

Appendix 4

SAR Communications

At 5 h 30, the OCC dispatcher called the CANARIAS controller from whom he could not obtain any further information on AF447. The CANARIAS controller said that he could only contact the SAL centre and had no contact with the ATLANTICO centre. The controller added that given the time, he should have had AF447 in radar contact but that the latter was not in his air space or in SAL's. The CANARIAS controller and the dispatcher agreed to try and contact the ATLANTICO centre and to keep each other informed.

At 5 h 37, the OCC maintenance shift supervisor and the maintenance centre officer were anxious about the last ACARS message at 2 h 14 mentioning *cabin vertical speed* and the lack of radio contact with any control centre.

At 5 h 50, the OCC contacted the French distress beacon signal processing centre. The latter had not detected any beacon transmission and recommended that the OCC contact the Cinq Mars La Pile Aeronautical Rescue Coordination Centre¹, which was, in its opinion, supposed to process distress beacon signals for aeroplanes registered in France.

At 5 h 56, the OCC shift supervisor contacted the Cinq Mars La Pile ARCC and informed it that had been lost for about four hours contact with AF447. He specified that he had already contacted control organisations. The Cinq Mars La Pile ARCC asked if he had contacted the Spanish control centres and Shanwick. The OCC answered that he had already contacted control organisations, but without success. He added that the AF447 should have been situated around Las Palmas. The ARCC and OCC agreed to contact the Bordeaux, Brest and Shanwick control centres. The ARCC specified that its area of responsibility was limited to the north-west of France.

At 6 h 00, the Cinq Mars La Pile ARCC called the Brest control centre to inform it of the Air France call and to ask if it had a flight plan and to make enquiries if necessary of the Shanwick control centre, the Spanish centres and the Bordeaux centre.

At 6 h 03, the Brest centre contacted the Shanwick centre and informed it that Air France operations were worried about having lost contact with flight AF447. It explained that it had no direct line with Santa Maria and wanted the Shanwick controller to contact the Santa Maria centre to obtain information

At 6 h 04, the Lisbon controller informed the Madrid controller that he had no news. The Madrid controller stated that Brazil had lost contact four hours previously and that the aeroplane could not be contacted by SELCAL, telephone or ACARS. No radar contact had been established. They agreed to call each other back as soon as they had information.

At 6 h 05, the OCC shift supervisor informed the Centre National des Opérations Aériennes² (CNOA) of the flight AF447 situation. He asked if the CNOA had means or contacts around the world to obtain information. The CNOA answered that they would have European airspace monitored in order to detect flight AF447.

At 6 h 07, Cinq Mars la Pile ARCC contacted the Madrid ARCC and asked if it could look for information on flight AF 447. The Madrid ARCC called back at 6 h 24 indicating that after having contacted Barcelona, Las Palmas and the Madrid controllers, it had no information on flight AF 447.

At 6 h 13, the Brest controller indicated to Cinq Mars la Pile ARCC that the AF 447 would be in contact with Moroccan control³, indicating that this information had not been validated and came from the Santa Maria centre, which had had no contact with the AF 447. He added that he was in the process of contacting the Madrid centre in order for the Madrid centre to make enquiries of the Casablanca centre.

¹ The Cinq Mars La Pile ARCC is one of four ARCC responsible for SAR operations in metropolitan France.

² The CNOA is the French military body in charge of the aerial resources assigned to the French RCC.

³ This information resulted from multiple exchanges between the Brest, Madrid, Shanwick and Lisbon controllers, as well as with the Air France CCO.

At 6 h 17, the CNOA called the OCC and indicated that the AF447 flight plan was active but that the aeroplane had still not entered European air space.

At 6 h 20 and 6 h 24, the Brest controller sent the following message to the Lisbon, Madrid and Santa Maria centres:

"Request news of AFR447 Rio de Janeiro – Paris CDG. No contact with his OPS."

At 6 h 27, the Santa Maria controller informed the Madrid controller that flight AF 447 was not in his FIR and that he had no flight plan in his system.

At 6 h 32, the ATLANTICO-Recife ARCC called the OCC long haul deputy shift supervisor and explained that flight AF 447 had left ATLANTICO FIR without contact. He asked if the OCC had information on this flight. The latter answered that it had no news, that no-one had had contact with this flight and that they had tried in vain to contact the aeroplane via ACARS, SATCOM and Stockholm radio. The ARCC asked if they had contacted CANARIAS and Sal. The OCC answered in the affirmative and that they had even contacted Dakar.

