BEA
Bureau d'Enquêtes et d'Analyses
pour la sécurité de l'aviation civile
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SAFETY INVESTIGATION REPORT

Accident to the PIPER - PA46 - 350P (Malibu Mirage) registered **N9190X** on Wednesday 14 September 2022 on Amiens - Glisy aerodrome

RÉPUBLIQUE FRANÇAISE
Liberté
Égalité
Fraternité

November 2024

BEA2022-0219

Safety investigations

The BEA is the French Civil Aviation Safety Investigation Authority. Its investigations are conducted with the sole objective of improving aviation safety and are not intended to apportion blame or liabilities.

BEA investigations are independent, separate and conducted without prejudice to any judicial or administrative action that may be taken to determine blame or liability.

SPECIAL FOREWORD TO ENGLISH EDITION

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.

Synopsis

Time	16:23[1]
Operator	Private
Type of flight	Passenger transport flight for remuneration
Persons on board	One pilot, four passengers
Consequences and damage	Aeroplane damaged

Stall on short final, hard landing, during a passenger transport flight for remuneration

On 14 September 2022, the pilot, accompanied by the owner of the Piper PA46 registered N9190X, carried out a flight from Épinal - Mirecourt airport bound for Amiens - Glisy aerodrome. This remunerated flight was to transport three passengers, one of whom was the director of the company who had made the flight reservation on the OpenFly platform.

During the approach to Amiens, the pilot was confronted with stormy conditions in which heavy showers greatly limited visibility. The pilot aborted the approach when he acquired sight of the runway and observed that he was flying over the runway and no longer had the necessary runway length for landing. He then twice tried to land by carrying out visual approaches.

The radar track, the statements and the A/A frequency recordings show that the pilot lost his external visual references several times and that the aeroplane was flying below 1,000 ft on a path taking it over Amiens, and which did not correspond to any published VFR or IFR path.

During the last approach, the pilot, only perceiving the PAPI lights, offset the aeroplane to the right of them thinking that they were installed on the LH side of the runway. At low height, he perceived the runway on his left and turned to align with the runway centreline. The aeroplane stalled and touched down hard on the runway.

A safety recommendation has been addressed to the European Union Aviation Safety Agency (EASA) concerning the need to set out European regulatory requirements in order to guarantee the safety of passengers transported for remuneration outside commercial air transport operations.

[1] Except where otherwise indicated, the times in this report are given in local time.

Contents

Glossary

Abbreviations	English version	French version
AAIB	Air Accident Investigation Board (UK)	
AAIU(BE)	Air Accident Investigation Unit (Belgium)	
ACCREP	Accredited Representative	
AFIS	Aerodrome Flight Information Service	
AIP	Aeronautical Information Publication	
AIS	Aeronautical Information Service	
AOC	Air Operator Certificate	
AP	AutoPilot	
ARC	Airworthiness Review Certificate	
ATPL	Airline Transport Pilot Licence	
ATS	Air Traffic Service	
CAAC	Civil Aviation Administrative Commission	
CAT	Commercial Air Transport	
Cb	Cumulonimbus	
CoA	Certificate of Airworthiness	
CPL	Commercial Pilot Licence	
DGAC	French civil aviation authority	Direction générale de l'Aviation civile
DSAC	French civil aviation safety directorate	Direction de la sécurité de l'Aviation civile
DSAC-IR	Civil aviation safety directorate - Regional office	Direction de la sécurité de l'Aviation civile - Inter régionale
DSNA	French air navigation service provider	Direction des services de la Navigation Aérienne
DTA	French Air Transport Directorate	Direction du Transport Aérien
EASA	European Union Aviation Safety Agency	
FAA	Federal Aviation Administration	
FAR	U.S. Federal Aviation Regulation	
FCL	Flight Crew Licence	
FL	Flight Level	
ft	feet	
GNSS	Global Navigation Satellite System	
GTA	Air Transport Police	Gendarmerie des transports aériens

Abbreviations	English version	French version
Hp	Horsepower	
HSI	Horizontal Situation Indicator	
IAC	Instrument Approach Chart	
IAF	Initial Approach Fix	
ICAO	International Civil Aviation Organization	
IFR	Instrument Flight Rules	
IR-HRV	InfraRed-High Resolution Visible	
IR-SE	Instrument Rating / Single Engine	
LNAV	Lateral Navigation	
LPV	Localizer Performance with Vertical guidance	
MDA	Minimum Descent Altitude	
METAR	Timed aerodrome meteorological report	
MVL	Circle to land	Manœuvre à Vue Libre
NES	Notification of a significant occurrence	Notification d'Événement Significatif
NOTAM	NOtice To AirMen	
NTSB	National Transportation Safety Board	
OCC	Operator Conversion Course	
OPC	Operator Proficiency Check	
PA	Precision Approach	
PANS-ATM	Procedures for Air Navigation Services - Air Traffic Management	
PANS-OPS	Procedures for Air Navigation Services - Aircraft Operations	
PAPI	Precision Approach Path Indicator	
PBN	Performance Based Navigation	
PDA	Premature Descent Alert	
PF	Pilot Flying	
PFD	Primary Flight Display	
PM	Pilot Monitoring	
RA	Radio Altimeter	
RAD	Aerodrome Radar Control	
RNAV	Area Navigation	
RNP	Required Navigation Performance	
RTCA	Radio Technical Commission for Aeronautics	
RVR	Runway Visual Range	
RVSM	Reduced Vertical Separation Minimum	

Abbreviations	English version	French version
SBAS	Satellite-Based Augmentation System	
SCT	Scattered (clouds)	
SD	System Display	
SDF	Step Down Fix	
SHRA	Shower Rain	
SIL	Service Information Letter	
SLS	SBAS Landing System	
SOP	Standard Operating Procedure	
SPP	Standard Practices and Procedures	
STC	Supplemental Type Certificate	
STCA	Short Term Conflict Alert	
STD	Standard	
TAWS	Terrain Awareness and Warning System	
TCF	Terrain Clearance Floor	
TDZ	Touch Down Zone	
TEM	Threat and Error Management	
TLB	Technical Log Book	
TMA	Terminal Manoeuvring Area	
TOGA	Take-Off Go-Around	
TR	Type Rating	
TWR	Tower	
UCS	Unit Competence Scheme	
UTC	Universal Time Coordinated	
UTP	Unit Training Plan	
VD	Vertical Display	
VMC	Visual Meteorological Conditions	
VNAV	Vertical Navigation	
VOR	VHF Omnidirectional Range	
VSD	Vertical Situation Display	

Organization of the investigation

In accordance with Annex 13 to the Convention on International Civil Aviation and Regulation (EU) No 996/2010 concerning the investigation and prevention of accidents and incidents in civil aviation, the BEA informed the following parties of the opening of the safety investigation:

- the United States investigation authority (NTSB) as the State of Design, Manufacture and Registry of the aircraft;
- the Belgium investigation authority (AAIU(Be)) as the pilot and the owner of the aeroplane were Belgium;
- the French air navigation service provider (DSNA) of the French Civil Aviation Authority (DGAC);
- the French civil aviation safety directorate (DSAC) of the DGAC;
- EASA.

The NTSB and the AAIU(Be) appointed accredited representatives.

The draft final report was submitted to the accredited representatives and their advisers for consultation, in accordance with article 6.3 of Annex 13 to the Convention on International Civil Aviation. It was also sent to EASA and the DSAC.

1 FACTUAL INFORMATION

1.1 History of the flight

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

The director of a company reserved, via the OpenFly[2] on-line platform, a flight from Épinal - Mirecourt to Amiens - Glisy to transport three people. The aeroplane and the pilot selected by the company were based in Belgium.

On the day of the accident, the pilot and the owner of the aeroplane met up at Maastricht airport (Netherlands) from where they took off bound for Épinal. The owner of the aeroplane was accompanying the pilot and was sat in the front RH seat.

After the three passengers had boarded at Épinal, the pilot took off at around 14:30 (see **Figure 2**, point 1) bound for Amiens under an IFR flight plan.

During exchanges with the Paris controller, the pilot asked to descend to FL 100 due to the weather conditions. The controller cleared him to descend and asked him if had information about the weather conditions at Amiens. The pilot replied in the negative. The Paris controller transferred the pilot to the Lille controller, specifying that he could obtain weather information from the latter.

At around 15:40, the pilot contacted[3] the Lille (Nord) approach controller, informed him that he was in descent to FL 100, that he wanted to land at Amiens and asked for a direct route to AMAXA[4]. The controller cleared him for this and added, "… for information, the weather is reported very bad near Albert[5]… if you want to get in touch with them to have a local weather report that's a possibility." The pilot replied, "Yes we will first direct to AMAXA and we will contact Amiens for the weather."

The controller replied, "As there are no AFIS I don't know what you'll get but I had Albert on the phone and they are under CBs that' s so why I was telling you that."

The pilot replied, "Okay we will look at that."

The controller then gave the pilot the telephone number of the Lille control tower so that he could call the unit once he had landed at Amiens.

At 15:44, the controller cleared the pilot to descend to 2,200 ft QNH 1004 and for the RNP approach for runway 30 at Amiens.

At 15:54, the controller asked the pilot to change to the Amiens A/A radio frequency.

[2] See paragraph 1.17.4.

[3] All the exchanges were in English.

[4] AMAXA is the Initial Approach Fix (IAF) for the RNP 30 approach to Amiens aerodrome (see **Figure 2**).

[5] Albert-Bray aerodrome is situated 30 km north west of Amiens.

The radar recordings stopped[6] at 16:00 (point 4) when the aeroplane was on final for runway 30 at an altitude of 1,341 ft and a distance of 2.6 NM from the aerodrome.

In the absence of radar information, the following information is based on statements.

During the first approach for runway 30, the pilot explained that he only perceived the runway after having flown over half of it, and carried out a missed approach. The pilot then carried out two visual approaches which he aborted. Around 15 min after the first loss of radar contact, the aeroplane was detected again for a period of one minute (points 5 and 6). The aeroplane was on the RH side of the runway following a path that did not correspond to the published aerodrome circuit.

The operations manager[7] at Amiens – Glisy aerodrome who was working in her office on the ground floor of the control tower heard an aeroplane turning over the runway. Due to the adverse weather conditions, she understood that the pilot was in difficulty. She contacted him on the A/A frequency and switched on the PAPI and the runway lights to help him land.

For the fourth approach, the pilot carried out a RNP approach again. On short final, at a very low height and low speed, he perceived the runway on his LH side and made a tight turn to align with it. At 16:23, the aeroplane stalled and touched down hard on the runway.

