

INVESTIGATION REPORT ON THE ACCIDENT INVOLVING
AIR FRANCE BOEING-747 UNITED STATES REGISTRATION
N-1252E WHICH OCCURRED ON 18TH JANUARY, 1984
NEAR KARACHI

Authority: D.G.C.A.A. M E M O R A N D U M (APP.A)

1. **Aircraft Information:**

- | | |
|------------------------|---|
| 1.1. Aircraft Type | Boeing-747 |
| 1.2. Registration No. | N 1252E (U.S.A. Registration) |
| 1.3. Operator | M/s. Air France |
| 1.4. Flight No. | AF-171 |
| 1.5. Date & Time | 18-01-1984 at 0220 hrs(PST) |
| 1.6. Place of Accident | Enroute for Dahrn 70 Nautical Miles from Karachi. Flight Level 175. |
| 1.7. Passengers | 249 |

2. **Crew Information:**

- | | |
|---|----|
| 2.1. Crew Total No. | 15 |
| 2.2. Crew were properly licenced holding valid ratings on the type. | |

3. **Summary of Accident**

- 3.1. Boeing-747 aircraft bearing U.S. Reg.Marks N 1252E operated by M/s. Air France, on lease, arrived Karachi from Bangkok on the morning of 18th January, 1984. After uplifting fuel and boarding 64 adults plus 2 infants, the aircraft departed for Dahrn at 0158 PST. Before its departure, two passenger baggage containers, housing personal baggage of the joining passengers, were also loaded in the aft baggage hold.
- 3.2. Take-off and climb upto 17500 feet was normal. At 0205 hours when the aircraft was passing through Flight Level 175, during the climb phase, a sudden pressurisation failure occurred. The Pilot informed the A.T.C. and requested for an emergency descent and return to

Karachi/.....

Karachi. This was approved. When on final approach, the pilot requested for Fire & Rescue services to standby as a precautionary measure. Fire & Rescue services were made available.

3.3. After landing at 0225 hrs the aircraft was taxied to parking bay No.6 under its own power. The engines were shut down after parking. During the ground inspection, it was noted by the Flight Crew that there was a hole in the fuselage aft of the right landing gear opposite the aft Cargo hold.

3.4. No body was injured in the occurrence. There was no fire during or after the occurrence.

4. Injury to Person (S).

4.1. There was no injury to any person on board the aircraft or on the ground.

5. Damage to Aircraft.

5.1. Due to explosion inside the cargo hold, a hole was caused on the right side of the fuselage aft of the right landing gear. (See Appendix B1) the explosive forces assisted by the pressure differential, between the inside of the fuselage and outside, caused additional tearing of fuselage skin.

6. Other damages.

6.1. Six baggage pieces belonging to passengers, were sucked out from the hole in the fuselage after the hole was made in the side of the aircraft. The baggage containers No.AVE1650AF and AVE0274AF loaded at Karachi Airport were damaged. These containers were at a position in the hold directly in front of the hole in the fuselage.

7. Meteorological Condition.

7.1. Weather was fair.

7.2. Weather was not a factor in this occurrence.

8. Navigation and Landing Aids.

8.1. All the aids were functioning normally.

8.2. Navigation and landing aids were not a factor in this occurrence.

9. Communications/.....

9. Communications.

9.1. The aircraft remained in radio contact with Karachi ATC throughout its flight.

9.2. Radio Communication was not a factor in this accident.

10. Aerodrome and Ground Facilities.

10.1. Runway and ground facilities at Karachi are adequate to handle aircraft of this category.

10.2. Aerodrome and ground facilities were not a factor in this occurrence.

11. Flight Recorder.

11.1. The aircraft was fitted with a cockpit Voice Recorder and a Digital Flight Data Recorder.

11.2. Read out of these recorders was not considered necessary for the purpose of this investigation.

12. Wreckages and Impact Information.

12.1. This aircraft, parked on bay No.6, was identified as B-747 bearing Nationality and Registration Marks N 1252E, operating in Air France liveries. It was inspected at its parked position before off-loading of cargo. Only one hole was noticed in the aircraft fuselage aft of the right landing gear opposite the rear cargo hold. There was no other damage. (Appendix B 2,3)

13. Fire

13.1. There was no fire during or after the occurrence.

14. Survival Aspects.

14.1. The accident was survivable. All the occupants disembarked through normal exits using passenger steps after the aircraft was parked on the ramp. No one experienced any difficulty during evacuation.

