

International Standards
and Recommended Practices



Annex 13
to the Convention on
International Civil Aviation

Aircraft Accident and Incident Investigation

This edition incorporates all amendments adopted by the Council prior to 23 February 2010 and supersedes, on 18 November 2010, all previous editions of Annex 13.

For information regarding the applicability of Standards and Recommended Practices, see Chapter 2 and the Foreword.

Tenth Edition
July 2010

International Civil Aviation Organization

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Amendments are announced in the supplements to the *Catalogue of ICAO Publications*; the Catalogue and its supplements are available on the ICAO website at www.icao.int. The space below is provided to keep a record of such amendments.

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FOREWORD

Historical background

Standards and Recommended Practices for Aircraft Accident Inquiries were first adopted by the Council on 11 April 1951 pursuant to Article 37 of the Convention on International Civil Aviation (Chicago, 1944) and were designated as Annex 13 to the Convention. The Standards and Recommended Practices were based on recommendations of the Accident Investigation Division at its First Session in February 1946 which were further developed at the Second Session of the Division in February 1947.

The Fourteenth Session of the Assembly (Rome, August–September 1962) considered the subject of aircraft accident investigation and adopted Resolutions A14-22 and A14-27, Appendix P.* The first of these:

1) *directed* “the Council to:

“a) study the possibility of initiating a uniform procedure to be used by States to make available promptly the reports of aircraft accident investigations and inquiries, particularly when related to large modern transport aircraft, so that the dissemination of such reports by all Contracting States may be improved;

“b) study whether it is practicable to establish procedures by which the State of Manufacture or the State that first certificated the aircraft type, would, in appropriate cases and upon invitation, make available competent experts for advice or consultation in the investigation of accidents, and in the light of the results of such study:

“i) determine the most practicable means of ensuring that the fullest possible advantage will be taken of the specialized knowledge of such experts and notify all Contracting States accordingly, and

“ii) urge all Contracting States to co-operate in the use of such experts so as to contribute to the safety of air navigation;”

and

2) *urged* “all Contracting States to provide timely notification of aircraft accidents, especially those involving large modern transport aircraft, to the State of Manufacture or the State that first certificated the aircraft type, whenever it is considered that such action would be appropriate.”

In addition, by Resolution A14-27, Appendix P, the Assembly resolved that, “in respect of accident investigation, that it is of great importance for the general improvement of the safety of air navigation that, to the greatest practicable extent, a Contracting State in which an accident has occurred involving aircraft other than of its manufacture communicate to the State of Manufacture as soon as possible any pertinent information which results from the inquiry and which may reflect on the airworthiness of the aircraft type or its equipment, or which might be used to effect improvement in safety.”

Table A shows the origin of subsequent amendments together with a list of the principal subjects involved and the dates on which the Annex and the amendments were adopted by the Council, when they became effective and when they became applicable.

* The Fifteenth Session of the Assembly (Montreal, June–July 1965) subsequently adopted Resolution A15-8, Appendix P, which consolidated and superseded resolving clause 2 of Resolution A14-22 and Resolution A14-27, Appendix P.

Applicability

While the Annex has been adopted pursuant to the provisions of Article 37 of the Convention, Aircraft Accident Inquiry is itself the subject of Article 26 of the Convention. This Article imposes an obligation on the State in which the aircraft accident occurs to institute an inquiry in certain circumstances and, as far as its laws permit, to conduct the inquiry in accordance with ICAO procedure. However, Article 26 does not preclude the taking of further action in the field of aircraft accident investigation and the procedures set forth in this Annex are not limited solely to an inquiry instituted under the requirements of Article 26, but under prescribed circumstances apply in the event of an inquiry into any “aircraft accident” within the terms of the definition herein. In order to maintain the correct relationship between the provisions of Article 26 and those of the Annex, the following principles have been observed:

- a) Article 37 of the Convention is the Controlling Article in the development of an Aircraft Accident Inquiry Annex, but nothing in the Annex must contravene the express terms of Article 26, or any other Article of the Convention, nor should it contain any provision which would do violence to the spirit and intent of the Convention.
- b) Subject to a) the Annex may deal with any relevant matter whether or not expressly dealt with by Article 26 or by any other Article of the Convention. For instance it is not a contravention of the Convention for the Annex to deal with the rights or obligations of States other than the State of Registry and the State in which the accident occurred; similarly the Annex may deal with the privileges to be accorded to observers entitled by Article 26 to be “present” at the inquiry. These are matters upon which Article 26 is silent. The Annex may also deal with accidents of a kind which do not fall within the provisions of Article 26.

Relationship between Annex 13 and Article 26 of the Convention

In order to clarify the relationship between the provisions of Article 26 and those of the present Annex the Council, at the 20th meeting of its Twelfth Session on 13 April 1951, adopted the following additional resolution:

“Whereas Article 26 of the Convention provides that a State in which an accident to an aircraft occurs within the terms of the Article, ‘will institute an inquiry into the circumstances of the accident in accordance, in so far as its laws permit, with the procedure which may be recommended by the International Civil Aviation Organization’; and

“Whereas the Council, at the 18th meeting of its Twelfth Session on 11 April 1951, adopted Annex 13 on Aircraft Accident Inquiry;

“The Council recommends the Standards and Recommended Practices for Aircraft Accident Inquiry contained in Annex 13 to the Convention, as the procedure to be followed by Contracting States for inquiries into accidents involving death or serious injury and instituted in accordance with the provisions of Article 26;

“It being understood:

- “1) that States may in accordance with Article 38 of the Convention, deviate from any provision of Annex 13, except that, with respect to accidents covered by terms of Article 26 of the Convention and pursuant to this Article, ‘the State in which the accident occurs will institute an inquiry’, ‘the State in which the aircraft is registered shall be given the opportunity to appoint observers to be present at the inquiry’ and ‘the State holding the inquiry shall communicate the report and findings in the matter to that State’; and
- “2) that the procedure here recommended is not applicable when an accident to an aircraft not involving death or serious injury ‘indicates serious technical defect in the aircraft or air navigation facilities’, in which cases and until ICAO recommends a procedure to this effect, the inquiry shall be conducted in accordance with the national procedure of the State concerned, subject to the obligations deriving from the provisions of Article 26.”