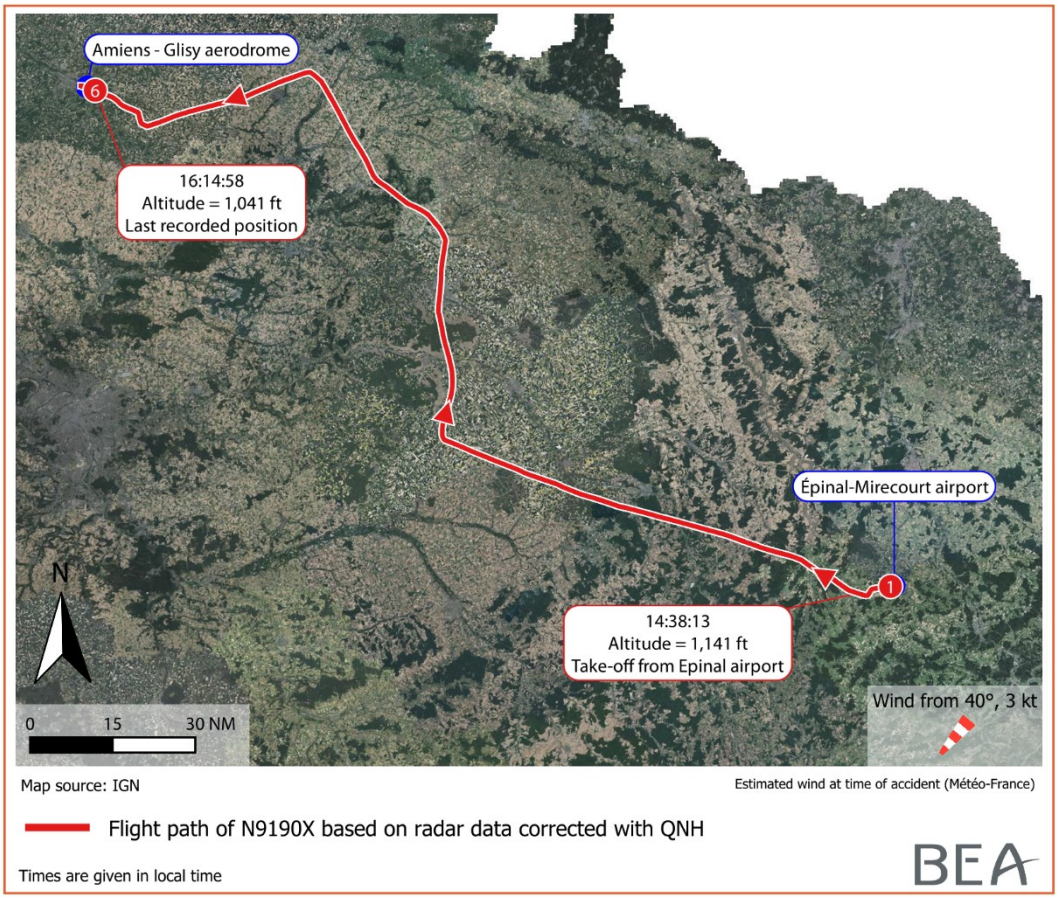

Figure 1: flight path of N9190X

[6] The DSNA informed the BEA that the area around Amiens – Glisy aerodrome is at the edge of civil radar coverage.

[7] She had worked as an AFIS agent before being appointed operations manager of the aerodrome.

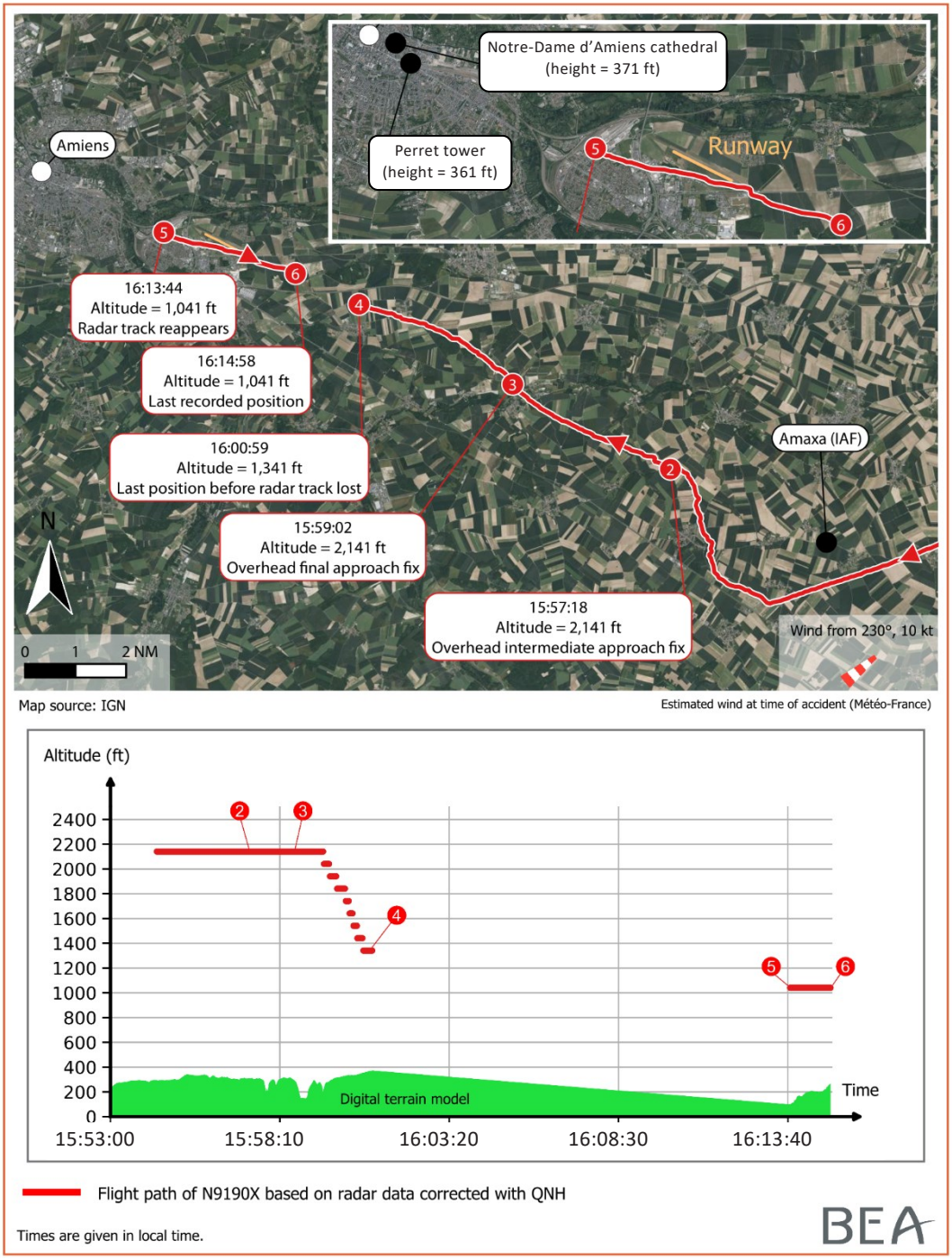

Figure 2: end of flight path of N9190X

1.2 Injuries to persons

	Injuries		
	Fatal	Serious	Minor/None
Crew			1
Passengers			4
Others			

1.3 Damage to aircraft

The examination of the aeroplane found that the main landing gear and both wings were damaged. The damage was mainly the result of the wing skin buckling and deforming. Cracks were also observed in the wing roots. This damage was caused by the hard landing.

Figure 3: damage to wing roots of N9190X (Source: BEA)

The stall warning was not operative. The pilot indicated that he had not checked that it was functional at the start of the flight as recommended by the manufacturer's procedure. The BEA did not carry out an additional examination and did not determine whether the failure of the stall warning was caused by the hard landing.

1.4 Other damage

Not applicable.

1.5 Pilot-in-command and owner of aeroplane information

Captain

The 62-year-old Belgian pilot-in-command held a commercial pilot licence (CPL(A)) issued on 30 March 1993 by the Belgian civil aviation authority.

He held a single-engine instrument rating (IR-SE/PBN) renewed in February 2022 and valid until March 2023. He also held the type rating (Piper PA-46) valid until 2 February 2024. He had logged around 1,470 flight hours, including more than around 100 hours on type. The pilot held a valid class 1 medical fitness certificate.

Before the accident flight, the pilot had performed two passenger transport flights with N9190X, both carried out via the OpenFly platform:

- on 11 June 2022: Maastricht (take-off at 08:15) – Lille – Blois – Lille - Zwartberg (landing at 18:50);
- on 25 June 2022: Maastricht (take-off at 06:30) - Bastia – Avignon - Maastricht (landing at 23:00), i.e. a total time of approximately 17 h.

Aeroplane owner

The 74-year-old Belgian aeroplane owner held a private pilot licence issued on 13 August 1995 by the American civil aviation authority (FAA). He held the IFR rating. He had logged around 2,000 flight hours.

He had a class 3 medical fitness certificate issued on 6 January 2022. According to American regulations, this type of certificate is required for student pilots, recreational pilots and private pilots. It is valid for 60 months for pilots under 40 years old and 24 months for pilots aged 40 or more.

1.6 Aircraft information

The Piper PA-46 Mirage registered N9190X is a pressurized six-seat aeroplane equipped with a 350-hp Lycoming TIO-540 piston engine.

Figure 4: PA-46 N9190X (Source: BEA)

It is equipped with an avionics suite composed of a Bendix King 90 computer and a radio-altimeter. The Bendix King 90 provides GNSS guidance for the horizontal profile only. It can be coupled with a HSI and provide the pilot with cross-track error information (see **Figure 5**).

HSI (Horizontal Situation Indicator)

GNSS Bendix KING 90 (page of RNP30 approach waypoints

Figure 5: flight avionics of N9190X (Source: BEA)

The weight and balance of the aeroplane were within the limits defined by the manufacturer at the time of the accident. The aeroplane was based and maintained in Belgium. No in-depth study of the maintenance and technical condition of the aeroplane was carried out as part of this investigation.

1.7 Meteorological information

The analysis by the French met office, Météo-France, indicated that a low-pressure system was generating a northerly cold air stream in the North Sea. This cold air stream came up against a mass of settled warm air over southern Europe. The confrontation between these two air masses resulted in an area of stratus extending north of a line Deauville - Albert - Charleroi. Further south, showers and thunderstorms had moved up to the edge of this area of low cloud.

