

THE INTERNATIONAL SOCIETY
OF AIR SAFETY INVESTIGATORS (ISASI)

POSITIONS ON AIR SAFETY
INVESTIGATION ISSUES

FOURTH EDITION

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CHAPTER 1 -- INTRODUCTION

ISASI

- 1.1 The International Society of Air Safety Investigators (ISASI) comprises both individual members and corporate members worldwide.
- 1.2 ISASI was formed:
 - to promote air safety by the exchange of ideas, experiences and information about aircraft accident and incident investigations, and to otherwise aid in the advancement of flight safety;
 - to promote technical advancement by providing professional education through lectures, displays and presentations and by the exchange of information for mutual development of improved investigations;
 - to broaden professional relationships among members; to maintain and increase the competence and effectiveness of the Air Safety Investigator in matters of air safety.

Purpose and Status of the ISASI Positions

- 1.3 The purpose of this document is to state ISASI positions on matters of interest regarding ISASI's role and policies for air safety investigations.
- 1.4 The positions are evolutionary in nature and will be updated periodically.
- 1.5 The positions are not mandatory; instead they reflect policies, practices and concepts believed to be beneficial to air safety investigations. The ISASI International Council has approved these positions.
- 1.6 Occasionally, ISASI Officers or Members may be approached by the media or other organizations regarding ISASI's views on certain air safety issues. The approved positions contained in this document facilitate responses to such inquiries that are consistent with ISASI policies.

Working Group’s Terms of Reference

1.7 The positions were developed by a Working Group in accordance with the following terms of reference:

“The Standards and Policy Working Group will develop a set of positions with regard to air safety investigation. This will include:

- a) determination of issues to be included, on the basis of the ISASI collective experience;
- b) ensuring that the positions are consistent with existing ISASI policies and procedures, such as the Bylaws and the Code of Ethics;
- c) ensuring that the positions will provide for the development and improvement of aviation accident and incident investigation;
- d) recognition that the positions are evolutionary in nature and will be reviewed regularly;
- e) soliciting ideas and comments from ISASI members; and
- f) presentation to the ISASI Council of a draft set of positions or proposed amendments, for the Council’s approval.”

Aircraft Accident and Incident Investigation Guidance Material

1.8 Unless otherwise stated in the following positions, ISASI supports the development and implementation of coordinated international standards and recommended practices (such as ICAO Annex 13, Aircraft Accident and Incident Investigation, ICAO Annex 19, Safety Management, NATO STANAG 3531, Safety Investigation & Reporting of Accident/Incidents, and similar related guidance materials) to ensure the conduct of investigations using documented, uniform practices.

Definitions

- 1.9 Unless otherwise stated below, ISASI accepts the definitions contained in internationally recognized materials, such as ICAO Annex 13, Annex 19, and related guidance material.

Investigation: A process conducted for the purpose of accident prevention, which includes the gathering and analysis of information, the drawing of conclusions, including the determination of causes and contributing factors and, when appropriate, the making of safety recommendations.

Occurrence: Any accident or incident associated with the operation of an aircraft.

Editorial Practices

- 1.10 Headings are not numbered, except for chapter headings. Paragraphs are numbered straight through each chapter.
- 1.11 A heading, or subheading, with no text following means that a position has not yet been developed.

CHAPTER 2 -- GENERAL

Purpose of Air Safety Investigation

- 2.1 The purpose of the investigation of an accident or incident shall be the prevention of accidents and incidents.

ISASI Code of Ethics and Conduct

- 2.2 All ISASI members are expected to adhere to the ISASI Code of Ethics and Conduct.

General Conduct of the Investigation

- 2.3 To achieve its purpose, an investigation should be organized, carried out, coordinated and supervised by trained and qualified investigators (reference Chapter 6 regarding selection and training of investigators). It is essential that the magnitude of the task and the scope of the investigation be assessed at an early stage so that the size of the investigating team can be planned, and the appropriate skills marshaled.
- 2.4 The investigator should record, organize and analyze the evidence as it is gathered and on this basis make proposals on the extent and depth of the investigation. The scope and extent of a particular investigation depends on the nature of the occurrence, the availability of resources, and the lessons expected to be drawn from the investigation for the improvement of safety.

CHAPTER 3 -- INVESTIGATIONS

Accidents and Incidents

- 3.1 Accidents and incidents shall be investigated, the scope to be determined as in paragraph 2.4, so that safety lessons can be learned. All accidents and incidents should be investigated by trained and qualified air safety investigators. (reference Chapter 6).