15. Test and Research.

15.1. Two damaged cargo containers bearing No.AVE 1650AF & AVE0274AF which were off-loaded from the aircraft at Karachi Airport were sent to France for laboratory test. Personal belongings affected by the

explosion were sent to N.T.S.B. of the U.S.A. for similar tests. Report prepared by agencies mentioned above have been received. These show presence of explosive material in the baggage containers loaded at Karachi Airport.

16. **Observations.**

- 16.1. The baggage loading ramp was inspected by the Investigators and the accredited representatives of the N.T.S.B. of U.S.A. and French A.I.B. It was found that the lighting at this location was inadequate. It would have been difficult to spot any abnormality while loading cargo or baggage in the pax-baggage containers under such lighting condition.

17. **Investigation.**

- 17.1. At 0500 hrs PST the President Accident Investigation Board, Air Commodore (Retd) Patrick D. Callaghan and Pilot Chief Investigator Captain Farmanuddin were informed of the occurrence by the Flight Information Officer of Karachi Airport. The matter was discussed on telephone by Air Commodore (Retd) Patrick D. Callaghan with Capt. Farmanuddin, Pilot Chief Investigator. As a result of these discussions it was decided that Capt. Farmanuddin would immediately proceed to the airport to start the investigation. Air Commodore (Retd) P.D. Callaghan was to join him as soon as possible.
- 17.2. On reaching the airport, the Pilot Chief Investigator carried out complete external inspection of the damaged Boeing -747 aircraft. He noted that the Airport Management intended to off-load the baggage at bay No.6. On noticing this, the Pilot Chief Investigator issued instructions that the aircraft be towed to an isolated area before off-loading was done. This precaution was taken to avoid any further occurrence considering the possibility of presence of other explosives inside the cargo hold. It was also considered that off-loading at bay No.6 would generate adverse feeling in the minds of the other travelling public. The Pilot Chief Investigator also instructed that the off-loading of the aircraft be done in the presence of a bomb disposal unit. Following these instructions, the aircraft was towed away.

17.3. Soon/.....

- 17.3. Soon after arrival of the aircraft at the isolation area, the President , A.I.B. also arrived. On his arrival he was briefed by the Pilot Chief Investigator with regard to actions already taken by him. Photographs of the damage were taken by the President, A.I.B. and the Pilot Chief Investigator. (See Appendices B-5,1-6)
- 17.4. Soon after the arrival of President, A.I.B., the Director General CAA, Air Marshal Khurshid Anwar Mirza, also arrived at the isolated parking bay. On his arrival, the Director General carried out external inspection of the damaged aircraft. Till this time all the baggage was on board the aircraft. The Director General after examining the aircraft appointed Air Commodore (Retd) P.D.Callaghan as Investigator Incharge and Captain Farmanuddin as Investigator on this occurrence. After issuing these orders the Director General left.
- 17.5. On arrival of necessary equipment for off-loading, M/s. Air France off-loaded the baggage under the supervision of the Airport Security Force and the Bomb Disposal unit of the Civil Defence, who had been summoned for the job and had arrived at the location. After off-loading, the ASF removed baggage from containers No. AVE 1650 AF and No.AVE 0274 AF. These containers had been loaded in the aircraft hold at Karachi. Damage was noted on containers mentioned above. The remaining containers were also off-loaded. No damage had been caused to the remaining containers. (See Appendix B 5,6)
- 16.6. Immediately after the accident the French Aviation Authorities, the U.S.A. Aviation Authorities and ICAO were informed of the occurrence as required under the provisions of Annex-13 to the ICAO convention on Civil Aviation. The French Civil Aviation Authority detailed Mr.J.P.Villeneuve as their accredited representative to participate in the investigation. He arrived Karachi on the evening of 20th January, 1984. On the morning of the 21st January 1984. He was briefed and associated with all further investigations. He carried out examination of the damaged area of the aircraft and containers No.AVE 1650 AF and No.AVE 0274 AF.