The 16:30 infrared image (IR-HRV) shows the presence of unstable cumulus congestus (TCU) and cumulonimbus (CB) cells (see **Figure 6**, spots of varying size from luminous yellow to white). One of these cells was over Amiens - Glisy aerodrome (LFAY) attesting to the presence of a CB. The 16:20 radar reflectivity image (see **Figure 6**) shows a heavy downpour at the time of landing at the aerodrome. Visibility was not measured at the aerodrome; Météo-France estimated that it was less than 2,000 m.

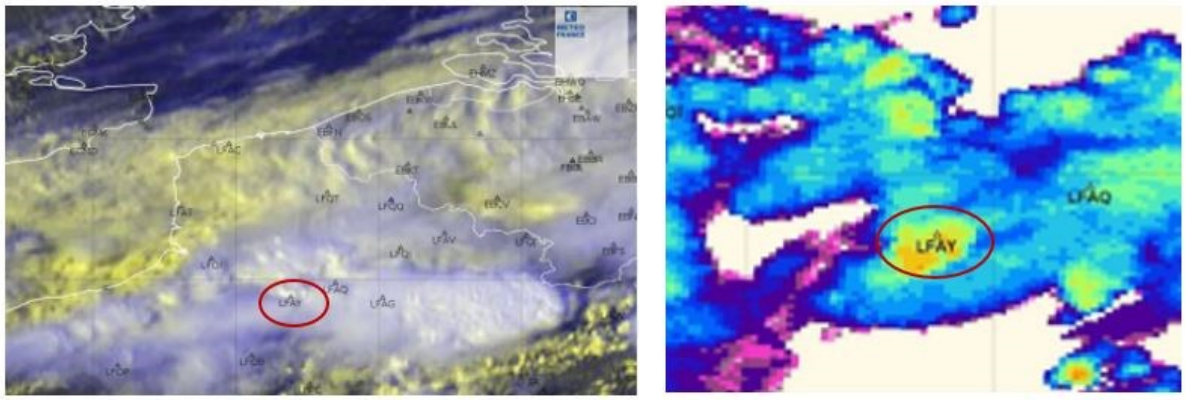

Figure 6: estimated weather conditions at the site of the accident on 14 September 2022 at around 16:30 (Source: Météo-France)

The METAR and TAF information was not available for Amiens aerodrome.

The METAR and TAF, available at the time of departure from Maastricht and then from Épinal, for Albert - Bray (LFAQ) aerodrome located 30 km north-east of Amiens and Beauvais-Tillé (LFOB) aerodrome located 65 km south of Amiens, mentioned the presence of CB and thunderstorms with rain (TSRA).

1.8 Aids to navigation

Not applicable.

1.9 Communications

Not applicable.

1.10 Aerodrome information

1.10.1 General

Amiens - Glisy aerodrome, situated seven kilometres south-east of Amiens, is open to public air traffic and is not controlled. It has had no AFIS service since July 2022. This information was the subject of a NOTAM.

The aerodrome has two runways:

- paved runway 12/30 measuring 1292 m x 25 m with runway low intensity lateral lighting and end lighting (thresholds 12 and 30);
- unpaved runway 12/30 measuring 900 m x 100 m.

It is equipped with a PAPI located on the RH side of the threshold of paved runway 30.

1.10.2 RNP 30 approach

The procedure chosen by the pilot was an RNP 30 (Required Navigation Performance) approach. This satellite-based approach procedure requires an on-board monitoring and warning system, which informs the pilot of any GNSS signal accuracy or integrity errors (thresholds are set according to the RNP approach categories).

At the time of the accident, the Amiens RNP 30 approach procedure was divided into several categories:

- a 2D RNP 30 approach down to LNAV minima: during this approach, only horizontal guidance is provided based on GNSS data. For this approach, the Minimum Descent Altitude (MDA) is set at 710 ft;
- a 3D RNP 30 approach down to LNAV minima: this approach procedure uses vertical guidance provided by a satellite-based augmentation system. For this approach, the decision altitude is 565 ft;
- circle to land with a minimum descent altitude set at 770 ft when an AFIS agent is present and at 1000 ft when no AFIS agent is present.

Instrument approach procedures in the absence of air traffic units at an aerodrome are described in the Aeronautical Information Publication France (AIP) Part 2 EN-ROUTE Chapter ENR 1 General Rules and Procedures.

1.5.2.10 Use of instrument approach procedures without air traffic services at the aerodrome

Instrument approach procedures are only authorised in the following conditions:

- *the QNH altimeter setting parameter is transmitted by an automatic parameter transmission system (STAP);*
- *a designated station for providing the QNH is indicated on the IAC chart;*
- *there is an air traffic control unit at the alternate aerodrome, chosen by the operator or the crew, during the specified periods of use.*

The approach procedures will be followed by circling to land for which minima are possibly increased and published.

The rules for joining the aerodrome circuit at the end of an instrument approach procedure are set out in the Order of 12 July 2019 General Air Traffic Procedures for the Use of Aerodromes by Aircraft.

This order states that for aerodromes with no control service:

7.2.1.3. On an aerodrome without an Air Traffic Service (ATS)

On an aerodrome without an ATS, the pilot-in-command of an aircraft shall:

- *on departure, assess the parameters before leaving the apron;*
- *on arrival, acquire the QNH altimeter setting from a designated station in accordance with a procedure approved by the civil aviation authority having territorial jurisdiction, perform a published approach procedure and then circle in order to carry out a reconnaissance of the aerodrome. This examination must focus in particular on the signal area, the windsock, the condition of the surface of the manoeuvring area in order to determine the runway or landing area to be used and to ensure that the use of the aerodrome does not present any apparent danger. If weather conditions permit, the pilot-in-command interrupts his descent so as to circle above the highest of the aerodrome circuits. In all cases, the pilot-in-command circles at an altitude compatible with the operational minima associated with the approach procedure performed.*

In the case of this accident, due to the absence of a control unit at the aerodrome at the time of the occurrence, the pilot was expected to start the RNP 30 approach and then end it to circle to land at a minimum altitude of 1,000 ft.

The visual landing chart (VAC chart) provides a RH aerodrome circuit for runway 30 under VFR (the downwind leg is to the north of the runway) at an altitude of 1,200 ft.

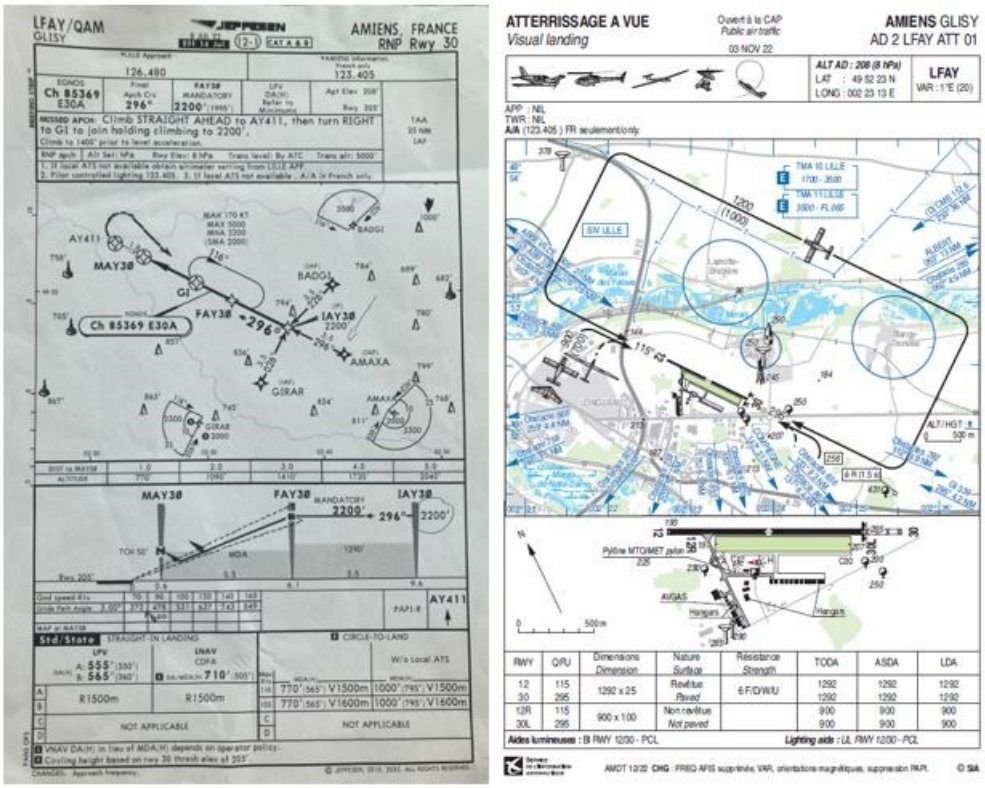

Figure 7: Jeppesen RNP 30 approach chart used by the pilot (Source: Jeppesen) and VAC chart (Source: SIA)

1.11 Flight recorders

N9190X does not have a flight data recorder. It is not a regulatory requirement.

1.12 Wreckage and impact information

Not applicable.

1.13 Medical and pathological information

Not applicable.

1.14 Fire

Not applicable.

1.15 Survival aspects

Not applicable.

1.16 Tests and research

Not applicable.

1.17 Organizational and management information

1.17.1 Passenger transport regulatory framework

There are two options for transporting passengers and/or goods, by aircraft, from a point of origin to a point of destination (see French Ministry of Transport website):

- public air transport, or
- private air transport.

1.17.1.1 Public air transport

Public air transport, also known as commercial air transport, is defined as the transport of passengers, goods or mail by aircraft from a point of departure to a point of arrival for remuneration.

International regulations

Annex 6 to the Convention on International Civil Aviation, "Operation of Aircraft", stipulates in paragraph 4.2.1.1 that, "*The operator shall not engage in commercial air transport operations unless in possession of a valid air operator certificate issued by the State of the Operator*." This AOC[8] is defined as being, "*A certificate authorizing an operator to carry out specified commercial air transport operations*."

ICAO also specifies that, "*The issue of an air operator certificate by the State of the Operator shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified.*"

European regulations

In accordance with the standards and practices recommended by ICAO and the European regulations (EC) No 1008/2008 on common rules for the operation of air services and (EU) No 965/2012 (known as "Air Ops") related to air operations, public air transport in Europe is, except for a few exceptions, subject to the possession of all the following documents:

- an air operator certificate, which certifies that the operator holding it has demonstrated to the competent authority, that it meets European and national regulatory requirements, that the aircraft operated meet the required conditions of airworthiness and that their

[8] *Air Operator Certificate.*

organization and management are suitable and properly matched to the scale and scope of the operation;
- an operating licence, which is an administrative authorisation issued by the competent authority to a company, authorising it to provide air services as specified in the licence.