Process

- 3.2 Investigations should be conducted in accordance with the Standards and Recommended Practices of ICAO Annex 13, or any other internationally accepted framework.

Note: Although the provisions of ICAO Annex 13 may not apply to all investigations in which ISASI members become involved, the Annex provides a well tried, widely understood framework within which investigations can be conducted.

- 3.3 Persons with knowledge and experience, who are associated with an occurrence and are able to make a contribution, should be encouraged to participate in the investigation by investigation authorities.

Quality Control

- 3.4 Investigation authorities should have in place documented procedures for ensuring the quality of investigations and the standards of reporting. The authorities should conduct peer reviews of investigations and consider comments from other investigation authorities, the aviation industry and the public.

Investigation Lessons and Techniques

- 3.5 Investigation lessons learned and successful techniques used during an investigation, which could be of wider interest to investigators, should be brought to the attention of ISASI for dissemination and discussion through the ISASI *FORUM*, *Roundup*, at the annual International and Regional Seminars, or similar forums.

Determination of “Causes and Contributing Factors”

- 3.6 Investigations should endeavor to comprehensively determine all causes and contributing factors based on a thorough, impartial and objective analysis of all of the available evidence.
- 3.7 An investigation should determine the prevalence of causes and contributing factors, as well as precursors found during previous accident and incident investigations, by reference to national and international safety databases.

Investigating Human Performance and Organizational Factors

- 3.8 An investigation of an accident or serious incident should include an examination of all factors influencing human and organizational performance. This aspect of the investigation should include all persons whose decisions and actions could have influenced the occurrence.
- 3.9 Human performance and organizational factors investigations should take advantage of established protocols published by ICAO and other organizations.
- 3.10 An investigation should consider the influence of organizational, management, and national cultural factors, including those relating to regulatory (safety oversight) agencies.
- 3.11 An investigation should evaluate the effectiveness of previously implemented safety management and risk management systems.

CHAPTER 4 -- INVESTIGATION ORGANIZATIONS

Organization

4.1 Government authorities should define, within the framework of their legal systems, the legal status of air safety investigators, giving sufficient authority to the investigation authorities to enable the investigators to conduct their tasks.

4.2 The defined authority of investigation authorities should include at least the following:

- the control of the investigation under the management of the investigator-in-charge (IIC);
- the unimpaired and immediate access to the site of the accident or incident, as well as to the aircraft or its wreckage;
- the ability to remove wreckage parts and components for examination or analysis purposes;
- the immediate use (considering confidentiality matters) of the contents of the flight recorders (FDR,CVR, QAR, Image Recorders, etc.);
- the immediate examination, documentation, and taking of evidence from, the bodies of victims or persons involved;
- the interviewing of witnesses; and
- the full access to any relevant information held by the owner, the operator, the manufacturer of the aircraft, or the authorities responsible for civil aviation and air traffic services.

Independence

4.3 The conduct of safety accident and incident investigations should be entrusted to a permanent body independent of the national judicial system and the authorities responsible for regulatory matters (safety oversight).

4.4 The investigation authority shall have independence in the conduct of the investigation and have unrestricted authority over its conduct.

CHAPTER 5 -- INVESTIGATOR-IN-CHARGE

Responsibility

- 5.1 An Investigator-In-Charge (IIC), who is responsible for the conduct and control of the investigation, including the production of reports, should be appointed by the independent investigation authority, based on his or her qualifications.

Investigation Report

- 5.2 The investigation report is a report completed by the investigation authority. Nevertheless, the investigation reports should not be amended without the knowledge and involvement of the IIC and consideration of his/her views.
- 5.3 Draft investigation reports should remain confidential until completed and published by the investigation authority.

CHAPTER 6 -- INVESTIGATORS

Investigator Training and Qualifications

- 6.1 ISASI supports the contents of ICAO Circular 298 AN/172, Training Guidelines for Aircraft Accident Investigators, as well as the European Network of Civil Aviation Investigation Authorities (ENCASIA) training manual, both of which contain detailed guidance regarding training and qualifications of investigators.
- 6.2 It is desirable that investigators possess qualities that include: an inquisitive nature, dedication, diligence, patience and objectivity, technical skill, perseverance, logic, tact and understanding.
- 6.3 As a foundation on which to develop their skills, investigators should have training, knowledge, and experience in flight operations, air navigation services, human performance, aerospace medicine, airworthiness, meteorology, and/or aeronautical engineering qualifications.

Initial Training

- 6.4 Initial training for investigators should include basic specialized coursework and on-the-job training from experienced investigators.

