



FEDERATION OF INDIAN PILOTS

FIP/AAIB/26- 19

18 September 2026

To,

The Director General

Aircraft Accident Investigation Bureau (AAIB)
Udaan Bhavan, Sri Aurobindo Marg,
New Delhi – 110003

Request for Comprehensive Evaluation of Boeing 787 Electrical System Evidence, Consideration of Technical Data Submitted by the Foundation for Aviation Safety, and Issuance of Appropriate Safety Recommendations in the AI-171 Accident Investigation

Dear Sir,

1) The Federation of Indian Pilots (FIP) writes with reference to:

- a) Our previous correspondence with the Aircraft Accident Investigation Bureau (AAIB) concerning reported Electrical, Electronic, Avionics, and Integrated Aircraft system issues on Boeing 787 aircraft;
- i) FIP letter no; FIP/GEN/HMOCA/25-03 DT: 16.07.2025: Lack of clarity and technical concerns in the report, addressed to MoCA.
- ii) FIP letter no; FIP/MOCA/2025-07 DT: 22.09.2026: Formal demand for a Court of Inquiry under Rule 12, addressed to MoCA. Letter dated 22nd Sept 2025.
- iii) FIP email dated 05/10/2025: Communicated to DGCA regarding Electrical system concerns relating to the B787,
- iv) FIP letter no; FIP/MOCA/2025-08 DT: 10/10/2026: Grounding of B787 aircraft and DGCA audit.
- v) FIP letter no; FIP/MOCA/26-03 DT: 01/05/2026: Technical Note concerning the Air India AI-171 accident of 12 June 2025, including the proposed electrical reverse-voltage pathway due to battery short circuit as a possible cause for the dual fuel switches transitioning to CUTOFF.
- vi) FIP letter no; FIP/AAIB/26-08 DT. 05/06/2026: Technical clarification regarding ACARS messages and related technical issues concerning AI-171, addressed to DG, AAIB. A reply was received from the PMO Office dated 18 June 2026; however, a response from the concerned authority is awaited.



FEDERATION OF INDIAN PILOTS

- vii) FIP letter no; FIP/AAIB/26-10 DT. 14/06/2026: Simulator test on RAT deployment, addressed to DG, AAIB. The matter was registered under MOCAV/E/2026/0003101, and a reply was received from the PMO Office dated 18 June 2026; however, the concerned authority's response is awaited.
- b) The ongoing investigation into the Air India AI-171 accident involving Boeing 787 aircraft VT-ANB;
- c) The correspondence exchanged between the Foundation for Aviation Safety (FAS) and the AAIB, including the FAS letter dated 27 August 2026 at 0659 Pacific Time and AAIB's response dated 26 August 2026 at 2256 IST.
- 2) At the outset, FIP reiterates its full support for an independent, objective, evidence-based, and technically rigorous investigation in accordance with the Aircraft (Investigation of Accidents and Incidents) Rules, 2025 and the Standards and Recommended Practices contained in ICAO Annex 13.
- 3) However, given the magnitude of this tragedy, which resulted in the loss of 260 lives and has generated significant concern throughout the global aviation community, we believe it is imperative that all available evidence relevant to the operational history and technical condition of the accident aircraft be thoroughly examined and, where appropriate, acted upon in the interest of aviation safety.
- 4) We note AAIB's confirmation that technical information provided by the Foundation for Aviation Safety was received through the UK AAIB Expert on 10 June 2026 and has been examined by the Investigation Team. This acknowledgement is important because the material reportedly contains substantial documentation concerning the operational history of VT-ANB, including reports of recurring aircraft system anomalies, maintenance actions, fault indications, and other technical records relating to electrical, electronic, and flight-computer-related systems.
- 5) As you are aware, the Boeing 787 is one of the most electrically dependent Commercial Aircraft ever produced. Numerous systems traditionally powered by pneumatic or hydraulic means have been replaced by electrically driven systems. Consequently, the reliability, integrity, and interaction of electrical generation, distribution, monitoring, flight-control, avionics, data-network, and aircraft management systems are central to the safe operation of the aircraft.
- 6) In such a highly integrated environment, repetitive technical faults, intermittent failures, nuisance messages, power interruptions, data-bus anomalies, sensor discrepancies, software-related faults, maintenance troubleshooting records, and recurring deferred defects may individually appear insignificant but can collectively provide critical insights into latent system vulnerabilities and accident causation pathways.