The accredited representative and the advisers referred to in the Annex together comprise the observers that are given the right to be present at an inquiry under Article 26.

Action by Contracting States

Notification of differences. The attention of Contracting States is drawn to the obligation imposed by Article 38 of the Convention by which Contracting States are required to notify the Organization of any differences between their national regulations and practices and the International Standards contained in this Annex and any amendments thereto. Contracting States are invited to extend such notification to any differences from the Recommended Practices contained in this Annex and any amendments thereto, when the notification of such differences is important for the safety of air navigation. Further, Contracting States are invited to keep the Organization currently informed of any differences which may subsequently occur, or of the withdrawal of any differences previously notified. A specific request for notification of differences will be sent to Contracting States immediately after the adoption of each amendment to this Annex.

Attention of States is also drawn to the provisions of Annex 15 related to the publication of differences between their national regulations and practices and the related ICAO Standards and Recommended Practices through the Aeronautical Information Service, in addition to the obligation of States under Article 38 of the Convention.

Use of the text of the Annex in national regulations. The Council, on 13 April 1948, adopted a resolution inviting the attention of Contracting States to the desirability of using in their own national regulations, as far as is practicable, the precise language of those ICAO Standards that are of a regulatory character and also of indicating departures from the Standards, including any additional national regulations that were important for the safety or regularity of air navigation. However, the Standards and Recommended Practices of Annex 13 while of general applicability will, in many cases, require amplification in order to enable a complete national code to be formulated.

Status of Annex components

An Annex is made up of the following component parts, not all of which, however, are necessarily found in every Annex; they have the status indicated:

1.— *Material comprising the Annex proper:*

- a) *Standards and Recommended Practices* adopted by the Council under the provisions of the Convention. They are defined as follows:

Standard: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38.

Recommended Practice: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interests of safety, regularity or efficiency of international air navigation, and to which Contracting States will endeavour to conform in accordance with the Convention.

- b) *Appendices* comprising material grouped separately for convenience but forming part of the Standards and Recommended Practices adopted by the Council.
- c) *Provisions* governing the applicability of the Standards and Recommended Practices.

- d) *Definitions* of terms used in the Standards and Recommended Practices which are not self-explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

2.— *Material approved by the Council for publication in association with the Standards and Recommended Practices:*

- a) *Forewords* comprising historical and explanatory material based on the action of the Council and including an explanation of the obligations of States with regard to the application of the Standards and Recommended Practices ensuing from the Convention and the Resolution of Adoption.
- b) *Introductions* comprising explanatory material introduced at the beginning of parts, chapters or sections of the Annex to assist in the understanding of the application of the text.
- c) *Notes* included in the text, where appropriate, to give factual information or references bearing on the Standards or Recommended Practices in question, but not constituting part of the Standards or Recommended Practices.
- d) *Attachments* comprising material supplementary to the Standards and Recommended Practices, or included as a guide to their application.

Selection of language

This Annex has been adopted in six languages — English, Arabic, Chinese, French, Russian and Spanish. Each Contracting State is requested to select one of those texts for the purpose of national implementation and for other effects provided for in the Convention, either through direct use or through translation into its own national language, and to notify the Organization accordingly.

Editorial practices

The following practice has been adhered to in order to indicate at a glance the status of each statement: *Standards* have been printed in light face roman; *Recommended Practices* have been printed in light face italics, the status being indicated by the prefix **Recommendation**; *Notes* have been printed in light face italics, the status being indicated by the prefix *Note*.

The following editorial practice has been followed in the writing of specifications: for Standards the operative verb “shall” is used, and for Recommended Practices the operative verb “should” is used.

Any reference to a portion of this document which is identified by a number includes all subdivisions of that portion.

Throughout this Annex, the use of the male gender should be understood to include male and female persons.

Table A. Amendments to Annex 13

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Adopted Effective Applicable</i>
1st Edition	First and Second Sessions of the Accident Investigation Division	—	11 April 1951 1 September 1951 1 December 1951
1 (2nd Edition)	Assembly Resolutions A14-22 and A14-27, Appendix P Third Session of the Accident Investigation Division	New definitions; rights and obligations of the State of Manufacture; initial and subsequent notification of an accident; attendance of representatives of the operator; report on the inquiry; summary of the Report and its format.	24 November 1965 24 March 1966 25 August 1966
2	Third Session of the Accident Investigation Division	Communication procedures for sending aircraft accident notification.	5 December 1966 5 April 1967 24 August 1967
3	Personnel Licensing/Training Practices/Medical Divisional Meeting (1970)	Autopsy of victims of aircraft accidents and reporting of the results.	27 March 1972 27 July 1972 7 December 1972
4 (3rd Edition)	Air Navigation Commission study	Notification of all accidents to multi-engined aircraft of over 2 250 kg (5 000 lb); notification and exchange of information on incidents.	12 December 1972 12 April 1973 16 August 1973
5 (4th Edition)	Accident Investigation and Prevention Divisional Meeting (AIG/1974) Committee on Unlawful Interference	Change of title; deletion and addition of definitions; objective of an investigation; use of flight recorders and privileged status to be granted to certain investigation records; action to be taken by a State receiving safety recommendations; responsibility of the State of Registry to participate in the investigation of certain accidents when requested, to provide flight recorders under certain circumstances and to request participation of the State of Manufacture when the former State conducts the investigation and matters of airworthiness are involved; rights and obligations of the State of Manufacture to participate in certain investigations; rights and entitlement of the State having special interest in an accident by virtue of fatalities to its citizens; the Accident/Incident Data Reporting (ADREP) system; Investigator-in-charge to inform aviation security authorities, when necessary.	18 December 1975 18 April 1976 12 August 1976
6 (5th Edition)	Accident Investigation and Prevention Divisional Meeting (AIG/1974)	Addition of the words “on the basis of his qualifications” in the definitions of accredited representative, adviser and investigator-in-charge; new definition and specifications regarding the State of the Operator in the case of aircraft leased, chartered or interchanged; responsibility of the State of Registry for sending accident notification any time that State institutes the investigation; coordination between investigator-in-charge and judicial authorities; elimination of reference to number of engines; new specification for publication of the Final Report.	24 November 1978 24 March 1979 29 November 1979
7 (6th Edition)	Accident Investigation and Prevention Divisional Meeting (AIG/1979)	Addition, in the definition of accident, of injuries inflicted by parts of an aircraft or by jet blast; strengthening of the general specification concerning the conduct of the investigation; strengthening of the specification regarding disclosure of records; strengthening of the specification for consultation on the Final Report; deletion of the specifications regarding a “Summary of the Final Report” and references thereto; change of the specification concerning the forwarding to ICAO of the Final Report; expansion of the specification on publication of the Final Report or related documents; new chapter on accident prevention measures; new attachment regarding exchange of Final Reports between States and a list of Final Reports available in States.	24 November 1980 24 March 1981 26 November 1981