The regulatory requirements are described in annexes III "Part-ORO" and IV "Part-CAT" of regulation (EU) No 965/2012.

American regulations

Unlike Europe, the American civil aviation authority (FAA) has introduced two types of regulatory requirements for commercial transport by defining two types of Air Operator Certificate (AOC).

The Federal Aviation Rules include, in particular, Part 121 "*Domestic, Flag, and Supplemental Operations"* and Part 135 "*Commuter and On Demand Operations and Rules Governing Persons On Board Such Aircraft"* regarding commercial transport.

Air carriers authorised to conduct air operations under a Part 121 certificate are generally large U.S.-based airlines, regional air carriers and all cargo operators.

The FAA introduced Part 135 to establish a less demanding set of rules and regulations than Part 121. These regulations are aimed at air operators offering passenger and cargo services in areas not served by scheduled flights or for public or private on-demand air transport flights for remuneration.

Each type of activity is associated with specific limits. These include, for example, the number of passenger seats that can be installed on board the aeroplane or maximum payload limits.

Part 135 establishes minimum requirements that must be met by operators of these aircraft, in order to guarantee safe and effective operation and ensure the safety of passengers carried for remuneration.

These requirements cover many areas such as:
- the structure and management of operations;
- the safety management system, the operations manual;
- management of the continuing airworthiness of aircraft;
- crew monitoring in terms of licences, training, and flight time and duty limitations.

This has helped to establish a clear chain of responsibility between those who have a role in the operation of an aircraft, from pilots and maintenance staff to aircraft owners.

1.17.1.2 Private air transport

In Europe, certain passenger transport activities for remuneration may be exempted, under certain conditions, from all or part of the obligations relating to public transport, and thus come under general aviation regulations (Article 6 - Derogations, Air Ops regulation).

The regulatory requirements of these activities are described in annex VII - Operation of other than complex motor-powered aircraft to conduct non-commercial operations - known as Part-NCO of the Air Ops regulations. In some specific cases, the European regulations give the national authorities the responsibility of defining the additional requirements to be complied with.

These passenger transport for remuneration activities outside the regulatory framework of public air transport take many forms, and on-line platforms for putting passengers, pilots and aircraft lessors in contact with each other have been created to promote these activities.

- **Dry lease own-account transport (scope of flight indicated by Openfly for accident flight)**

Under European regulations, as long as the activity meets the conditions for being excluded from public transport rules, there are no additional regulations to those applicable to general aviation.

In France, article L.1000-3 of the Code of Transport states that the own-account transport of passengers or goods organized by a public or private entity is not considered to be public transport.

The Code of Transport also stipulates that:

- article L. 6400-3: the leasing of an aircraft is the operation whereby a lessor makes an unmanned aircraft available to a lessee.
- article L.6400-2: the chartering of an aircraft is the operation whereby an owner makes an aircraft with crew available to a charterer. Unless otherwise agreed, the crew remains under the direction of the owner.
- Article L-6412-6: any company chartering an aircraft for remuneration for a transport operation is subject to the laws and regulations applicable to public air transport, regardless of the use made of the aircraft by the charterer.

An instructing party (natural or legal person) may therefore organize an own-account passenger transport flight, covered by general aviation regulations, as long as the aircraft is leased under a dry lease which is not accompanied by the provision (direct or indirect) by the lessor, of a flight crew, in which case it would be considered as a charter operation, subject to public transport regulations.

In France, articles L.6131-1 to L.6131-4 deal with the liability of crews and operators towards third parties and articles L.6421-3 to L.6421-4 with the liability of the air carrier towards passengers.

Unlike public air transport, general aviation regulations do not explicitly clarify who assumes the responsibilities of the operator in the context of a dry lease. It is generally accepted that the instructing party assumes the role of the operator, since it is the former who both leases the aircraft and calls on the services of a pilot.

Given all the responsibilities and the sharing of tasks in this type of operating regime, the two contracts between the instructing party, the aircraft owner and the pilot must be carefully drafted.

Standard contracts are available on the Internet. They include a paragraph defining the responsibilities of the lessee. From the moment that the aircraft is handed over, responsibility for the aircraft is transferred to the lessee who, in his capacity as custodian of the leased aircraft, will be liable for any damage caused to the aircraft, or, in the course of its use, to persons, whether or not transported, including the pilot, or to property. The lessee undertakes to use the aircraft in accordance with the instructions in the flight manual and all legal and regulatory requirements.

The abuses and breaches of these provisions regularly take the form of violations of the conditions of use of the aircraft under the lease contract, or of the nature of the relationship between the pilot and the lessor (and therefore of the possible switch to the charter regime).

When questioned about the existence of platforms putting aircraft owners, pilots and customer-passengers into contact with each other, the DGAC indicated to the BEA that its position is to consider that the activity consisting, in return for payment, of offering a service on the Internet to put aircraft owners, pilots and customer-passengers into contact with each other can easily lead to persons taking on the responsibility of an operator carrying out a commercial air transport activity. Thus, the instructing party would be wholly responsible for the performance of the flight and if the former intends to avail itself of a "turnkey" service and rely on an entity for the organization of the flight (provision of both the aircraft and the crew), the transport operation, failing to comply with the laws and regulations applicable to public air transport would amount to illegal public transport.

The DGAC added that its means of combating illegal public transport are based on administrative or criminal proceedings with the support of the Air Transport Police (GTA).

It specified that it is difficult to establish the illegal character notably due to:

- the absence of a regulatory definition and a precise legal framework within which private transport can be carried out;
- the complexity and variety of legal situations, which offer numerous "opportunities" to get around the legislation (flight-sharing, dry lease, co-ownership, etc.).

In the event of an accident, the person who assumes liability for the flight may be, depending on the context, the platform, the instructing party (passenger or not) or the pilot.

In parallel with the repressive actions, the DGAC has also set up a preventive measure which mainly consists of disseminating information:

- In August 2021, the French Air Transport Directorate (DTA) published an awareness-raising letter (see **Appendix 1**) addressed to French pilots, national federations and trade unions likely to work in the scope of private own-account transport.
- In November 2022, the DGAC also published a guide for passengers to help them determine whether the flight they are planning is legal and will provide them with a level of safety corresponding to their expectations (see **Appendix 2**).

1.17.2 Differences between public and private air transport: case of own-account flights carried out by the pilot on board N9190X via Openfly

In relation to the accident to N9190X, the following differences should be noted, in particular:

Pilot age requirements

Regulation EU No 1178/2011 (known as "Air Crew" regulation) specifies in paragraph FCL.065 Curtailment of privileges of licence holders aged 60 years or more in commercial air transport:

> *"(a) Age 60-64. Aeroplanes and helicopters. The holder of a pilot licence who has attained the age of 60 years shall not act as a pilot of an aircraft engaged in commercial air transport except: (1) | as a member of a multi-pilot crew;"*

Each pilot must therefore have the necessary regulatory prerequisites and hold the appropriate licence and qualifications.

The 64-year-old pilot of N9190X would not have been able to fly alone as a pilot on a public transport flight.

Flight duty time requirements

The Air Ops regulation defines flight duty time as a period beginning when a crew member is required to report for duty, which may include a flight or series of flights, and ending at the end of the last flight on which the crew member is on duty, when the aircraft is stationary and its engines are shut down. In public transport, the maximum flight duty time for a crew of two pilots is 14 hours.

The pilot of N9190X had had a flight duty time of more than 17 hours on 25 June 2022.

Requirements regarding the organization of the operator, which must take flight safety into account

Operators providing public transport must hold an AOC. In commercial air transport, the operator must comply with requirements in a number of areas, such as the structure and supervision of operations, including the appointment of managers for flight and ground operations, crew training and continuing airworthiness, the introduction of a safety management system, an operating manual and crew monitoring. For example, an airline is responsible not just for crew training but also for recurrent crew training, flight and duty time limitations and rest requirements.

In the case of the accident flight, the instructing party, who was also a passenger, had not completed any contracts with the pilot and the owner of the aeroplane. The division of the operator's responsibilities in the context of a dry lease was not, therefore, clearly established.

1.17.3 Previous accidents which occurred in the scope of private air transport

In the scope of accidents which occurred in an own-account private transport flight, the BEA has already highlighted the differences in terms of safety level, insurance cover, organizational and aircraft maintenance requirements as well as pilot training and recurrent training requirements, that exist between an own-account transport operation and a commercial transport operation:

- Accident to the Agusta Bell AB206 registered F-HGJL on 2 May 2018 at around 35 NM south-west of Cayenne (French Guiana) which also mentioned the UK investigation authority (AAIB) report into the accident to the Piper PA-46-310P Malibu registered N264DB on 21 January 2019.
- Accident to the CESSNA - 207 registered F-OSIA on 25 January 2019 at Cayenne (French Guiana)
- Accident to the PIPER - PA-46 - 350P registered F-GUYZ on 8 February 2019 at Courchevel

In the scope of the previous investigations, the BEA issued the following safety recommendations:

Recommendation FRAN-2021-018 issued by the BEA in November 2021 following the accident to the Agusta Bell AB206 registered F-HGJL

"In French Guiana, the operators holding an AOC judge it necessary to only employ pilots who have a minimum experience as pilot-in-command of around 1,000 flight hours. A pilot who does not have this experience and who wishes to work in passenger air transport therefore has no other option than to fly in the scope of own-account transport.

This type of operation does not aim to provide the same safety level as a commercial air transport operation.

The investigation showed that potential instructing-party customers do not know or are often poorly informed about the differences (safety level, insurance cover, organizational and aircraft maintenance requirements as well as pilot training and recurrent training requirements), that exist between an own-account transport operation and a commercial transport operation. Indeed, the actions carried out up to now do not guarantee that all potential customers and/or passengers are

informed. The DGAC indicated that the absence of a regulatory framework meant that it could not require aircraft hire companies and pilots to provide all this information to their passengers or when signing a contract with an instructing party.

Consequently, the BEA recommends that:

- ***Whereas the potential lack of knowledge of instructing parties with respect to their regulatory obligations when carrying out own-account transport;***
- ***Whereas the pilots and aircraft hire companies have the appropriate level of knowledge to inform the potential instructing party;***
- ***Whereas the difference in safety level between a flight carried out by an operator holding an AOC and a flight carried out in the scope of own-account transport;***

The DGAC take the necessary measures to impose, in particular in French Guiana, on aircraft hire companies and pilots, a general obligation to inform potential instructing parties of their responsibilities in terms of the organization and safety of the flight and the differences between commercial air transport and own-account air transport."

