tower. He therefore decided to come to work despite his fatigue.

He arrived at the tower at 06:45 and began by holding the approach assistant position (APP ASS), took a break and then, at 09:34, relieved his colleague in the combined GND/TWR/APP positions.

He was not aware that the DULBO waypoint was a fly-by waypoint (see paragraph 2.3.1). He was therefore surprised by F-OMYR's early turn in relation to the position of waypoint DULBO.

He explained that he had expected the dropping to take place overhead Saint-François aerodrome and that he was not fully conscious that the easterly wind on the day of the occurrence would mean dropping to the east of the usual location. He indicated that he did not know how long the dropping was going to take: he thought it was going to take a relatively short time and that the parachutists were going to land more quickly. For him, there was not going to be any conflict in terms of time.

The controller was attentive to the separation between F-OMYR and the dropping aeroplane and gave traffic information to the pilots of both aircraft. He explained that he became aware of the conflict between F-OMYR and the parachutists very late, after F-OMYR had turned south. He then tried to call the pilot of F-GERB, with the intention of asking him to suspend the dropping immediately. The pilot did not respond. He explained that, not knowing the exact position of the parachutists and for fear of aggravating the situation, he decided not to ask the crew of F-OMYR to turn and let them continue with the procedure.

2.4.2 Tower supervisor

The tower supervisor, who was also holding the APP ASS position, reported that the situation had been very calm since the start of the morning. He felt that there were enough staff that morning to rotate the breaks properly. He explained that he was monitoring the controller's actions from a distance without intervening, as the controller was already qualified. He specified that his attention was focused on the SIGMA¹⁰ system and not on the IRMA radar screen when the controller cleared the dropping. He said that he then turned to the IRMA screen and became

¹⁰ Surface Movement Guidance and Control System.

aware of the conflict at about the same time as the controller. He explained that he spoke with the controller about it, but that at the time, there did not seem to be any obvious corrective action.

3 CONCLUSIONS

The conclusions are solely based on the information which came to the knowledge of the BEA during the investigation.

Scenario

The crew of F-OMYR were carrying out a local proficiency check flight from Pointe-à-Pitre - Le Raizet airport, where runway 12 was in use. The pilot of F-GERB was dropping parachutists in the Saint-François drop zone, located near one of the legs of the RNP procedure for runway 30 at Pointe-à-Pitre - Le Raizet airport.

The controller who had held the GND/TWR/APP positions was relieved by a colleague. After the handover, the crew of F-OMYR requested clearance to carry out an RNP approach for runway 30, which the controller accepted. The Saint-François parachute drop zone was not configured and could not be displayed on the controller's radar screen. The procedures for runway 12 were displayed and the controller also displayed waypoints DULBO and LOMPA of the RNP 30 procedure. Recently qualified, the controller had little experience of using this procedure and the runway 30 configuration at Pointe-à-Pitre. When the pilot of F-GERB reported that he was going to carry out another dropping, the controller did not anticipate that the flight path of F-OMYR could be in conflict with that of the parachutists.

When the pilot of F-GERB called back one minute before the dropping, the controller gave him the implicit authorisation to start the dropping, using the phraseology "report dropping completed" and not the phraseology expected in controlled airspace, "dropping approved". The crew of F-OMYR did not realise that the parachute dropping had been approved and thought that the controller's instructions would ensure their separation from the parachutists and the dropping aircraft. The controller was then busy communicating with another aeroplane. The crew of F-OMYR turned south shortly before the fly-by waypoint DULBO, as specified in the RNP 30 procedure. The controller was surprised by the flight path of F-OMYR and then became aware of the conflict. He tried, without success, to contact the pilot of F-GERB. As the controller did not know the position of the parachutists, he did not give any instructions to the crew of F-OMYR for fear of aggravating the situation. The crew of F-OMYR continued with the procedure, unknowingly crossing the dropping path and passing close to a parachutist tandem without detecting their presence.

Contributing factors

The following factors may have contributed to the controller's late detection of the conflict between the approach path of F-OMYR and the parachute dropping activity:

- the controller's small amount of experience in the Pointe-à-Pitre unit, and in particular with respect to the runway 30 configuration and the handling of the parachuting activity, due to being recently qualified, this configuration being rarely used, and to the substantial drop in the parachuting activity in the context of the Covid-19 health situation;

- the controller's insufficient knowledge of the parachuting activity and its handling from the approach control position probably due to insufficient training;
- the probable effect of the air traffic controller's tiredness at the time of the accident.

The use of the recommended phraseology for the dropping would probably have made the crew of F-OMYR aware of the dropping in progress.

Measures taken

The Pointe-à-Pitre air traffic control unit implemented several measures after the serious incident.

Since the end of September 2023, the Saint-François drop zone has been configured on the IRMA and can now be displayed. A predictive APW protection is associated with the part of this zone which is in controlled airspace, above 2,500 ft AMSL. This protection warns the controller in case of an intrusion.

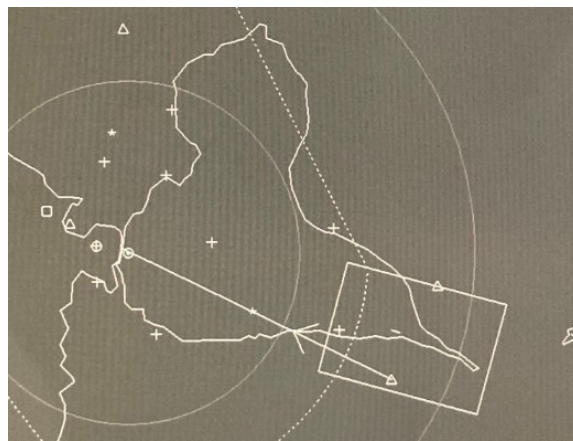


Figure 3: APW protection around Saint-François aerodrome.
(source: Pointe-à-Pitre control unit)

The instruction subdivision has published a reminder document on the parachuting activity for all controllers. This document insists on the fact that the “end of dropping” message indicates that the parachutists have started their jump but that sometimes around ten minutes can elapse before they touch down. Emphasis is also placed on the various conflicting situations with the parachuting activity at Saint-François, in particular inbound IFR traffic for runway 30. This document recalls the phraseology for parachuting for VFR traffic in controlled airspace. It also specifies that controllers can request and wait for the “all parachutists landed” call from the dropping pilot before authorising traffic in the sector.

A specific course for handling the parachuting activity has also been created and forms part of the theoretical training for controllers for the LO unit endorsement, for the GND/TWR position.

The memorandum of understanding between the Pointe-à-Pitre - Le Raizet control unit and Caraïbe Parachutisme has been revised. The new version came into force on 22 August 2023. In particular, it has been added that the controllers are likely to ask the dropping pilot to provide them with the information that all parachutists have landed. This version makes it clear that the controller will approve the droppings.

The Parachuting section of the OM has been revised, in accordance with the memorandum of understanding. It now states that any parachute dropping that interferes with the airspace controlled by Pointe-à-Pitre is subject to the controller approving the dropping. It is specified that the activation of the APW system associated with the drop zone is the responsibility of the tower supervisor.

The BEA investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.