Cinq Mars la Pile ARCC was surprised when it learned from the Brest centre that there was no protocol between the various control centres to be able to make enquiries directly about the presence of an aeroplane. The Brest centre controller answered that there were only protocols between adjacent control centres.

At 6 h 35, after several exchanges between controllers⁴, the Madrid controller confirmed to the Brest controller that flight AF447 was in the Casablanca FIR and would enter the Lisbon FIR within 15 minutes. This information was immediately transmitted to Cinq Mars la Pile ARCC and to Air France OCC.

At 6 h 40, the ATLANTICO-Recife ARCC contacted the air force in charge of the search and rescue area and informed them of the disappearance of an aeroplane. The crews of the search aeroplanes were alerted.

At 6 h 44, after contacting the Casablanca centre, the OCC called the Brest controller and indicated that the Casablanca centre had had no contact (radio or radar) with flight AF 447. The OCC said that the Casablanca centre was in contact with the crew of flight AF 459⁵. This information was retransmitted to the Madrid and Lisbon controllers.

At 6 h 57, the OCC shift supervisor informed the CNOA that Casablanca was not in contact with flight AF 447. The CNOA asked if an uncertainty phase had been set off by a control centre and if foreign search and rescue organisations had been alerted. The OCC answered that for the moment it was the control centres who were questioning the situation among themselves.

At 7 h 26, the Brest and Bordeaux controllers were surprised that following so many exchanges between the various centres, no critical *INCERFA / ALERFA / DETRESFA* type phase had been triggered.

At 7 h 32, the OCC shift supervisor asked the CNOA if they had had news. The CNOA informed him that their Spanish correspondent had indicated that the AF447 had not entered his FIR.

At 7 h 32, the ATLANTICO-Recife ARCC called the Air France station at Rio de Janeiro which could not supply further information.

⁴ Among these exchanges, a misunderstanding between the Lisbon controller and the Madrid controller led the latter to think that the airplane was indeed in flight in the Casablanca FIR.

⁵ Entry of the AF 459 in the Casablanca control centre was forecast after that of the AF 447.

At 7 h 41, the Dakar controller informed his ARCC that flight AF 447 should have passed TASIL point at 02 h 20 but that he had not had contact with the aeroplane.

At 7 h 44, the ATLANTICO-Recife ARCC called the OCC deputy shift supervisor who indicated that they had had no news.

At 7 h 47, the ATLANTICO-Recife ARCC asked the Air France station manager at Rio if he had the numbers of the Casablanca and Lisbon control centres. The station did not have these numbers.

At 7 h 51, the CNOA called the OCC and confirmed that neither France, Spain or Portugal had had any news of the AF 447. The OCC provided information on the meteorology, maintenance messages and reporting points provided for in the flight plan, and specified that it had just issued an aeroplane disappearance message in-house at Air France with a view to the setting up of their crisis group.

At 7 h 55, the Madrid duty officer and Madrid ARCC were surprised that everyone was requesting information on this flight but that no-one had yet triggered the INCERFA or ALERFA phases. The air traffic controller questioned whether it was for him to trigger these phases. The Madrid ARCC pointed out to him that if radar and radio contact was lost a DETRESFA phase would have to be triggered directly.

At about 8 h 00, the OCC set up a crisis group. From this moment on, the OCC was freed from handling the monitoring of flight AF 447.

At around 8 h 00, the Dakar Oceanic control centre shift supervisor contacted Dakar ARCC at the end of his shift to inform it of the search in progress for the flight.

At 8 h 02, the Brest centre informed the Cinq Mars la Pile ARCC that the information that the AF 447 was in contact with the Casablanca centre was false. It specified that the aeroplane's last communication was at 02 h 14 UTC and mentioned the possibility of triggering an alert phase. The Cinq Mars la Pile ARCC indicated that it was not qualified to intervene as the event was outside its SAR responsibility area.

At 8 h 07, the Lisbon and Santa Maria centres answered the Brest message of 6 h 20 indicating that they had no information.

At 8 h 15, the Madrid centre sent the ALERFA-INCERFA message to the ATLANTICO, Dakar, SAL, CANARIAS, CASABLANCA and BREST centres.