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Adopted Effective Applicable</i>
8 (7th Edition)	Air Navigation Commission	Addition, in the definition of serious injury, of exposure to infectious substances and injurious radiation; new attachment regarding disclosure of records; editorial changes.	22 January 1988 22 May 1988 17 November 1988
9 (8th Edition)	Accident Investigation Divisional Meeting (AIG/1992)	Change of title; new or revised definitions of causes, investigation, serious incident, State of Design, State of Manufacture, and State of the Operator; strengthening of the specifications concerning applicability and the objective of the investigation; strengthening of the specifications concerning the responsibilities, rights and entitlements of the State of Design and the State of Manufacture; new specifications concerning the notification and investigation of serious incidents; strengthening of the specifications concerning notification of accidents and serious incidents; new specification concerning assistance by States nearest to an accident in international waters; new specification concerning the separation of any judicial or administrative proceedings to apportion blame or liability from an accident investigation; strengthening of the specifications concerning the use and read-out of the flight recorders; strengthening of the specifications concerning autopsy examinations and coordination with the judicial authorities; strengthening of the specifications concerning disclosure of records and deletion of the related attachment; strengthening of the specifications concerning the responsibility of other States to provide information and their rights of participation; new specification concerning organizational information and strengthening of the specifications concerning the participation of the operator; strengthening of the specifications concerning the entitlement of accredited representatives and a new specification concerning their obligations; strengthening of the specification concerning participation of States having suffered fatalities or serious injuries to its citizens; strengthening of the specifications concerning the ADREP preliminary report and the accident/incident data report; strengthening of the specifications concerning consultation, publication and dissemination of the Final Report; new and strengthened specifications concerning accident prevention measures; new subparagraph and changes to the format of the Final Report in the Appendix; updated notification and reporting checklist in Attachment B; list of examples of serious incidents as a new Attachment D.	23 March 1994 25 July 1994 10 November 1994
10 (9th Edition)	Accident Investigation and Prevention (AIG) Divisional Meeting (1999)	Changes to the notification of an accident or serious incident and new provisions to acknowledge receipt of the notification; new provisions to provide details of dangerous goods; widening the provisions for responsibility to initiate, conduct and delegate the investigation; new provisions for medical examinations; aligning the rights and obligations of the State of Registry and the State of the Operator with those of the State of Design and the State of Manufacture; strengthening of the provisions of participation of States having suffered fatalities to its citizens; new title for Chapter 6 which contains the provisions related to the Final Report; strengthening of the consultation procedure and inclusion of the operator and the manufacturer; new provision for interim reports; new title for Chapter 7 which contains the provisions for ADREP reporting; strengthening of the provisions on mandatory incident reporting systems; new provisions on voluntary incident reporting systems and non-punitive environment; strengthening of the provisions on database systems, analysis of data and preventive actions; new provision on exchange of safety information; updating of Attachment B; deletion of Attachment C; new Attachment on guidelines for flight recorder read-out and analysis.	26 February 2001 16 July 2001 1 November 2001
11	Accident Investigation and Prevention (AIG) Divisional Meeting (1999); Air Navigation Commission; Assembly Resolution A35-17	a) participation of other States in investigations; b) non-disclosure of recordings and transcripts of recordings from air traffic control units; and c) legal guidance for the protection of information from safety data collection and processing systems.	3 March 2006 17 July 2006 23 November 2006