Recurrent Training

- 6.5 Investigators should keep abreast of new investigation techniques and new aviation technology. Organizations employing investigators should provide the opportunity for recurrent training.
- 6.6 ISASI encourages investigation authorities to make arrangements for the participation in their investigations of investigators from other organizations as observers, for the purpose of training.
- 6.7 ISASI encourages arrangements for investigators to attend seminars and other forums for the exchange of ideas and the development of broader experiences.

CHAPTER 7 -- DOCUMENTATION OF OCCURRENCES

Note: ISASI considers the following to be a minimum standard of document management to allow for review or research to be conducted on the evidence detailed in the documentation.

Master File

- 7.1 All electronic and written documents, recordings, photographs and other records of each investigated occurrence, or an index identifying all such materials and their location, should be securely retained in a master file by the investigation authority in the event the investigation needs to be re-opened at some future date.

Availability of the Master File

- 7.2 After completion of the investigation, the master file should be available for review or research to the extent that it may legally be disclosed.

Created Records

- 7.3 Copies of all technical reports and attachments should be retained, or referenced, in the master file.

Site Documentation

- 7.4 Copies of all maps, diagrams and photographs documenting the scene and the wreckage should be retained, or referenced, in the master file.

Data Base Compatibility

- 7.5 ISASI supports efforts to standardize and validate the classification of occurrence data, for the purpose of safety analyses, such as the ICAO ADREP database and the European Coordination Centre for Accident and Incident Reporting System (ECCAIRS), and the CAST/ICAO Common Taxonomy Team.

CHAPTER 8 -- WITNESSES

Note: This Chapter reflects best practices used in national and international investigations. These positions, however, apply equally to any investigation.

Recordings and Written Statements

- 8.1 As soon as practicable after an occurrence, witnesses should be interviewed and their statements documented. If it is impractical for witnesses to be interviewed, they should be asked to prepare a written statement.

Right to Counsel

- 8.2 A witness should be accorded the right to be accompanied or advised by a person chosen by the person being interviewed.

Right to Copy of Statement

- 8.3 If a witness's statement is recorded, the witness should be provided with a copy of that statement and be given the opportunity to review and correct it.

Interviewing While on Medication

- 8.4 Witnesses taking medication as a result of an accident or incident may be interviewed subject to the approval and supervision of an attending physician.

Confidentiality

- 8.5 Witnesses should be advised, prior to being interviewed, whether or not the statement will be held in confidence, and the legal authority for such confidentiality.

Availability of Statements

- 8.6 Except for instances where confidentiality is granted, witness statements should be available, on a need to know basis, to investigators participating in the investigation. Where confidentiality has been granted, a document identifying the witness and the reasons for confidentiality should be placed in the master file. Witness statements should not be made available outside of the investigation.

CHAPTER 9 -- RECORDERS

Note: ISASI strongly recommends the use of legal and/or technological measures to protect recordings from inappropriate disclosure and misuse. Disciplinary actions based on investigation information derived from recorders should be strongly discouraged and, where possible, prohibited, except where there is clear evidence of serious unlawful act.

Use of Flight Recorders

- 9.1 Flight recorders should be used to their greatest effect when investigating accidents and incidents. If an investigating organization does not have the facilities to perform the readout of the recorders, ICAO Annex 13, Attachment D, provides guidelines for obtaining access to the necessary facilities, depending upon the location of the occurrence, the timeliness of the service and the capability to perform the readout.

Monitoring of Data

- 9.2 The monitoring of flight operations and engineering data (FDM/FOQA) is strongly recommended in the interest of accident prevention. These monitoring programs should use on-board data recording devices and be conducted in cooperation with flight crews. Flight crew cooperation with a program can only be ensured if the program is operated in accordance with a just culture policy.

Survivability Criteria

- 9.3 Flight recorders should meet survivability criteria published by EUROCAE, or similar standards. Flight recorders, which do not meet these criteria should be withdrawn from service and replaced with compliant components.

Voice and Digital Communication

- 9.4 All communications which affect the flight operations of an aircraft, whether by voice or digital methods, should be recorded both on the ground and onboard the aircraft. In addition, the onboard recording of digital communications should include the digital message, the time it was displayed to the flight crew and the time of acknowledgement by the flight crew.
- 9.5 ISASI supports the fulltime tracking of aircraft.

Recorder Readouts – Feedback to IIC

- 9.6 The results of recorder readouts should be conveyed promptly to the IIC as soon as possible.

Inflight Video Recording

- 9.7 The use of inflight video recording (image recorders) is encouraged in aircraft occurrence investigations, provided that the provisions regarding protection of the data are observed.