In March 2022, the DGAC replied to this recommendation indicating that the regulatory authority may not legally impose an obligation on private operators to provide information to third parties unless this is provided for by law. To date, no such obligation has been imposed by the legislator. Nevertheless, the DGAC has decided to raise awareness and encourage aircraft hire companies and pilots to inform potential instructing parties of their responsibilities in terms of the organization and safety of the flight and the differences between commercial air transport and own-account air transport. To this end, two actions have been implemented in French Guiana and more generally in the Antilles-Guyane area:

- letters to raise awareness about the regulations applicable to commercial air transport were sent to all the instructing parties identified, in particular public bodies (town halls, administrations) and mining companies, copies of which were provided to the BEA;
- the identification of aircraft hire companies and pilots with a view to the information campaign regarding the framework of their respective services. This identification was followed by exchanges, which gave rise to regulatory reminders, in particular on the penalties incurred in the event of non-compliance with the regulations. Lastly, for the last several months, the DGAC has been distributing an information leaflet and poster on illegal public transport at aerodromes in mainland France and the French overseas territories, which are also available on the dedicated page of its website https:llwww.ecoloqie.gouv.fr/transport-public-ou-prive. Awareness-raising articles have also been published on Twitter and Linkedln.

In April 2022, in the scope of its recommendation follow-up, the BEA replied to the DGAC indicating that it notes that it is not possible to impose an obligation on private operators to provide information to third parties unless this is provided for by law. The BEA also observes that no legislative provision to this effect seems to exist today and notes that the DGAC does not seem to be considering promoting a legislative change in this respect. The option proposed by the DGAC of encouraging aircraft hire companies and pilots to provide information to potential instructing parties could provide a partial response to the BEA's recommendation. However, the actions listed in the DGAC's reply received on 17 March 2022 appear to be limited to awareness-raising and information actions carried out by the DGAC and of a general nature. They do not include any clear incentives aimed at aircraft hire companies and pilots to provide information to potential instructing parties of their responsibilities in terms of the organization and safety of the flight and

the differences between commercial air transport and own-account air transport. Consequently, the BEA invites the DGAC to complete its response before ruling on it.

Recommendation FRAN-2021-0006 issued by the BEA in July 2021 following the accident to the Piper - PA-46 registered F-GUYZ

"The companies or web platforms which put aircraft owners, pilots and passengers into contact with each other are not obliged to make a declaration or to contact the DGAC. The services proposed can appear to be similar to those of commercial transport for an uninformed passenger. The operating constraints associated with the flights are often substantial and can exert pressure which is difficult for a pilot to manage without operational support. They may also lead to the pilots in question accepting and undertaking flights where they do not sufficiently control the risks.

The safety requirements associated with these activities are not at the same level as those for commercial air transport, in particular with respect to the assessment and training of pilots.

The French civil aviation safety directorate (DSAC) and the air transport police (GTA) carry out independent aircraft checks and may detect infringements of the regulations. The actions currently carried out do not actively search for and identify air operations proposed or organized by web platforms which resemble commercial air operations without meeting the regulatory requirements in force. During the investigation, the BEA was able to identify flight operation proposals on websites connecting passengers and pilots, which might be on the fringe of air transport regulations. This information could be used to organize targeted checks. A coordinated action between the GTA and DSAC would permit the implementation of such checks.

Consequently, the BEA recommends that:

- ***whereas the growing development of platforms connecting passengers and pilots, with certain flights resembling passenger commercial air transport without necessarily providing the expected safety level;***
- ***whereas certain platforms permit the development of the light aviation activity while complying with the rules in force and thus participate in the development of an aeronautical culture in France;***
- ***whereas the GTA is placed under the Civil Aviation Director General;***

the DGAC formalize a coordinated action plan between its relevant services and the GTA to actively search for and identify air operations proposed or organized by web platforms which resemble commercial air operations without meeting the regulatory requirements in force, then clearly rule on the legality of these operations and bring to an end the operations which do not guarantee the required safety level."

In May 2023, the DGAC replied to this recommendation, indicating that it has formalized a coordinated action plan between its relevant services and the GTA to actively search for and identify air operations proposed or organized by web platforms which resemble commercial air operations without meeting the regulatory requirements in force, and then assess the legality of these operations, including with the platforms concerned.

This action plan is structured around three areas: prevention (staff training, information flyers, letters to self-employed pilots, etc.), repression (criminal and administrative sanctions) and deterrence (checks at aerodromes, etc.).

1.17.4 OpenFly information

OpenFly is a company created in 2020 (previously called Air Affaires) which offers a collaborative network enabling companies to lease aeroplanes and hire pilot services via an on-line platform.

OpenFly offers two types of air transport:

- the bringing together of private aeroplane owners, professional pilots and potential customers via a subscription to the on-line platform for a cost of a few thousand euros;
- the chartering of aeroplanes belonging to air operators.

After subscribing to the on-line platform, the instructing party wishing to book a flight selects the departure and destination aerodromes and the date of the flight. The OpenFly site then proposes a list of aeroplanes and pilots available for the flight.

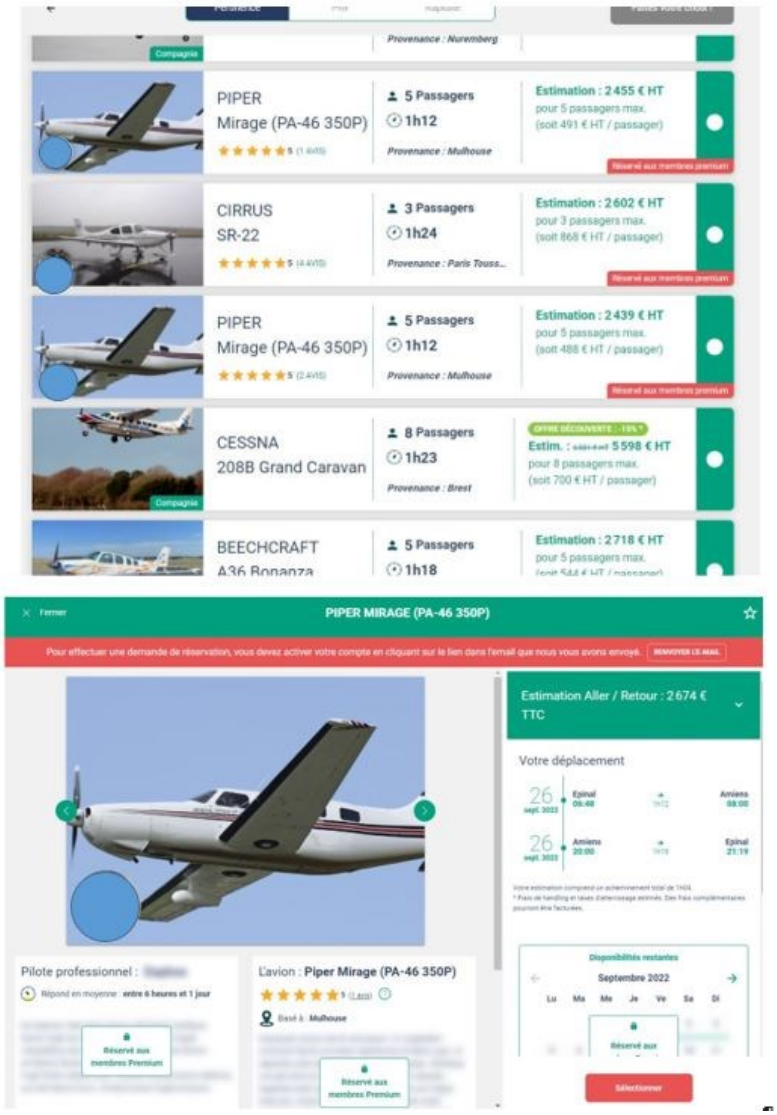

Figure 8: excerpts of the procedure to reserve a flight on the OpenFly site

After each reservation request, the instructing party receives information to the effect that the reservation request falls within the scope of an own-account business trip, which comes under private air transport, and that it is their responsibility to complete two separate contracts, one with the pilot and the other with the aircraft lessor.

Figure 9: information from OpenFly sent to the instructing party once the reservation has been made (Source: Openfly)

OpenFly also sends a document (see **Figure 10**) to the aircraft owner and the pilot to provide them with the following details:

- contact details of the instructing party (originator of the flight request);
- information about the flight times and proposed route;
- the price for hiring the pilot and leasing the aeroplane.