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Adopted Effective Applicable</i>
12-A	Air Navigation Commission	Expansion of some examples and the addition of runway incursion severity A in the list of serious incidents in Attachment C.	2 March 2009 20 July 2009 19 November 2009
12-B	Air Navigation Commission	Addition of a definition of a State safety programme; new specification concerning the establishment by States of a State safety programme; strengthening of specifications regarding the establishment of a voluntary incident reporting system, and an accident and incident database; new recommendation addressing the monitoring of preventive actions which have been implemented; and the framework for a State safety programme as a new Attachment F.	2 March 2009 20 July 2009 18 November 2010
13 (Tenth Edition)	Accident Investigation and Prevention (AIG) Divisional Meeting (2008)	Revised definitions of accident (to accommodate unmanned aircraft systems), accredited representative, causes, investigation, safety recommendation, serious incident; new specification on the notification to ICAO of accidents and serious incidents to turbojet-powered aeroplanes of a maximum mass equal to or below 2 250 kg; deletion of reference to the name of the pilot in the notification of accidents and serious incidents; inclusion of the possibility to delegate investigations to regional accident investigation organizations; new provision concerning the investigation of serious incidents to aircraft of a maximum mass of over 2 250 kg; expansion of provision concerning the extension of investigations based on lessons expected; strengthening of provision concerning the separation of investigation from any judicial or administrative proceedings to apportion blame or liability; new provision concerning the development of documented policies and procedures for investigations; new provision to ensure that investigations are not impeded by administrative or judicial investigations; widening the specification concerning the disclosure of records to address cockpit airborne image recordings and their transcripts; new provision to avoid disclosure of the names of the persons involved in accidents and incidents; revised provision addressing participation of States which suffered fatalities or serious injuries to its citizens; new specification regarding the release of information and progress of the investigation; revised provision concerning the need to make the Final Report publicly available; strengthening the provision on the release of an interim statement on each anniversary of the occurrence; revised provisions addressing safety recommendations to include a time frame for actions to be taken; new provisions on the control of responses to safety recommendations as well as monitoring of actions taken; revised specifications in the Appendix concerning the use of “causes” and/or “contributing factors”; updated notification and reporting checklist in Attachment B; inclusion of uncontained turbine engine failure as a serious incident in Attachment C; new Attachment G on guidance for the determination of aircraft damage.	22 February 2010 12 July 2010 18 November 2010
14	Accident Investigation and Prevention (AIG) Divisional Meeting (2008); Safety Management Panel (SMP)	New definition for “contributing factors” and amendment to the definition of State safety programme (SSP); transfer to Annex 19 of the following: SSP-related Standard in Chapter 3; overarching safety management provisions in Chapter 8 and Attachment F, framework for SSP; amendment to Standard on the establishment of database, and new provision on assessment of accident and incident database in Chapter 8; expansion of Attachment C, list of serious incidents.	25 February 2013 15 July 2013 14 November 2013

INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

CHAPTER 1. DEFINITIONS

When the following terms are used in the Standards and Recommended Practices for Aircraft Accident and Incident Investigation, they have the following meanings:

Accident. An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

a) a person is fatally or seriously injured as a result of:

- being in the aircraft, or
- direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
- direct exposure to jet blast,

except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

b) the aircraft sustains damage or structural failure which:

- adversely affects the structural strength, performance or flight characteristics of the aircraft, and
- would normally require major repair or replacement of the affected component,

except for engine failure or damage, when the damage is limited to a single engine (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or

c) the aircraft is missing or is completely inaccessible.

Note 1.— For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.

Note 2.— An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Note 3.— The type of unmanned aircraft system to be investigated is addressed in 5.1.

Note 4.— Guidance for the determination of aircraft damage can be found in Attachment F.

Accredited representative. A person designated by a State, on the basis of his or her qualifications, for the purpose of participating in an investigation conducted by another State. Where the State has established an accident investigation authority, the designated accredited representative would normally be from that authority.

Adviser. A person appointed by a State, on the basis of his or her qualifications, for the purpose of assisting its accredited representative in an investigation.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Causes. Actions, omissions, events, conditions, or a combination thereof, which led to the accident or incident. The identification of causes does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

Contributing factors. Actions, omissions, events, conditions, or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident or incident occurring, or mitigated the severity of the consequences of the accident or incident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil or criminal liability.

Flight recorder. Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation.

Note.— See Annex 6, Parts I, II and III, for specifications relating to flight recorders.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Note.— The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in Attachment C.

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/or contributing factors and, when appropriate, the making of safety recommendations.

Investigator-in-charge. A person charged, on the basis of his or her qualifications, with the responsibility for the organization, conduct and control of an investigation.

Note.— Nothing in the above definition is intended to preclude the functions of an investigator-in-charge being assigned to a commission or other body.

Maximum mass. Maximum certificated take-off mass.

Operator. A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Preliminary Report. The communication used for the prompt dissemination of data obtained during the early stages of the investigation.

Safety recommendation. A proposal of an accident investigation authority based on information derived from an investigation, made with the intention of preventing accidents or incidents and which in no case has the purpose of creating a presumption of blame or liability for an accident or incident. In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies.

Serious incident. An incident involving circumstances indicating that there was a high probability of an accident and associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned

aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down.

Note 1.— The difference between an accident and a serious incident lies only in the result.

Note 2.— Examples of serious incidents can be found in Attachment C.

Serious injury. An injury which is sustained by a person in an accident and which:

- a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
- d) involves injury to any internal organ; or
- e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f) involves verified exposure to infectious substances or injurious radiation.

State of Design. The State having jurisdiction over the organization responsible for the type design.

State of Manufacture. The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

State of Occurrence. The State in the territory of which an accident or incident occurs.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

State of Registry. The State on whose register the aircraft is entered.

Note.— In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Council Resolution of 14 December 1967 on Nationality and Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport (Doc 9587).

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.

CHAPTER 2. APPLICABILITY

2.1 Unless otherwise stated, the specifications in this Annex apply to activities following accidents and incidents wherever they occurred.

Note.— The application of this specification with respect to accidents or serious incidents occurring in the territory of a non-Contracting State, in an area of undetermined sovereignty or on the high seas is addressed in 5.2 and 5.3.

2.2 In this Annex the specifications concerning the State of the Operator apply only when an aircraft is leased, chartered or interchanged and when that State is not the State of Registry and if it discharges, in respect of this Annex, in part or in whole, the functions and obligations of the State of Registry.

CHAPTER 3. GENERAL

Note.— Guidance material relating to the rights and obligations of the State of the Operator in respect of accidents and incidents involving leased, chartered or interchanged aircraft is provided in Attachment A.