FEDERATION OF INDIAN PILOTS

7) FIP therefore submits that the following categories of evidence merit particular attention during the ongoing investigation:

11) **Historical Maintenance and Reliability Data**

A comprehensive review should be undertaken of:

- a) **Aircraft technical log** entries;
- b) **Maintenance logbook** records;
- c) Deferred defects and Minimum Equipment List (MEL) items;
- d) **AOG's**;
- e) **Repetitive defect reports**;
- f) **Troubleshooting records**;
- g) **Component removals** and replacements;
- h) **Service difficulty** reports;
- i) **Reliability monitoring** records; and
- j) **Engineering corrective actions** undertaken throughout the aircraft's operational life.

Such information may help establish whether recurring trends existed prior to the accident and whether unresolved or recurring technical issues may have contributed to the chain of events.

12) **Electrical and Electronic System Performance**

Given the concerns previously raised regarding electrical system reliability, special attention should be directed toward:

- a) Electrical power generation systems;
- b) Main and standby power distribution systems;
- c) Integrated Modular Avionics (IMA);
- d) Flight management and flight control computers;
- e) Data communication networks;
- f) Electrical load management systems;
- g) Power control units;



FEDERATION OF INDIAN PILOTS

- h) Battery systems;
- i) Electronic monitoring systems; and
- j) Any recorded anomalies involving power interruptions, data integrity issues, or system resets.

12) Electrical and Electronic System Performance

Given the concerns previously raised regarding electrical system reliability and the central role played by electrical architecture in the Boeing 787 design philosophy, FIP respectfully submits that a detailed and comprehensive examination of all electrical and electronically controlled systems should form an important component of the ongoing investigation.

13) Unlike conventional transport-category aircraft, the Boeing 787 incorporates a highly integrated “More Electric Aircraft” architecture in which numerous systems traditionally powered by pneumatic, mechanical, or hydraulic means are electrically driven and managed through interconnected digital networks. Consequently, electrical generation, distribution, control, monitoring, and data processing functions are closely linked with aircraft operation, avionics performance, flight management functions, system monitoring, maintenance diagnostics, and flight crew interfaces.

14) Any recorded events **involving power interruptions, transient electrical disturbances, voltage fluctuations, data integrity anomalies, software resets, processor reboots, communication losses, erroneous fault messages, or unexpected system behaviour.**

15) FIP reiterates that investigators may benefit from examining not only the performance of these systems during the accident flight but **also their operational history** over an extended period **preceding the accident**. Historical analysis of recurring faults, intermittent discrepancies, repetitive maintenance actions, recurring fault codes, deferred defects, maintenance troubleshooting activities, and component replacement trends may reveal latent conditions that could otherwise remain undetected when viewed in isolation.

16) Particular attention may also be directed toward identifying whether recurring technical events were observed across multiple flights, whether the same systems generated repetitive maintenance messages, whether certain components experienced repeated removals or replacements, and whether any electrical or avionics-related anomalies demonstrated increasing frequency prior to the occurrence.

17) Furthermore, a correlation of flight recorder data, maintenance records, Aircraft Health Monitoring (AHM) data, ACARS transmissions, Central Maintenance Computing Function (CMCF) records, Built-In Test Equipment (BITE) reports, Engineering reliability data, and manufacturer service history may assist investigators in developing a complete understanding of the aircraft's technical condition and system behaviour leading up to the accident.



FEDERATION OF INDIAN PILOTS

18) Given the **highly integrated nature of the Boeing 787 architecture**, seemingly unrelated anomalies occurring across different aircraft systems may share a common electrical, electronic, software, or data-network origin. Accordingly, the investigation may benefit from evaluating such occurrences collectively rather than as isolated events.

19) In view of this architecture, particular attention may be directed toward the examination of:

- a) **Electrical power generation systems**, including engine-driven generators, auxiliary power unit (APU) electrical systems, and associated control units;
- b) **Primary and Secondary electrical power distribution systems**, including power panels, buses, power conversion units, and switching logic;
- c) Integrated Modular Avionics (IMA) cabinets and associated processing modules;
- d) **Flight management computers**, flight-control computers, and aircraft systems controllers;
- e) **Aircraft data networks**, communication buses, and information-sharing pathways between aircraft systems;
- f) **Electrical load-management** and load-shedding functions;
- g) **Power control units**, power electronics, and associated monitoring systems;
- h) **Main and standby battery systems**, battery charging systems, and associated protective circuitry;
- i) **Electronic-monitoring**, fault-reporting, and maintenance diagnostic systems;
- j) **Sensors, data concentrators, and aircraft condition monitoring systems**;

20) The evaluation of these systems should include both historical performance data and information captured immediately prior to the accident.