At 8 h 34, the Brest centre informed the Cinq Mars la Pile ARCC that it was triggering a DETRESFA phase. The ARCC questioned the interest of triggering it as the aeroplane was not in their area of responsibility. The Brest controller answered that it was in order to obtain feedback and to advance the triggering of searches.

Note: Aerial resources belong to the French Navy. Requests for their use must be addressed to specific military decision-making bodies (COM Brest, Ceclant, and CNOA in particular).

At 8 h 45, the ATLANTICO-Recife ARCC alerted the Natal MRCC and requested its naval support. The last known position of flight AF 447 was SALPU point (at the radar coverage limit).

At 9 h 09, the Brest control centre transmitted the DETRESFA message to the en route centres involved with flight AF 447.

At 9 h 05, the Brest COM informed the FOR COM (Dakar) and the crew of the ATL 2 of Dakar⁶ was alerted.

⁶ The ATL 2 is a French military aircraft at Senegal's disposal for SAR missions. It is, however, under the operational command of the French Navy.

At 9 h 31, the SAL control centre sent an ALERFA-INCERFA message to the control centres involved with flight AF 447.

At 9 h 44, the ATLANTICO-Recife ARCC called the head of the Air France crisis group in order to identify a search area to send the aerial search resources to. The head of the crisis group mentioned automatic messages received at 1 h 33. The latter would call the ARCC 15 minutes later to indicate that the last messages received were in fact dated 2 h 14 and that they were maintenance messages. No position information was supplied by the crisis group at that time.

At 10 h 25, the Cap Verde COM FOR called the Gris Nez MRCC and looked for the last known position of flight AF 447 to communicate to the crew of the ATL 2. The lack of a centralising ARCC body in France was notable at that time.

At 11 h 04, the first Brazilian aeroplane took off for SAR operations.

At 11 h 07, flight AF 447 was at the limit of its fuel autonomy.

At 11 h 24, the ATLANTICO-Recife ARCC called the head of the Air France crisis group in order to obtain the last known position of the aeroplane. The latter gave details of the contents of the maintenance messages transmitted by the aeroplane referring to electrical and pressurisation failures. He indicated that he was unaware of any position information.

At 11 h 38, the Dakar MRCC called the Gris Nez MRCC to inform it of the last position of flight AF 447 known by the Dakar ARCC (01°20.50 S; 032°50 west, INTOL point). The Dakar MRCC explained that it was not within their area of responsibility and requested the phone number of the Brazil MRCC in order to contact it. The Gris Nez MRCC informed them that the Brazilian central MRCC to contact was the Brazil MRCC of Rio de Janeiro.

At 12 h 04, the ATLANTICO-RECIFE ARCC defined, from the last known radar position of the AF 447 (vertical SALPU at 1 h 48), an initial search area as far as the limit of the ATLANTICO FIR.

At 12 h 14, the Breguet Atlantique 2 took off from Dakar and was put at the disposal of the Brazilian authorities.

At 12 h 56, the Gris Nez MRCC called the Brazil MRCC which informed it that the NATAL MRCC was in charge of search coordination and indicated the last known position (point SALPU). This was different from the position known to the Dakar ARCC.

At 13 h 00, the ATLANTICO-Recife ARCC obtained from the Air France crisis group the last coordinates transmitted by AF447 (N02.58.8 W030.35.4), the coordinates were different from those known to Brazil and Senegal.

At 13 h 15, the Gris Nez MRCC called the Brazil MRCC to inform it that air resources had been deployed by the Dakar MRCC, and to find out the search coordination arrangements.

At 13 h 29, the Gris Nez MRCC informed Cinq Mars la Pile ARCC that Brazil and Senegal had sent search resources but they had each given a different last known position of the aeroplane. The Gris Nez MRCC was informed that there was no ARCC in France in charge of international relations.

At 13 h 37, the Gris Nez MRCC requested that the Dakar and Brazil MRCC coordinate with each other to conduct the search operations.

At 13 h 52 Brazilian Navy ships set off for the presumed area of the accident.

At 13 h 59, the Gris Nez MRCC called the Dakar and the BRAZIL MRCC in order to confirm the Natal MRCC as information centraliser and means coordinator, to assist Brazilian SAR authorities. The Gris Nez MRCC then informed the French military involved in the search for flight AF 447.