OBJECTIVE OF THE INVESTIGATION

3.1 The sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.

PROTECTION OF EVIDENCE, CUSTODY AND REMOVAL OF AIRCRAFT

RESPONSIBILITY OF THE STATE OF OCCURRENCE

General

3.2 The State of Occurrence shall take all reasonable measures to protect the evidence and to maintain safe custody of the aircraft and its contents for such a period as may be necessary for the purposes of an investigation. Protection of evidence shall include the preservation, by photographic or other means, of any evidence which might be removed, effaced, lost or destroyed. Safe custody shall include protection against further damage, access by unauthorized persons, pilfering and deterioration.

Note 1.— Control over the wreckage is dealt with in 5.6.

Note 2.— Protection of flight recorder evidence requires that the recovery and handling of the recorder and its recordings be assigned only to qualified personnel.

Request from State of Registry, State of the Operator, State of Design or State of Manufacture

3.3 If a request is received from the State of Registry, the State of the Operator, the State of Design or the State of Manufacture that the aircraft, its contents, and any other evidence remain undisturbed pending inspection by an accredited representative of the requesting State, the State of Occurrence shall take all necessary steps to comply with such request, so far as this is reasonably practicable and compatible with the proper conduct of the investigation; provided that the aircraft may be moved to the extent necessary to extricate persons, animals, mail and valuables, to prevent destruction by fire or other causes, or to eliminate any danger or obstruction to air navigation, to other transport or to the public, and provided that it does not result in undue delay in returning the aircraft to service where this is practicable.

Release from custody

3.4 Subject to the provisions of 3.2 and 3.3, the State of Occurrence shall release custody of the aircraft, its contents or any parts thereof as soon as they are no longer required in the investigation, to any person or persons duly designated by the State of Registry or the State of the Operator, as applicable. For this purpose the State of Occurrence shall facilitate access to the aircraft, its contents or any parts thereof, provided that, if the aircraft, its contents, or any parts thereof lie in an area within which the State finds it impracticable to grant such access, it shall itself effect removal to a point where access can be given.

CHAPTER 4. NOTIFICATION

Note 1.— Attachment B provides a notification and reporting checklist.

Note 2.— A list of addresses of aircraft accident and incident investigation authorities can be found in the Manual of Aircraft Accident and Incident Investigation, Part I — Organization and Planning (Doc 9756) and on the ICAO Accident Investigation website.

ACCIDENTS OR SERIOUS INCIDENTS IN THE TERRITORY OF A CONTRACTING STATE TO AIRCRAFT OF ANOTHER CONTRACTING STATE

RESPONSIBILITY OF THE STATE OF OCCURRENCE

Forwarding

4.1 The State of Occurrence shall forward a notification of an accident or serious incident, with a minimum of delay and by the most suitable and quickest means available, to:

- a) the State of Registry;
- b) the State of the Operator;
- c) the State of Design;
- d) the State of Manufacture; and
- e) the International Civil Aviation Organization, when the aircraft involved is of a maximum mass of over 2 250 kg or is a turbojet-powered aeroplane.

However, when the State of Occurrence is not aware of a serious incident, the State of Registry or the State of the Operator, as appropriate, shall forward a notification of such an incident to the State of Design, the State of Manufacture and the State of Occurrence.

Note 1.— Telephone, facsimile, e-mail or the Aeronautical Fixed Telecommunication Network (AFTN) will in most cases constitute “the most suitable and quickest means available”. More than one means of communication may be appropriate.

Note 2.— Provision for the notification of a distress phase to the State of Registry by the rescue coordination centre is contained in Annex 12.

Format and content

4.2 The notification shall be in plain language and contain as much of the following information as is readily available, but its dispatch shall not be delayed due to the lack of complete information:

- a) for accidents the identifying abbreviation ACCID, for serious incidents INCID;
- b) manufacturer, model, nationality and registration marks, and serial number of the aircraft;
- c) name of owner, operator and hirer, if any, of the aircraft;
- d) qualification of the pilot-in-command, and nationality of crew and passengers;
- e) date and time (local time or UTC) of the accident or serious incident;
- f) last point of departure and point of intended landing of the aircraft;
- g) position of the aircraft with reference to some easily defined geographical point and latitude and longitude;
- h) number of crew and passengers; aboard, killed and seriously injured; others, killed and seriously injured;
- i) description of the accident or serious incident and the extent of damage to the aircraft so far as is known;
- j) an indication to what extent the investigation will be conducted or is proposed to be delegated by the State of Occurrence;
- k) physical characteristics of the accident or serious incident area, as well as an indication of access difficulties or special requirements to reach the site;
- l) identification of the originating authority and means to contact the investigator-in-charge and the accident investigation authority of the State of Occurrence at any time; and
- m) presence and description of dangerous goods on board the aircraft.

Note 1.— The 4-letter designator “YLYX” in association with an ICAO 4-letter location indicator forms the 8-letter addressee indicator for messages sent over the AFTN to authorities responsible for aircraft accident and serious incident investigations. For messages sent over the public telecommunication service the addressee indicator cannot be used and a postal or telegraphic address must be substituted.

The 8-letter addressee indicators and the corresponding postal and telegraphic addresses, when notified to ICAO, are published in the Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services (Doc 8585).

Note 2.— The Manual of Aircraft Accident and Incident Investigation, Part I — Organization and Planning (Doc 9756) contains guidance material concerning the preparation of notification messages and the arrangements to be made for their prompt delivery to the addressee.

Language

4.3 The notification shall be prepared in one of the working languages of ICAO, taking into account the language of the recipient(s), whenever it is possible to do so without causing undue delay.

Additional information

4.4 As soon as it is possible to do so, the State of Occurrence shall dispatch the details omitted from the notification as well as other known relevant information.