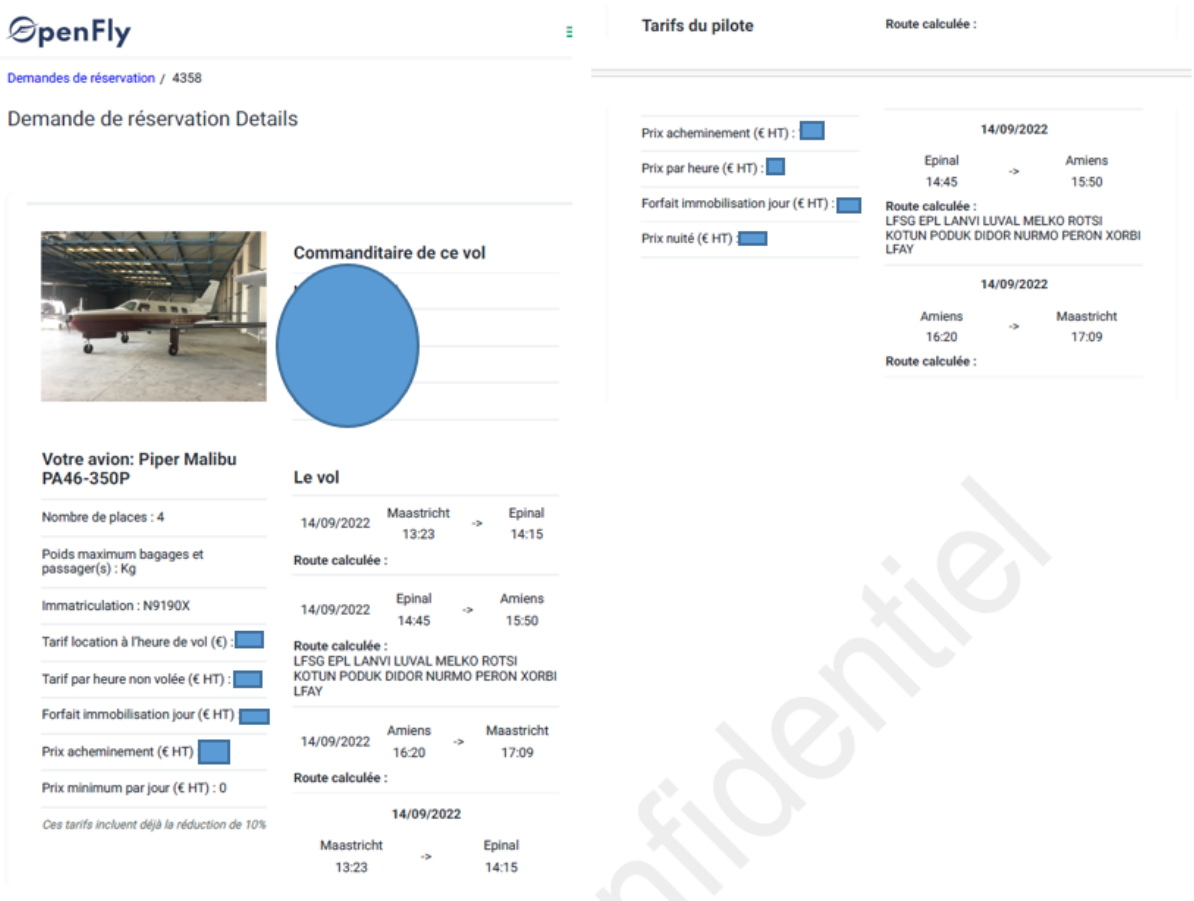

Figure 10: document summarizing the reservation sent by OpenFly to the pilot and to the owner of the aeroplane (Source: aeroplane owner)

In April 2023, this platform listed 72 aircraft belonging to private owners and 147 professional pilots. Around twenty air operators with an air operator certificate who could carry out public transport flights were also listed. Around 240 members had registered on this platform. OpenFly had enabled more than 2,200 contacts to be made with a view to leasing an aircraft for flights in France (85%) and abroad (15%).

In order to register on the platform:

- pilots must hold a commercial pilot licence (CPL or ATPL), an instrument rating (IR) and a class 1 medical certificate. They must have logged at least 500 flight hours as pilot-in-command under IFR. A minimum of 25 flight hours on type is also required. OpenFly specifies that the average experience of the pilots is 4,600 flight hours as pilot-in-command, including 2,200 hours under IFR;
- aircraft owners must also declare that their aircraft have valid certificates of airworthiness and airworthiness review certificates, that they are certified for IFR flight and that maintenance is up to date and carried out by an approved maintenance workshop.

OpenFly management indicated to the BEA that they do not provide the contracts binding customers to the lessor and the pilot, and that they do not check the declarations made by the pilots and aircraft owners.

1.18 Additional information

1.18.1 Pilot's statement

The pilot explained that he knew the owner of the aeroplane and that the latter had suggested that he register himself on the list of available pilots on the OpenFly platform in order to fly with him on his aeroplane.

The pilot specified that for all these flights, no contract had been signed with the passengers before the flights and that he only sent the invoice to the passengers once the flights had been completed. He added that the passengers had informed him before the flight, that they did not mind landing at Beauvais. In order to avoid the owner of the aeroplane having to pay higher landing taxes, he preferred to keep Amiens as his destination aerodrome.

On the day of the accident, the pilot prepared the flight and obtained weather information (Lille TAF and METAR). This information forecast the presence of TCU clouds. He did not consult the NOTAM which indicated that there was no AFIS agent. Neither did he consult the AIP France and was not aware of the Order of 12 July 2019 on general air traffic procedures for the use of aerodromes by aeroplanes.

The pilot explained that the flight to Amiens had proceeded normally and that during the exchanges with the Lille controller, he had not understood that there was no control service at Amiens aerodrome. He explained that this was why he did not try to contact the Albert controller as advised by the Lille controller.

During the first approach to Amiens, heavy showers severely degraded visibility and the pilot tried to contact the AFIS agent to ask for the PAPI and runway lights to be switched on.

The playback of the recording of the A/A frequency showed that someone answered him[9]. The poor quality of the transmission meant that it was not possible to understand the content of what was said. The pilot specified said that this reinforced his belief that there was an AFIS agent. He therefore continued trying to contact this person to ask them to switch on the runway and PAPI lights several times without success.

The pilot stated that he had decided to carry out an RNP 30 approach to the LPV minima with a decision altitude of 565 ft. He indicated that he thought that the aeroplane was equipped with avionics capable of performing this type of approach (horizontal and vertical guidance based on GNSS information). He selected a radio altimeter activation threshold of 565 ft.

The pilot explained that during the preparation for the RNP 30 approach, the GNSS computer (Bendix 90) and the HSI did not couple. He then asked the owner of the aeroplane to use the Bendix 90 to select the various characteristic points of the RNP 30 approach, successively AMAXA, IAY30, FAY30 and MAY30 and to call out the headings to be followed to reach them.

To follow the vertical profile of the approach, he also asked the owner of the aeroplane to tell him when they were overhead each of these points so that he could check that the aeroplane's altitude corresponded to that shown on the paper Jepessen chart at his disposal. The pilot added that, as

[9] The investigation was able to determine that it was in fact a pilot who was carrying out maintenance work on his microlight in a hangar who replied to the pilot that he could switch on the runway lights by pressing the PTT.

the owner of the aircraft was not trained to fly in a crew configuration, he was not always able to give him the guidance information in advance. He stressed that this significantly increased his workload for managing the approach.

On perceiving the runway late, the pilot flew a missed approach. He explained that the owner of the aeroplane suggested that he carry out a short aerodrome circuit rather than follow the published missed approach procedure, as the latter would take him too far out to restart an RNP approach. The pilot specified that he probably allowed himself to be influenced and followed the aeroplane owner's advice. He subsequently aborted the visual approach he was carrying out because of showers that prevented him from making out the runway.

During the third approach, the passengers seated in the rear were showing their irritation. One of them got up from his seat, shook his shoulder and put his smartphone in front of his face to show him where the runway was. The owner of the aeroplane then calmed the passenger down and asked him to return to his seat so as not to disturb the pilot.

The pilot attempted a new RNP 30 approach. During this approach, the aerodrome operations manager was able to get into contact with the pilot and informed him that the PAPI was on and that she had set the runway lights to their brightest setting.

The pilot explained that he could only see the PAPI and thinking that they were on the LH side of the runway, he intentionally followed a path to the RH side of the PAPI. He added that he had not taken into account that the latter were in reality on the RH side of the runway.

When he acquired sight of the runway, he realised that he was offset to the RH side of the runway centreline. He then made a LH turn. He could no longer remember the speed displayed at this time and indicated that he did not hear the stall warning.

The pilot added that he did not have exact knowledge of the characteristics of own-account air transport or the associated regulations.

1.18.2 Statement from aeroplane owner

The owner had owned the aeroplane since 2003. He indicated that during discussions with other pilots, he heard about OpenFly. He approached this company to offer his aeroplane for lease. He hired it out via the OpenFly platform for the first time in May 2022. He explained that the aim was to give him the possibility of carrying out flights with his aeroplane and that he always flew with the pilot when his aircraft was leased out.

He explained that he provided OpenFly with a calendar of the availability of his aeroplane. If a customer chose his aeroplane and booked it via the OpenFly website, he would receive an email from OpenFly and simply had to confirm the availability of his aeroplane.

He added that he did not provide customers with a contract before the flight and simply sent them an invoice once the flight had taken place. For the accident flight, the owner explained that he had had no contact with the passengers and that it was the pilot who coordinated with them to organize the flight.

On the day of the accident, he took charge of replenishing the aeroplane before departure and then assisted the pilot during the flight by entering the coordinates of the waypoints used by the on-board Bendix 90 computer and by monitoring the aeroplane's flight path using the Jeppesen application installed on his tablet.

He explained that the weather conditions were not good when they reached Amiens. When the RNP approach to runway 30 was aborted, he advised the pilot to carry out a short circuit rather than repeat the RNP approach.

During the last attempt to land, he did not hear the stall warning just before the stall.

He added that he did not have knowledge of the operational characteristics of own-account private air transport or the associated regulations.

1.18.3 Statements from passengers

The person who booked the flight on the OpenFly website was one of the three passengers. None of them had any knowledge of the aeronautical sector. The passenger who booked the flight, explained that he was used to booking flights via OpenFly as part of his professional activity. He specified that he had neither requested nor received any contracts from the owner of the aeroplane or the pilot prior to the flight. He added that he did not know that, as the instructing party, he might have to take the role of an air operator and assume responsibility in the organization and smooth execution of the flight.

After making the reservation on the OpenFly website, he was only in contact with the pilot by email. He did not consider contacting the owner of the aeroplane as well. He specified that contracts were not signed systematically and that some pilots and aeroplane owners do not ask for them.

On the approach to Amiens, the passengers reported that it was "tipping down" with rain, that visibility was poor and the ceiling very low.

During the various missed approaches over Amiens aerodrome, they followed the aeroplane's flight path using the applications on their mobile phones. They mentioned in particular, that they flew over Amiens and could make out the stained glass windows in the cathedral bell tower.

One of the passengers, not understanding why the aeroplane was on such flight paths and moving away from the runway, got up and went to tell the pilot that he was moving away from the runway while showing him his phone.

They explained that during the last approach, the aeroplane's flight path was parallel to and on the RH side of the runway. They had not realised that the aeroplane was stalling, but they felt a very hard landing.

1.18.4 Statement from operations manager at Amiens aerodrome

The operations manager at Amiens aerodrome indicated that since July 2022, only the A/A service was available.

She explained that before becoming operations manager, she worked as an AFIS agent at the aerodrome and that she was able to accurately estimate visibility based on the visual references that she could see from the control tower. She indicated that the weather conditions at the aerodrome at the time of the accident did not permit a landing. She estimated that visibility was less than 700 m, whereas an RNP 30 approach requires a minimum visibility of 1500 m.

She specified that she heard an aeroplane circling over the aerodrome and attempting to land several times. She perceived it as being very low and decided to go up to the control tower and contact the pilot to provide help. When in contact with him, she informed him that she was switching on the runway lights and setting them to maximum brightness. She also told him that the PAPI was in operation.

She added that she had been called on the phone by someone[10] who was in Amiens town centre and who was surprised and worried to hear an aeroplane flying very low over the town.

1.19 Useful or effective investigation techniques

Not applicable.