21) ACARS, AHM and Aircraft Data Sources

FIP understands that Aircraft Communications Addressing and Reporting System (ACARS) messages and Aircraft Health Monitoring (AHM) data can provide valuable insight into aircraft status, fault occurrences, system warnings, maintenance messages, and aircraft performance trends. Accordingly, we request that particular emphasis be placed on:

- a) Chronological reconstruction of system messages;
- b) Correlation of maintenance and operational data;
- c) Identification of recurring fault signatures;



FEDERATION OF INDIAN PILOTS

- d) Analysis of any system warnings or anomalies preceding the accident; and
- e) Comparison of accident flight data with historical aircraft performance records.

Such information may assist investigators in identifying patterns not readily apparent from flight recorder information alone.

22) Boeing 787 Simulator Testing and Correlation of Recorded Data

FIP further draws attention to its earlier representation to AAIB vide letter **FIP/AAIB/26-10 dated 14 June 2026**, wherein reference was made to information received from **Mr. D. Michael Andrews, Advocate, representing Beasley Allen, attorneys acting on behalf of passengers and families affected by Air India Flight AI-171**. The information provided included the results of Boeing 787 simulator testing reportedly conducted to examine the relationship between fuel interruption, Ram Air Turbine (RAT) deployment, RAT hydraulic power generation, and the sequence of events reflected in the Preliminary Report. According to the material submitted, simulator observations reportedly indicated a significant difference between the timeline described in the Preliminary Report and the timing observed during simulator testing, particularly with respect to the interval between fuel interruption and RAT hydraulic power availability. The material further suggested that, if the recorded RAT power generation timestamp contained in the aircraft data is accurate and if the simulator results are representative of actual aircraft behaviour, the possibility may exist that RAT deployment occurred prior to the fuel control switch movement recorded in the Preliminary Report timeline. Such a scenario could have implications for understanding the sequence of events and may warrant examination of whether any electrical, electronic, software, data-network, power-distribution, or other aircraft-system anomalies existed before the reported fuel interruption event.

23) FIP is not advancing any predetermined conclusion regarding the significance of these observations. However, given the central importance of accurately reconstructing the accident sequence, we respectfully submit that all simulator-based analyses, aircraft performance modelling, engineering assessments, and technical submissions received from external experts should be carefully evaluated and correlated with Flight Data Recorder (FDR) information, Cockpit Voice Recorder (CVR) information, Enhanced Airborne Flight Recorder (EAFR) data, ACARS transmissions, Aircraft Health Monitoring (AHM) records, maintenance history, airport surveillance recordings, and any other available evidence. In particular, FIP believes that simulator validation exercises may provide valuable insight into the timing relationships between RAT deployment, electrical power loss, hydraulic power restoration, flight-control system behaviour, aircraft acceleration, engine response, and cockpit indications. Any significant divergence between simulator results and recorded aircraft data should be thoroughly examined and explained through documented technical analysis so that the final report reflects a complete and scientifically robust reconstruction of the occurrence sequence.



FEDERATION OF INDIAN PILOTS

24) The Federation therefore requests that the Investigation Team continue to **evaluate all simulator-derived evidence**, including information previously submitted through legal representatives of affected passengers and families, and determine whether additional Boeing 787 simulator testing or engineering validation is necessary to verify key timelines and system interactions relevant to the investigation.

25) **Evaluation of External Technical Submissions**

The Federation of Indian Pilots believes that all relevant information received from external technical experts, Aviation Safety Organizations, former Industry Personnel, Manufacturers, Operators, and Investigative Authorities should continue to receive due consideration. The information reportedly submitted by the Foundation for Aviation Safety appears extensive in scope and relates specifically to the accident aircraft. Regardless of the eventual findings, it is important that all such information be systematically assessed and either validated or discounted through documented technical analysis.

26) A transparent investigative process benefits from demonstrating that all credible lines of inquiry have been thoroughly examined.

27) **Interim Safety Recommendations**

One of the fundamental objectives of accident investigation under ICAO Annex 13 is the prevention of future accidents and incidents. While final causal conclusions understandably require time, **ICAO Annex 13** also recognizes the importance of issuing Safety Recommendations whenever evidence indicates the existence of a condition that may affect aviation safety. Accordingly, if any evidence gathered during the investigation points toward systemic technical vulnerabilities, maintenance concerns, operational hazards, design issues, human-machine interface concerns, or oversight deficiencies.

28) **Such recommendations need not prejudice the final outcome** of the investigation but can serve as an important risk-mitigation measure while investigative work continues.