RESPONSIBILITY OF THE STATE OF REGISTRY,
THE STATE OF THE OPERATOR, THE STATE OF DESIGN AND
THE STATE OF MANUFACTURE

Information — Participation

4.5 **Recommendation.**— *The State of Registry, the State of the Operator, the State of Design and the State of Manufacture should acknowledge receipt of the notification of an accident or serious incident (4.1 refers).*

4.6 Upon receipt of the notification, the State of Registry, the State of the Operator, the State of Design and the State of Manufacture shall, as soon as possible, provide the State of Occurrence with any relevant information available to them regarding the aircraft and flight crew involved in the accident or serious incident. Each State shall also inform the State of Occurrence whether it intends to appoint an accredited representative and if such an accredited representative is appointed, the name and contact details; as well as the expected date of arrival if the accredited representative will travel to the State of Occurrence.

Note 1.— In accordance with 5.18, the State of Registry, the State of the Operator, the State of Design and the State of Manufacture have the right to appoint an accredited representative to participate in the investigation.

Note 2.— In accordance with 5.22, the attention of the State of Registry, the State of the Operator, the State of Design and the State of Manufacture is drawn to their obligation to appoint an accredited representative when specifically requested to do so by the State conducting the investigation of an accident to an aircraft over 2 250 kg. Their attention is also drawn to the usefulness of their presence and participation in the investigation.

4.7 Upon receipt of the notification, the State of the Operator shall, with a minimum of delay and by the most suitable and quickest means available, provide the State of Occurrence with details of dangerous goods on board the aircraft.

**ACCIDENTS OR SERIOUS INCIDENTS IN THE TERRITORY OF
THE STATE OF REGISTRY, IN A NON-CONTRACTING STATE OR
OUTSIDE THE TERRITORY OF ANY STATE**

RESPONSIBILITY OF THE STATE OF REGISTRY

Forwarding

4.8 When the State of Registry institutes the investigation of an accident or serious incident, that State shall forward a notification, in accordance with 4.2 and 4.3 above, with a minimum of delay and by the most suitable and quickest means available, to:

- a) the State of the Operator;
- b) the State of Design;
- c) the State of Manufacture; and
- d) the International Civil Aviation Organization, when the aircraft involved is of a maximum mass of over 2 250 kg or is a turbojet-powered aeroplane.

Note 1.— Telephone, facsimile, e-mail or the Aeronautical Fixed Telecommunication Network (AFTN) will in most cases constitute “the most suitable and quickest means available”. More than one means of communication may be appropriate.

Note 2.— Provision for the notification of a distress phase to the State of Registry by the rescue coordination centre is contained in Annex 12.

RESPONSIBILITY OF THE STATE OF THE OPERATOR,
THE STATE OF DESIGN AND THE STATE OF MANUFACTURE

Information — Participation

4.9 **Recommendation.**— *The State of the Operator, the State of Design and the State of Manufacture should acknowledge receipt of the notification of an accident or serious incident (4.1 refers).*

4.10 Upon receipt of the notification, the State of the Operator, the State of Design and the State of Manufacture shall, upon request, provide the State of Registry with any relevant information available to them regarding the flight crew and the aircraft involved in the accident or serious incident. Each State shall also inform the State of Registry whether it intends to appoint an accredited representative, and if such an accredited representative is appointed, the name and contact details; as well as the expected date of arrival if the accredited representative will be present at the investigation.

Note 1.— In accordance with 5.18, the State of the Operator, the State of Design and the State of Manufacture have the right to appoint an accredited representative to participate in the investigation.

Note 2.— In accordance with 5.22, the attention of the State of the Operator, the State of Design and the State of Manufacture is drawn to their obligation to appoint an accredited representative when specifically requested to do so by the State conducting the investigation of an accident to an aircraft over 2 250 kg. Their attention is also drawn to the usefulness of their presence and participation in the investigation.

4.11 Upon receipt of the notification, the State of the Operator shall, with a minimum of delay and by the most suitable and quickest means available, provide the State of Registry with details of dangerous goods on board the aircraft.

CHAPTER 5. INVESTIGATION

RESPONSIBILITY FOR INSTITUTING AND CONDUCTING THE INVESTIGATION

ACCIDENTS OR INCIDENTS IN THE TERRITORY OF A CONTRACTING STATE

State of Occurrence

5.1 The State of Occurrence shall institute an investigation into the circumstances of the accident and be responsible for the conduct of the investigation, but it may delegate the whole or any part of the conducting of such investigation to another State or a regional accident investigation organization by mutual arrangement and consent. In any event, the State of Occurrence shall use every means to facilitate the investigation.

5.1.1 **Recommendation.**— *The State of Occurrence should institute an investigation into the circumstances of a serious incident. Such a State may delegate the whole or any part of the conducting of such investigation to another State or a regional accident investigation organization by mutual arrangement and consent. In any event the State of Occurrence should use every means to facilitate the investigation.*

5.1.2 The State of Occurrence shall institute an investigation into the circumstances of a serious incident when the aircraft is of a maximum mass of over 2 250 kg. Such a State may delegate the whole or any part of the conducting of such investigation to another State or a regional accident investigation organization by mutual arrangement and consent. In any event the State of Occurrence shall use every means to facilitate the investigation.

Note 1.— The investigation of a serious incident does not exclude other already existing types of investigation of incidents (serious or not) by other organizations.

Note 2.— When the whole investigation is delegated to another State or a regional accident investigation organization, such a State is expected to be responsible for the conduct of the investigation, including the issuance of the Final Report and the ADREP reporting. When a part of the investigation is delegated, the State of Occurrence usually retains the responsibility for the conduct of the investigation.

Note 3.— In the case of investigation of an unmanned aircraft system, only aircraft with a design and/or operational approval are to be considered.

Note 4.— In the case of serious incidents, the State of Occurrence may consider delegating the investigation to the State of Registry or the State of the Operator, in particular those involving occurrences in which it might be beneficial or more practical for one of these States to conduct the investigation.