[10] This witness was a commercial pilot and knew the Amiens procedures.

2 Analysis

2.1 Introduction

The manager of a company had reserved, via the on-line platform OpenFly, a flight to transport both himself and two other people from Épinal - Mirecourt to Amiens - Glisy. The aeroplane and the pilot selected were based in Belgium.

On the day of the accident, the pilot and the owner of the aeroplane met up at Maastricht airport (Netherlands) from where they took off bound for Épinal. The owner of the aeroplane accompanied the pilot and was sat in the front RH seat.

After the three passengers had boarded at Épinal, the pilot took off bound for Amiens under an IFR flight plan. On the approach to Amiens, the pilot chose to carry out a RNP 30 approach. In the absence of an AFIS agent, the pilot was expected, after the RNP 30 approach, to circle above the highest aerodrome circuit, in order to carry out a reconnaissance of the aerodrome (see paragraph 1.10.2). The pilot did not comply with this regulatory measure as he was not aware of it and thought that there was an AFIS agent at Amiens.

The minimum altitude selected by the pilot was 565 ft, corresponding to the minima of an RNP approach with LPV minima. However, this type of approach could not be carried out with the aeroplane's avionics equipment and the instrument indicating the lateral deviation (HSI) was inoperative. It was therefore not possible to carry out an IFR RNP 30 LPV or LNAV approach.

An approach was nevertheless carried out based on improvised crew cooperation with the owner of the aeroplane following the aeroplane's flight path on his tablet and calling out for the pilot, the headings to be followed in order to stay on the horizontal profile. The owner of the aeroplane had neither the ratings nor the experience or training required to carry out this task. The altitudes on passing overhead the key waypoints of the approach was checked by the pilot, by comparing the altimeter values with the values shown on the Jepessen chart placed on his knees.

During the approach, the pilot was confronted with stormy conditions with heavy showers which severely limited visibility. These weather conditions meant that the landing could not be carried out in good safe conditions and the pilot aborted the approach when he acquired sight of the runway and observed that he did not have the necessary runway length for landing.

Influenced by the owner of the aeroplane, the pilot did not comply with the published missed approach IFR procedure. He then twice tried to land by carrying out visual approaches.

The radar track, the statements and the A/A frequency recordings show that the pilot lost his external visual references several times and that the aeroplane flew at an altitude of less than 1,000 ft on a path which did not correspond to any published VFR or IFR path, and which took him over Amiens.

During the last approach, only seeing the PAPI lights, the pilot offset the aeroplane to the right, as he wrongly thought that the PAPI was installed on the LH side of the runway. At low height, he perceived the runway on his LH side and turned to align with the runway centreline. The aeroplane stalled and touched down hard on the runway.

The analysis covers the following points:

- private passenger transport flight for remuneration;
- gaps in the regulatory framework for private air transport.

2.2 Private passenger transport flight for remuneration

Over the last several years, a growth in passenger transport flights for remuneration in the guise of private transport has been observed, positioned between public air transport and private transport.

On-demand flights offered by platforms that put passengers, private aircraft owners and pilots in contact with each other are booming. This activity meets a number of objectives: to develop general aviation, to offer destinations that are not served or are only served to a limited extent by public air transport operators, to offer passengers the possibility of travelling at a lower cost, and to offer pilots the possibility of reducing the cost of their flight hours or to be remunerated for their transport activity.

Unlike public air transport, which is subject to strict regulations and requirements, private air transport is not subject to the same safety requirements, such as:

- requirements regarding the age and ratings of pilots and limitations on the amplitude of the flight hours;
- requirements regarding the management of the continuing airworthiness of the aircraft;
- requirements regarding the organization of the operator, which must include measures to guarantee flight safety.

Nor is there any oversight of the operator by the national authority through audits and controls, as would be the case if it held an Air Operator Certificate (AOC).

These differences underline the divergence in terms of safety requirements between a qualified pilot carrying out private flights and a qualified pilot integrated in an airline type structure. These differences are not known and are difficult to understand for passengers who have no knowledge of the aeronautical sector.

In the scope of the accident flight, the on-line platform put the various parties in contact with each for the performance of the flight. These platforms generally do not inform passengers of the differences mentioned above.

2.3 Gaps in the regulatory framework for private air transport

In the context of public air transport, only operators holding an operating licence and an Air Operator Certificate issued by the authorities of a European Union Member State are authorised to carry passengers or cargo by air for remuneration. This activity is subject to strict regulations and checks guaranteeing a high level of safety.

However, there are a number of conditions laid down in European regulations that make it possible to waive the obligations relating to public transport and to comply with the technical operating requirements specific to general aviation. This has led to the emergence of new activities in private passenger transport for remuneration, with lower safety guarantees for passengers.

However, sometimes those organizing these activities unduly disregard the rules applicable to public transport, within a regulatory framework that is difficult to understand.

This situation is all the more complex in that the private air transport activity via platforms connecting passengers, pilots and aeroplane owners concerns the whole of Europe. The accident to N9190X is a good example of this, as the accident occurred in France, the platform and the passengers were French nationals, and the pilot and lessor were Belgian.

In the United States, in order to manage the passenger transport for remuneration activity whether it be private or public, the American Civil Aviation Authority (FAA) established regulatory requirements specific to all on-demand transport activities (commonly known as Part 135). These requirements are less strict than those imposed on the major US-based airlines (Part 121). There are no similar regulations in Europe.

The BEA, in the scope of its investigations into accidents on the French territory, has highlighted on several occasions the limits of the current system and the limits of the regulatory tools available to the DGAC to oversee this type of operation, in particular own-account flights (see paragraph 1.17.2).

3 CONCLUSIONS

3.1 Findings

- The accident flight was, for the instructing party, a private passenger air transport flight for remuneration.
- The passengers, the pilot and the aeroplane lessor were put into contact with each other via an on-line platform in return for payment in the form of a subscription to the platform paid for by the instructing party.
- No distinct contract between the instructing party, the pilot and the lessor was drawn up.
- The passengers had no knowledge of the obligations and conditions for carrying out this type of service which they assimilated with passenger public transport.
- The passengers had no knowledge of the difference in safety level between an own-account flight and a flight performed by an air operator holding an air operator certificate.
- The pilot held a commercial pilot licence and the ratings required to carry out a flight on N9190X in the scope of a flight covered by the general aviation regulations.
- The pilot's age, over 60 years old, meant that he could not carry out a single-pilot public transport flight.
- The aeroplane was not equipped to carry out a RNP type instrument approach with LPV minima, a procedure which uses vertical guidance provided by a satellite-based augmentation system (SBAS).
- During the various approaches, the pilot did not comply with the published procedures and flew over Amiens at an altitude that was below 1,000 ft.

3.2 Contributing factors

The following factors contributed to the approaches to Amiens - Glisy aerodrome being carried out in weather conditions which very probably did not permit the landing:

- the pilot's lack of knowledge of the operating conditions at Amiens - Glisy aerodrome, and in particular that there was no AFIS agent (although this was indicated by a NOTAM), and of the position of the PAPI on the RH side of the runway. This lack of knowledge points to inadequate preparation for the flight;
- the pilot's lack of knowledge of the on-board equipment and the aeroplane's navigation capabilities.

The non-compliance with the published fight paths exposed the pilot and the passengers to a high risk of collision with obstacles.

The following factors may have perturbed the pilot during the approach and/or encouraged him to continue with the landing at Amiens aerodrome:

- the improvised crew cooperation with the owner of the aeroplane in the RH seat although the latter had neither the ratings nor the experience;
- the passenger's intervention during one of the attempted approaches.

The following factors contributed to a situation in which passenger safety was not ensured on this flight:

- the absence of any national or European regulatory requirement to clearly establish the roles and responsibilities of all those involved in this type of operation (platform, pilot, aircraft owner and instructing party);
- the lack of knowledge of the responsibilities of an instructing party (generally the passengers of the flight) in the absence of an obligation on the various parties (platform, pilot, aircraft owner) to provide information.

4 SAFETY RECOMMENDATIONS

Note: in accordance with the provisions of Article 17.3 of Regulation No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation, a safety recommendation in no case creates a presumption of fault or liability in an accident, serious incident or incident. The recipients of safety recommendations shall report to the safety investigation authority which issued them, on the measures taken or being studied for their implementation, as provided for in Article 18 of the aforementioned regulation.

4.1 Regulatory framework for private air transport

Generally speaking, only operators holding an operating licence and an Air Operator Certificate (AOC) issued by the authorities of a European Union Member State are authorised to carry passengers or cargo by air for remuneration. This activity is subject to strict regulations and checks guaranteeing a high level of safety.

However, there are a number of conditions laid down in European regulations that make it possible to waive the obligations relating to public transport and to comply with the technical operating requirements specific to general aviation. These exceptions have led to the emergence of new activities in private passenger transport for remuneration, using regulatory gaps whereby the various stakeholders are released of the responsibilities usually incumbent on public commercial air transport operators.

In the United States, in order to manage the on-demand passenger transport activity, whether it be private or public, the FAA decided to introduce specific regulatory requirements (Part 135 requirements). Although not so strict as Part 121 requirements applicable to the major airlines based in the United States, these requirements provide additional safety guarantees compared with general aviation.

In Europe, outside of public air transport, there are no similar regulations. The implementation of existing regulatory requirements in this context is all the more complex in that the private air transport activity via platforms connecting passengers, pilots and aeroplane owners concerns the whole of Europe. The accident to N9190X is a good example of this, as the accident occurred in France, the platform and the passengers were French nationals, and the pilot and lessor were Belgian.

In addition, the various investigations carried out by the BEA have shown that the passengers on this type of flight are largely unaware of their responsibilities and the associated level of safety. These passengers, who are not familiar with the aeronautical sector, do not receive sufficiently clear information to understand the differences.

Consequently, the BEA recommends that:

- *whereas the significant development of platforms bringing together passengers, pilots and aircraft lessors;*
- *whereas these activities take multiple forms;*
- *whereas the passengers are not aware of the difference in safety levels between general aviation and commercial air transport;*
- *whereas the absence of European or national regulations clearly defining the roles and responsibilities of the various parties involved (platforms, pilots, aircraft lessors, instructing party/passengers);*
- *whereas these flights are organized in all of the European Union;*
- *whereas in the absence of regulations, this passenger transport for remuneration activity is considered as coming under the general aviation regulations and consequently does not offer a sufficient guarantee of the level of safety for passengers;*
- *whereas the American Civil Aviation Authority (FAA) has put in place regulatory requirements relating to on-demand flight for remuneration (requirements 14 CFR Part 135);*

EASA establish regulatory requirements in order to guarantee the safety of passengers carried on-demand for remuneration outside commercial air transport operations (Part CAT of European regulation AIR OPS).