29) **Public Confidence and Transparency**

The **AI-171** accident has attracted global attention and generated considerable concern among Pilots, Engineers, Regulators, Safety Professionals, Passengers, and the Families of those who lost their lives. FIP recognizes that accident investigations require confidentiality in certain areas to preserve the integrity of the investigative process. Nevertheless, timely communication of factual information and safety-related developments plays an important role in maintaining public confidence and preventing speculation.

30) We therefore, encourage AAIB to continue providing factual updates whenever possible and to communicate any identified safety concerns that may have implications for ongoing operations.



FEDERATION OF INDIAN PILOTS

31) Federation of Indian Pilots Recommendations

FIP wishes to emphasize that this representation should not be interpreted as advocating any predetermined conclusion regarding the cause of the accident. The purpose of this letter is to reinforce the importance of ensuring that all relevant technical evidence—including information relating to the aircraft's historical electrical and electronic system performance—is fully evaluated before conclusions are reached.

32) Aviation safety has consistently advanced through thorough investigations that examine every plausible factor, however inconvenient or complex. The lessons learned from major accidents have repeatedly demonstrated the importance of investigating technical, operational, organizational, regulatory, and human factors without limitation.

33) The Federation of Indian Pilots submits that the Boeing 787's **advanced electrical architecture warrants** particularly careful scrutiny of all available **technical evidence relating to electrical generation, power distribution, avionics integration, data-network performance, software functionality, and system reliability**. The extensive technical material reportedly provided by the Foundation for Aviation Safety, together with aircraft maintenance records, ACARS data, Aircraft Health Monitoring information, engineering reliability reports, and flight recorder evidence (CVR + DFDR), presents an opportunity to examine whether any recurring technical patterns existed within the accident aircraft's operational history.

34) A thorough evaluation of these records will not only assist in determining whether any electrical, electronic, software, or systems-integration factors played a role in the occurrence, but will also help identify potential safety issues affecting the wider fleet should any such concerns be found to exist. The **objective** is not to promote a particular theory of causation, but to ensure that every credible technical lead is examined comprehensively, transparently, and in accordance with internationally accepted accident investigation principles.

35) The Federation of Indian Pilots firmly believes that the most fitting tribute to the 260 individuals who lost their lives in the AI-171 tragedy is an investigation that is **exhaustive, independent, scientifically rigorous, and unconstrained by assumptions**. Every credible Technical, Operational, Organizational, Human-factor, Maintenance, and Regulatory line of inquiry should be pursued to its logical conclusion. Only through such a comprehensive examination can the aviation community fully understand the circumstances of this accident, implement any necessary corrective actions, strengthen public confidence in aviation safety, and ensure that lessons learned contribute meaningfully to the prevention of future tragedies. The Federation therefore requests that **this representation be placed on record and given due consideration by the Investigation Team as it continues its important work**.



FEDERATION OF INDIAN PILOTS

36) FIP submits that any significant discrepancy between the timelines derived from Boeing 787 simulator testing and those reflected in the Preliminary Report warrants careful technical examination and resolution before final conclusions are reached. Where simulator testing, engineering analysis, aircraft performance modelling, or other technical evidence produces results that are not consistent with the sequence of events presently described in the Preliminary Report, such differences should be fully investigated, documented, and reconciled through additional testing, data correlation, and engineering validation. Given the importance of accurately establishing the timing of RAT deployment, electrical power availability, fuel supply to the engines, and other critical aircraft-system events, FIP requests that the AAIB undertake or supervise such simulator validation exercises as may be necessary to authenticate the timelines relied upon in the investigation. Establishing the accuracy of these timings is essential not only for determining the precise sequence of events in AI-171 crash but also for ensuring that any resulting safety recommendations are based upon a technically robust and scientifically validated understanding of the accident.

38) In view of the above, the Federation of Indian Pilots requests that this **representation be placed on record** and brought to the attention of the Investigation Team for consideration during the continuing investigation.

39) We would appreciate being informed of any safety recommendations or significant Safety actions arising from the Investigation that may be relevant to flight crew and Operational Safety.

Yours Sincerely

(Capt. CS Randhawa)
President,
Federation of Indian Pilots

Copy To:

1. Minister of Civil Aviation, MOCA, Rajiv Gandhi Bhavan, New Delhi – 110003.
2. Secretary, MOCA, Rajiv Gandhi Bhavan, New Delhi – 110003.
3. Chairman, Parliamentary Standing Committee on Transport, Tourism and Culture, Rajya Sabha Secretariat, New Delhi.
4. Chairman Public Accounts Committee, Lok Sabha Secretariat, New Delhi.
5. Principal Secretary, PMO Office, Seva Teerth, South Block, New Delhi-110011.