ACCIDENTS OR INCIDENTS IN THE TERRITORY OF A NON-CONTRACTING STATE

State of Registry

5.2 **Recommendation.**— *When the accident or the serious incident has occurred in the territory of a non-Contracting State which does not intend to conduct an investigation in accordance with Annex 13, the State of Registry or, failing that, the*

State of the Operator, the State of Design or the State of Manufacture should endeavour to institute and conduct an investigation in cooperation with the State of Occurrence but, failing such cooperation, should itself conduct an investigation with such information as is available.

ACCIDENTS OR INCIDENTS OUTSIDE THE TERRITORY OF ANY STATE

State of Registry

5.3 When the location of the accident or the serious incident cannot definitely be established as being in the territory of any State, the State of Registry shall institute and conduct any necessary investigation of the accident or serious incident. However, it may delegate the whole or any part of the investigation to another State by mutual arrangement and consent.

5.3.1 States nearest the scene of an accident in international waters shall provide such assistance as they are able and shall, likewise, respond to requests by the State of Registry.

5.3.2 **Recommendation.**— *If the State of Registry is a non-Contracting State which does not intend to conduct an investigation in accordance with Annex 13, the State of the Operator or, failing that, the State of Design or the State of Manufacture should endeavour to institute and conduct an investigation. However, such a State may delegate the whole or any part of the investigation to another State by mutual arrangement and consent.*

ORGANIZATION AND CONDUCT OF THE INVESTIGATION

Note.— *The Manual of Aircraft Accident and Incident Investigation (Doc 9756) contains guidance material for the organization, conduct and control of an investigation.*

RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

Note.— *Nothing in the following provisions is intended to preclude the State conducting the investigation from calling upon the best technical expertise from any source.*

General

5.4 The accident investigation authority shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of this Annex. The investigation shall normally include:

- a) the gathering, recording and analysis of all relevant information on that accident or incident;
- b) if appropriate, the issuance of safety recommendations;
- c) if possible, the determination of the causes and/or contributing factors; and
- d) the completion of the final report.

Where feasible, the scene of the accident shall be visited, the wreckage examined and statements taken from witnesses. The extent of the investigation and the procedure to be followed in carrying out such an investigation shall be determined by the accident investigation authority, depending on the lessons it expects to draw from the investigation for the improvement of safety.

5.4.1 Any investigation conducted in accordance with the provisions of this Annex shall be separate from any judicial or administrative proceedings to apportion blame or liability.

Note.— Separation can be achieved by the investigation being conducted by State accident investigation authority experts, and any judicial or administrative proceedings being conducted by other appropriate experts. Coordination, as per 5.10, between the two processes would likely be required at the accident site and in the gathering of factual information, with due consideration to the provisions in 5.12.

5.4.2 **Recommendation.**— The accident investigation authority should develop documented policies and procedures detailing its accident investigation duties. These should include: organization and planning; investigation; and reporting.

Note.— Guidance related to policies and procedures for investigations is provided in the Manual on Accident and Incident Investigation Policies and Procedures (Doc 9962).

5.4.3 **Recommendation.**— A State should ensure that any investigations conducted under the provisions of this Annex have unrestricted access to all evidential material without delay and are not impeded by administrative or judicial investigations or proceedings.

Note.— The intent of this recommendation may be achieved through legislation, protocols or agreements between the accident investigation authorities and the judicial authorities.

Investigator-in-charge — Designation

5.5 The State conducting the investigation shall designate the investigator-in-charge of the investigation and shall initiate the investigation immediately.

Investigator-in-charge — Access and control

5.6 The investigator-in-charge shall have unhampered access to the wreckage and all relevant material, including flight recorders and ATS records, and shall have unrestricted control over it to ensure that a detailed examination can be made without delay by authorized personnel participating in the investigation.

Flight recorders — Accidents and incidents

5.7 Effective use shall be made of flight recorders in the investigation of an accident or an incident. The State conducting the investigation shall arrange for the read-out of the flight recorders without delay.

5.8 **Recommendation.**— In the event that the State conducting the investigation of an accident or an incident does not have adequate facilities to read out the flight recorders, it should use the facilities made available to it by other States, giving consideration to the following:

- a) the capabilities of the read-out facility;
- b) the timeliness of the read-out; and
- c) the location of the read-out facility.

Note.— The requirements for the recording of radar data and ATS communications are contained in Annex 11, Chapter 6.

Autopsy examinations

5.9 The State conducting the investigation into a fatal accident shall arrange for complete autopsy examination of fatally injured flight crew and, subject to the particular circumstances, of fatally injured passengers and cabin attendants, by a pathologist, preferably experienced in accident investigation. These examinations shall be expeditious and complete.

Note.— Guidance material related to autopsies is provided in detail in the *Manual of Civil Aviation Medicine* (Doc 8984) and the *Manual of Aircraft Accident and Incident Investigation* (Doc 9756), the former containing detailed guidance on toxicological testing.

Medical examinations

5.9.1 **Recommendation.**— *When appropriate, the State conducting the investigation should arrange for medical examination of the crew, passengers and involved aviation personnel, by a physician, preferably experienced in accident investigation. These examinations should be expeditious.*

Note 1.— *Such examinations may also determine whether the level of physical and psychological fitness of flight crew and other personnel directly involved in the occurrence is sufficient for them to contribute to the investigation.*

Note 2.— *The Manual of Civil Aviation Medicine (Doc 8984) contains guidance on medical examinations.*

Coordination — Judicial authorities

5.10 The State conducting the investigation shall recognize the need for coordination between the investigator-in-charge and the judicial authorities. Particular attention shall be given to evidence which requires prompt recording and analysis for the investigation to be successful, such as the examination and identification of victims and read-outs of flight recorder recordings.