- 17.7. The National Transportation Safety Board of the U.S.A. detailed Mr. Walter Korsgaard, a security and explosives specialist of the FAA, as their accredited representative. He arrived Karachi during early morning of 23rd Jan 1984. Mr. Walter Korsgaard was also granted opportunity to examine the damaged aircraft and containers No. AVE 1650 AF and AVE 0274 AF and associated himself with the investigation after having been fully briefed.
- 17.8. During examining of the damaged luggage, significant fragments were found in these items. These were segregated for further investigation. Investigators and accredited representative examined three bags and one cardboard carton. Of these, two bags and one cardboard carton were found to have superficial damage from the outside. The third bag was substantially damaged with only the closing zipper and the expandable end remaining. Mr. Korsgaard was of the opinion that the damage characteristics observed by him on the aircraft and containers implied that the explosive was in or near the bottom of container AVE 1650 AF. He further opined that the explosive was inside the severely damaged bag. He requested that he be allowed to take this bag and other items segregated by him for laboratory examination in the U.S.A. He suggested that the containers damaged in the incident be sent to France for detailed laboratory examination. By this time these items were taken into custody by the Federal Investigation Agency. The Deputy Director F.I.A., who held these items, did not allow these to be handed over to the investigators for laboratory tests abroad. This caused delay in the process of investigation. In addition it caused considerable embarrassment also.
- 17.9. The French accredited representative Mr. J.P. Villeneuve returned to France on 25th Jan, 1984. Before his departure Mr. Villeneuve was provided with copies of photographs pertaining to the accident. He was informed that the containers would be sent to him as and when these were released by the Security Agencies.

17.10. Mr./.....

- 17.10. Mr. Walter Korsgaard also left Pakistan for USA on 27th January, 1984. Before his departure he was also provided copies of photographs pertaining to the damaged area of Boeing-747 and containers No. AVE 1650 AF & No. AVE 0274 AF. A fractured portion from the airframe of this aircraft and portion from damaged containers, which had been taken into custody by the investigators after the occurrence, were also handed over to him. He was informed that the other affected material would be sent to him when released by the Security Agencies.
- 17.11. It took a very lengthy time consuming process & involvement of higher echelon of the level of the Secretary General Defence to release the material for laboratory test abroad. These tests had to be conducted abroad because there were no suitable facilities available in the country. It consumed thirty five days before the material was sent abroad. During the ensuing period considerable work-load had accumulated at the F.B.I. laboratories at Washington D.C. USA due to the Olympic Games, which were held in the U.S.A. Consequently this caused delays in tests and in the preparation of this report.

18. Witnesses.

- 18.1. Statements of the following was recorded in connection with this occurrence:-

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|---------|--|----------------|
| 18.1.1. | Mr. M. Abid Zahoor Khan,
Traffic Asstt. Air France | APP. "D1" "D2" |
| 18.1.2. | Mr. Irshad Chinoy,
Traffic Asstt. Air France | APP. "E" |
| 18.1.3. | Mr. Zia Mohammad Qureshi
F. O. O. Air France | APP. "F1" "F2" |
| 18.1.4. | Mr. Tayyab Hamid, Air Traffic
Assistant, Air France | APP. "G" |
| 18.1.5. | Mr. Irwin Coutinho,
Traffic Agent, Air France | APP. "H" |
| 18.1.6. | Mr. Shoukat Ali,
Traffic Officer, Air France | APP. "J1" "J2" |
| 18.1.7. | Syed Qamarul Arfeen,
Traffic Officer, Air France | APP. "K1" "K2" |
| 18.1.8. | Mr. Rymond de Philip | APP. "L1" "L2" |

19. Investigation.

- 19.1. Investigation process was delayed awaiting laboratory test reports from France and U.S.A. After these reports (APP.N1 & APP.N2) were received, they were evaluated by the Investigator Incharge and the investigator appointed by the Director General to conduct this investigation. Following evaluation of the reports, copies of these were provided to the F.I.A. for action considered necessary by them. Copies of the French and U.S. reports were also provided to the Commander Airport Security Force.
- 19.2. Examination of metal and cloth fragments at F.B.I. Laboratory revealed damage consistent with the type that would occur by the detonation of a highexplosive main charge. It further indicated that the explosive was contained inside the black nylon bag with red, white and green cloth designer stripes and having a zipper closure. Laboratory tests also show that damage caused had resulted from internal force within this bag. Internal force damage is indicated in the form of charring on the interior surface, by metal and cloth fragments embedded in the interior surface, and observance of inside-out penetration of the nylon fibres of the bag.
- 19.3. Instrumental Analysis did not show residue associated with an explosive device were present on the submitted specimens, but the observable physical characteristics which remain following the detonation of a high explosive main charge, consistent with dynamites, TNT, or explosives with pentaerythritol tetra-nitrate or RDX, and which include the pitting present on the metal fragment and characteristic damage to the nylon fibres of the zippered bag are present.
- 19.4. The report of the laboratory tests on the aircraft fuselage and baggage containers by the French Authority show that studies carried out on the fuselage parts had been negative. However the tests on the containers revealed the presence of nitroglycerine indicating that the explosion was caused by an industrial type of dynamite with ammonium nitrate.