[Recommendation FRAN-2024-014].

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

Appendices

Appendix 1

Awareness-raising letter addressed to French pilots, national federations and trade unions likely to work in the scope of private own-account transport:

MINISTÈRE
CHARGÉ
DES TRANSPORTS
Liberté
Égalité
Fraternité

dgac direction générale de l'Aviation civile

Direction du transport aérien
Sous-direction des services aériens

Le sous-directeur

Paris, le 11 AOUT 2021

Liste des destinataires in fine

Ref : 21 012 SDS2

Madame, Monsieur,

Nous constatons depuis quelques années le développement de plateformes numériques proposant un service de mise en relation entre propriétaires d'appareils, pilotes et sociétés ou particuliers.

Cette activité commerciale consiste à proposer, contre le paiement d'un abonnement, l'accès à une flotte d'appareils à louer coque nue et concomitamment, à une liste de pilotes offrant leurs services. Les propriétaires, pilotes et clients membres peuvent alors contracter librement entre eux et organiser le vol moyennant facturation aux clients.

Contrairement au coavionnage, cette activité repose sur une facturation aux seuls passagers d'une prestation de pilotage, et ne peut donc être régie par les règles des vols en frais partagés.

Dans ce cadre, je souhaite appeler votre attention sur les risques encourus par les pilotes travaillant pour ces exploitants.

En effet, les pilotes inscrits sur ce type de plateformes opèrent sous un statut de pilote autoentrepreneur sans remplir systématiquement les conditions d'exercice d'un travailleur indépendant[1] exerçant son activité en toute autonomie.

Il s'agit en outre bien souvent de jeunes pilotes souhaitant maintenir leurs qualifications et accumuler des heures de vols et de l'expérience, nécessaires à la progression de leur carrière.

Dans ce contexte, ces pilotes, soumis aux exigences des passagers, et donc à une forme d'obligation de résultat concernant leur transport, sont susceptibles de prendre des risques en acceptant de réaliser des vols en dépit de conditions pouvant mettre en péril la sécurité. (ex. : conditions météorologiques dégradées ou fatigue du pilote). Ceci est notamment rendu possible par le fait que le pilote, se plaçant lui-même sous le régime de l'aviation générale, ne se soumet pas aux mêmes exigences en matière de temps de vol et de temps de repos que dans un régime de transport public.

[1] Critères du travailleur indépendant : Inscription au registre consulaire, déclaration aux organismes de protection sociale, déclaration aux services fiscaux, absence de lien de subordination juridique impliquant une autonomie de gestion.

50, rue Henry Farman – 75720 PARIS CEDEX 15 – Tél : 33(0)1 58 09 43 21

En cas d'incident ou d'accident, les sociétés pourront aisément se dégager de toute responsabilité arguant de ce qu'elles se contentent d'offrir un service de mise en relation ; cela entraînerait de sérieuses difficultés pour déterminer les responsabilités des divers prestataires et particulièrement pour les pilotes. Les assurances ne couvrent par ailleurs pas nécessairement cette activité, et le pilote pourrait ainsi se retrouver à supporter seul la responsabilité, notamment financière, de tout incident rencontré.

La DGAC considère par ailleurs que les opérations réalisées dans ce cadre correspondent à une offre de transport aérien à titre onéreux et doivent être soumises aux règles du transport aérien public, notamment celles relatives à la détention d'un certificat et d'une licence de transporteur aérien. Le système auquel participent les pilotes dans ce cadre leur est ainsi défavorable du point de vue du cadre opérationnel comme de leurs conditions de travail : il génère, enfin, une concurrence déloyale à l'égard des opérateurs autorisés disposant d'un CTA.

De fait, les pilotes opérant par l'intermédiaire de ce type de plateformes s'exposent à des sanctions pénales dont un an d'emprisonnement et 75 000€ d'amende pour défaut de CTA[2] et 1500€ d'amende par vol pour défaut de licence d'exploitation de transporteur aérien[3] ainsi que disciplinaires pouvant notamment entrainer le retrait de la licence de personnel navigant ou des qualifications, assorti d'une éventuelle interdiction d'en solliciter une nouvelle pour une durée pouvant aller jusqu'à 5 ans[4] au titre des codes des transports et de l'aviation civile.

De plus, au titre des dispositions des articles L. 8221-3 et L. 8224-1 du code du travail, ils peuvent encourir trois ans d'emprisonnement et une amende de 45 000 euros pour dissimulation d'activité à but lucratif en cas de non-respect des obligations incombant à un travailleur indépendant.

Je sollicite à ce titre votre appui afin d'informer et de sensibiliser les pilotes sur l'absence de cadre réglementaire des vols opérés par l'intermédiaire de ces plateformes numériques de mise en relation et corrélativement les risques auxquels ils s'exposent.

Je vous prie d'agréer, Madame, Monsieur, l'expression de ma considération distinguée.

Appendix 2

A DGAC guide for passengers to help them determine whether the flight they are planning is legal and will provide them with a satisfactory level of safety:

POUR ALLER PLUS LOIN

Vous pouvez également vérifier si le transporteur figure sur la liste des transporteurs français autorisés à faire du transport public.

Liste des transporteurs français autorisés à faire du transport public :
https://www.ecologie.gouv.fr/sites/default/files/Liste_compagnies_aeriennes_francaises_autorisees.pdf

Le transport public ou privé
https://www.ecologie.gouv.fr/transport-public-ou-prive

La sécurité des activités de loisirs
http://www.securitedesvols.aero

Pour toute information complémentaire quant à la légalité d'une offre de transport aérien, vous pouvez également contacter la DGAC
dta.transport-public-illicite-bf@aviation-civile.gouv.fr

dgac
Direction générale de l'Aviation civile
50, rue Henry Farman
75720 Paris cedex 15
Téléphone : 01 58 09 43 21
www.ecologie.gouv.fr

flickr

Novembre 2022

MINISTÈRE CHARGÉ DES TRANSPORTS
Liberté Égalité Fraternité

dgac direction générale de l'Aviation civile

PASSAGERS avez-vous pensé à votre sécurité ?

Vous vous apprêtez à effectuer un vol pour lequel vous avez effectué un ou des paiements

LE TRANSPORT AÉRIEN PUBLIC EST UNE ACTIVITÉ RÉGLEMENTÉE : LES PASSAGERS ET MARCHANDISES SONT ACHEMINÉS EN ÉCHANGE D'UNE RÉMUNÉRATION.

Au sein de l'Union européenne, à des rares exceptions près[1], le transport aérien public doit être proposé par un transporteur détenteur d'un certificat de transporteur aérien (CTA, pour la sécurité), d'une licence d'exploitation de transporteur aérien (pour les aspects juridiques et économiques) et d'une attestation d'assurance.
Ces documents attestent que le transporteur remplit les exigences requises pour transporter des passagers avec un niveau de sécurité adapté. Lorsqu'un opérateur propose une prestation de transport contre rémunération sans être autorisé à réaliser des vols de transport public, il s'agit de transport public illicite.

ATTENTION
Dans le cas d'un transport public illicite
Le niveau de sécurité offert par le transporteur n'est pas garanti. La gestion de la sécurité aéronautique de l'entreprise n'est pas surveillée par l'administration, la qualification et la formation des pilotes peuvent être moindres, leur temps de travail n'est pas encadré.
Les assureurs ne couvrent pas les accidents d'un transporteur en situation illicite et les victimes ou leurs ayants droits ne seront pas indemnisés.

En s'affranchissant des règles de transport public, certaines entreprises ont des charges moindres que leurs concurrents et peuvent donc proposer des prestations qui paraissent attractives. Elles ne présentent toutefois pas le même niveau d'exigence et de sécurité qu'un vol de transport public autorisé.

LORSQUE VOUS VOYAGEZ AVEC UN TRANSPORTEUR NON AUTORISÉ, VOUS PRENEZ DES RISQUES IMPORTANTS POUR VOTRE SÉCURITÉ.

1 - Par exemple, certains vols locaux ou en ballons (art. R330-1 III du Code de l'aviation civile pour plus de précisions)

Votre vol s'inscrit-il dans le cadre du transport public ou du transport privé ?

UN VOL DE TRANSPORT AÉRIEN PRIVÉ EST UN VOL ORGANISÉ PAR UNE PERSONNE POUR SON COMPTE PROPRE. LE VOL DE TRANSPORT PRIVÉ EXCLUT TOUTE TRANSACTION COMMERCIALE.

À l'opposé du transport aérien public, le transport aérien privé ne nécessite la délivrance d'aucune autorisation préalable. Les exigences en matière de sécurité sont plus faibles que dans le cas du transport public et les transporteurs ne sont pas soumis au même niveau de surveillance.

Un vol de transporteur privé peut prendre plusieurs formes mais dans tous les cas ne peut pas être proposé à la vente. Il peut s'agir par exemple d'un vol gratuit ou encore d'un vol à frais partagés entre les participants, y compris le pilote, ce dernier ne percevant pas de rémunération.

En cas de doute, comment vérifier le statut de mon vol ?
La prestation de transport est-elle réalisée à titre onéreux (hors cas spécifique du partage de frais) ?

NON
Vous êtes dans le cadre du transport privé et vous assurez les responsabilités liées à l'organisation de ce vol.

OUI
Avez-vous organisé vous-même votre transport ? (= en cherchant séparément le loueur d'aéronef et le pilote sans aucun lien entre les deux, sans rémunération d'aucun intermédiaire)

OUI
Vous êtes dans le cadre du transport privé et vous assurez les responsabilités liées à l'organisation de ce vol.

EN PARTIE
Le loueur, le pilote, ou un intermédiaire en relation avec l'un des deux, a-t-il fourni, proposé, désigné ou suggéré le pilote et/ou le loueur ?

NON
Vous êtes dans le cadre du transport privé et vous assurez les responsabilités liées à l'organisation de ce vol.

OUI
Vous êtes dans le cadre d'un transport public. Vous pouvez alors vous assurer auprès du transporteur qu'il détient
- un CTA et une licence d'exploitation
- un certificat d'assurance couvrant les activités de transport public de passagers

NON
Vous êtes dans le cadre d'un transport public. Vous pouvez alors vous assurer auprès du transporteur qu'il détient
- un CTA et une licence d'exploitation
- un certificat d'assurance couvrant les activités de transport public de passagers