Note: Inflight video monitoring includes externally mounted cameras to provide the flight crew with information regarding the airframe and engine integrity, and internally mounted cameras in the cabin and on the flight deck to monitor instrumentation and crew interactions.

Cockpit Voice Recordings- Inappropriate use

- 9.8 Investigation authorities shall not make cockpit voice recordings available for any purpose other than accident or incident investigation, unless a competent authority designated by the State determines, in accordance with national laws, that their disclosure or use outweighs the likely adverse domestic and international impact such action may have on that or any future investigations.

- 9.9 ISASI does not condone the playing of CVR recordings in any public venue.

Note: Excerpts of cockpit voice recording transcripts shall not be included in the final report or its appendices, except when pertinent to the analysis of the accident or incident. The cockpit voice recordings shall not be disclosed to individuals or organizations outside the investigation team.

Cockpit Voice Recordings- Use in ISASI Seminars

- 9.10 CVR recordings shall not be played at ISASI Seminars. Pertinent excerpts from a CVR transcript may be used to illustrate a presentation only when those excerpts have been published in the official report of an accident or incident.

CHAPTER 10 -- REPORTS

Reports

- 10.1 Final reports of investigations should follow the format described in ICAO Annex 13, or similar coordinated international guidance.
- 10.2 Investigative authorities should issue a brief statement of facts within thirty days of the occurrence of a significant event.
- 10.3 Investigation authorities should issue periodic status reports of the investigation until the final report is completed and published.

Technical Review and Consultation

- 10.4 The factual portion of a draft report should be reviewed by appropriate agencies and organizations that participated in the investigation to ensure technical accuracy of the factual information.
- 10.5 The investigation authority should send a copy of the draft final report to the appropriate agencies and organizations that participated in the investigation inviting their significant and substantiated comments on the report within 30 days.

Review of Recommendations

- 10.6 Proposed safety recommendations should be reviewed in consultation with the organizations to which they are directed. When legislation prohibits this practice, the rationale prompting the recommendations should be discussed.

Availability

- 10.7 Copies of preliminary and final reports should be made available to the public by the investigation authority in a timely manner. ISASI encourages posting of the reports on the investigation authority's website.
- 10.8 Survivors and the families of victims should receive copies, or be briefed on the contents of the reports, before the final report is published.

CHAPTER 11 -- ACTIONS ON REPORTS AND SAFETY RECOMMENDATIONS

Identification of Safety Recommendations

- 11.1 To permit analysis and coordination of safety actions, safety recommendations should be assigned to a subject area, and include a title and a reference number identifying the investigating authority, the occurrence and the date of the recommendation.

Action on Safety Recommendations

- 11.2 Investigation authorities should establish a clear division between their responsibilities for making safety recommendations and the responsibilities of other organizations for regulatory (safety) oversight and implementation of safety actions.
- 11.3 Organizations to whom safety recommendations are directed should publish their response to the recommendations, citing what safety actions have been taken, or the reasons why actions will not be taken. Investigation authorities should publish progress reports detailing actions taken on safety recommendations.

Petitions for Review

- 11.4 Investigation authorities should consider requests for petitions to reopen an investigation for the review of investigation findings and conclusions based on significant new and important evidence or substantiated analysis that has been developed since publication of the final report.

CHAPTER 12 -- PREVENTION / SAFETY PROGRAMS

Accident Prevention Programs

- 12.1 The influence of accident prevention programs on the causes of accidents and incidents should be routinely examined as part of any investigation.

CHAPTER 13 – MISCELLANEOUS

Dealing with the News Media

- 13.1 Investigation authorities should designate an official to interface with news media representatives. The investigating authority should release validated factual information to media representatives, but should not speculate as to causes or contributing factors.

Unlawful Interference

- 13.2 Unlawful interference is defined as any criminal act that has been or may have been committed during the operation of an aircraft. When it is suspected that unlawful interference has taken place, appropriate police and judicial authorities should be notified. Any aviation safety issues should continue to be investigated through the normal processes while maintaining liaison with the police and judicial authorities.

Family Assistance

- 13.3 Air safety investigators should be aware of the feelings and needs of accident survivors and families of the victims, throughout the investigation, and treat them with dignity and respect.
- 13.4 The accident investigation authority should designate an official to control and facilitate information released to accident survivors and families of the victims of occurrences.
- 13.5 The accident investigation authority has a responsibility to provide relevant, timely, and validated information to accident survivors and families of the victims regarding the progress and findings of the investigation to the extent that it does not compromise the objective of the investigation.