19.5. There/....

- 19.5. There was no evidence of an operational/technical failure that could have caused the damage. In view of the laboratory reports such a failure is ruled out.
- 19.6. Laboratory reports of the French AIB & the FBI form part of this report (APP. N1 to APP.N3).

20. Findings.

- 20.1. This aircraft Boeing-747, bearing U.S. Nationality and Registration Marks N-1252E, operated by M/s.Air France, was airworthy.
- 20.2. The crew were properly licenced and qualified to undertake the type of operation in which it was engaged at the time of the occurrence.
- 20.3. After departure from Karachi and while climbing through 17,500 feet the crew experienced explosive decompression.
- 20.4. Following decompression, the pilot-in-command decided to return to Karachi to determine the cause of loss of cabin pressure. After executing a safe landing, the aircraft was taxied to and parked on bay No.6.
- 20.5. During the ground inspection it was noticed that there was hole on the right side of the fuselage immediately aft of the right wheel well.
- 20.6. Preliminary investigation revealed presence of explosive charge in container No.AVE 1650 AF. Report received from laboratories on damaged contents revealed presence of explosive charge in this container. The exact nature of the explosive device could not be determined. The explosive was most probably commercial dynamite.
- 20.7. Copy of laboratory reports has been sent to F.I.A. and A.S.F.
- 20.8. Involvement of F.I.A. at an early stage of investigation caused unnecessary delay in the proceedings.
- 20.9. There was no operational or technical discrepancy in the aircraft.

21. Cause.

- 21.1. Fuselage sustained damage due to explosion of industrial type of dynamite in the baggage container No.AVE-1650 AF. The explosive device was most probably in the bag which was the property of Mr.Monreal Agusti luis.

22. **Recommendations.**

- 22.1. Keeping in view the requirements for investigation into aircraft occurrences as specified in the ICAO Annex-13 to the convention on International Civil Aviation, only one agency should be entrusted with the investigation till the cause is determined. The other agencies should coordinate and support.
- 22.2. Immediate measures be taken to improve the security of baggage and passenger baggage containers at Karachi Airport. The following be implemented:
 - 22.2.1. Lighting in the area where baggage is loaded into containers before its despatch to the aircraft, be improved. The present lighting is considered inadequate.
 - 22.2.2. A responsible person from the airline concerned should invariably examine the insides of containers prior to baggage being placed in them.
 - 22.2.3. After the baggage has been loaded in the containers a destructive seal should be attached to them before taking these to the aircraft. The seals should be checked prior to loading in the cargo hold of the aircraft.
- 22.3. A copy of this report be provided to the Security Agencies namely F.I.A. and A.S.F. for their information and further necessary action.



APP. B-1

1. Photographs showing damage to the aircraft on the right side of the fuselage aft of the right landing gear.



APP. B-2

2. Close up view of the damage.

APP. B-3



3. Another close up view of the damage.

APP. B-4



4. Photographs showing the factured ribs of the aircraft.

APP-B-5
1



Photo showing possible location of explosive charge

APP-B-5
2



Damaged fuselage from inside.

APP-B-5
3



Damaged fuselage seen from inside.



APP B-5₄

Damaged containers No AVE0274AF & AVE 1650 AF



APP B-5₅

Another view of container AVE 1650 AF



APP B-5₆

Damaged baggage removed from container AVE 1650 AF

(4)



6. Photograph of the damaged container No. AVE 1650AF in which the explosion occurred.

APP. B-6



7. Photograph of the container No. AVE 0274 AF which was placed next to container AVE 1650 AF and which was also damaged due to the explosion.

APP. B-7