Note 1.— *The responsibility of the State of Occurrence for such coordination is set out in 5.1.*

Note 2.— *Possible conflicts between investigating and judicial authorities regarding the custody of flight recorders and their recordings may be resolved by an official of the judicial authority carrying the recordings to the place of read-out, thus maintaining custody.*

Note 3.— *Possible conflicts between investigating and judicial authorities regarding the custody of the wreckage may be resolved by an official of the judicial authority accompanying the wreckage to the place of examination and being present at such examination when a modification of the condition of the wreckage is required, thus maintaining custody.*

Informing aviation security authorities

5.11 If, in the course of an investigation it becomes known, or it is suspected, that an act of unlawful interference was involved, the investigator-in-charge shall immediately initiate action to ensure that the aviation security authorities of the State(s) concerned are so informed.

Non-disclosure of records

5.12 The State conducting the investigation of an accident or incident shall not make the following records available for purposes other than accident or incident investigation, unless the appropriate authority for the administration of justice in that State determines that their disclosure outweighs the adverse domestic and international impact such action may have on that or any future investigations:

- a) all statements taken from persons by the investigation authorities in the course of their investigation;
- b) all communications between persons having been involved in the operation of the aircraft;
- c) medical or private information regarding persons involved in the accident or incident;
- d) cockpit voice recordings and transcripts from such recordings;
- e) recordings and transcriptions of recordings from air traffic control units;
- f) cockpit airborne image recordings and any part or transcripts from such recordings; and
- g) opinions expressed in the analysis of information, including flight recorder information.

5.12.1 These records shall be included in the final report or its appendices only when pertinent to the analysis of the accident or incident. Parts of the records not relevant to the analysis shall not be disclosed.

Note 1.— Information contained in the records listed above, which includes information given voluntarily by persons interviewed during the investigation of an accident or incident, could be utilized inappropriately for subsequent disciplinary, civil, administrative and criminal proceedings. If such information is distributed, it may, in the future, no longer be openly disclosed to investigators. Lack of access to such information would impede the investigation process and seriously affect flight safety.

Note 2.— Attachment E contains legal guidance for the protection of information from safety data collection and processing systems.

5.12.2 The names of the persons involved in the accident or incident shall not be disclosed to the public by the accident investigation authority.

Reopening of investigation

5.13 If, after the investigation has been closed, new and significant evidence becomes available, the State which conducted the investigation shall reopen it. However, when the State which conducted the investigation did not institute it, that State shall first obtain the consent of the State which instituted the investigation.

Note.— Where an aircraft which was considered missing following an official search is subsequently located, consideration may be given to reopening the investigation.

RESPONSIBILITY OF ANY OTHER STATE

Information — Accidents and incidents

5.14 Any State shall, on request from the State conducting the investigation of an accident or an incident, provide that State with all the relevant information available to it.

Note.— See also 5.16.

5.15 Any State, the facilities or services of which have been, or would normally have been, used by an aircraft prior to an accident or an incident, and which has information pertinent to the investigation, shall provide such information to the State conducting the investigation.

RESPONSIBILITY OF THE STATE OF REGISTRY AND
THE STATE OF THE OPERATOR

Flight recorders — Accidents and serious incidents

5.16 When an aircraft involved in an accident or a serious incident lands in a State other than the State of Occurrence, the State of Registry or the State of the Operator shall, on request from the State conducting the investigation, furnish the latter State with the flight recorder records and, if necessary, the associated flight recorders.

Note.— In implementing 5.16, the State of Registry or the State of the Operator may request the cooperation of any other State in the retrieval of the flight recorder records.

Organizational information

5.17 The State of Registry and the State of the Operator, on request from the State conducting the investigation, shall provide pertinent information on any organization whose activities may have directly or indirectly influenced the operation of the aircraft.

PARTICIPATION IN THE INVESTIGATION

Note.— Nothing in this Annex is intended to imply that the accredited representative and advisers of a State have to be always present in the State in which the investigation is conducted.

PARTICIPATION OF THE STATE OF REGISTRY,
THE STATE OF THE OPERATOR, THE STATE OF DESIGN AND
THE STATE OF MANUFACTURE

Rights

5.18 The State of Registry, the State of the Operator, the State of Design and the State of Manufacture shall each be entitled to appoint an accredited representative to participate in the investigation.

Note.— Nothing in this Standard is intended to preclude the State that designed or manufactured the powerplant or major components of the aircraft from requesting participation in the investigation of an accident.

5.19 The State of Registry or the State of the Operator shall appoint one or more advisers, proposed by the operator, to assist its accredited representative.

5.19.1 **Recommendation.**— *When neither the State of Registry, nor the State of the Operator appoint an accredited representative, the State conducting the investigation should invite the operator to participate, subject to the procedures of the State conducting the investigation.*

5.20 The State of Design and the State of Manufacture shall be entitled to appoint one or more advisers, proposed by the organizations responsible for the type design and the final assembly of the aircraft, to assist their accredited representatives.

5.21 **Recommendation.**— *When neither the State of Design nor the State of Manufacture appoint an accredited representative, the State conducting the investigation should invite the organizations responsible for the type design and the final assembly of the aircraft to participate, subject to the procedures of the State conducting the investigation.*

Obligations

5.22 When the State conducting an investigation of an accident to an aircraft of a maximum mass of over 2 250 kg specifically requests participation by the State of Registry, the State of the Operator, the State of Design or the State of Manufacture, the State(s) concerned shall each appoint an accredited representative.

Note 1.— Nothing in 5.22 is intended to preclude the State conducting an investigation from requesting the State that designed or manufactured the powerplant or major components of the aircraft to appoint an accredited representative whenever the former State believes that a useful contribution can be made to the investigation or when such participation might result in increased safety.

Note 2.— Nothing in 5.22 is intended to preclude the State conducting an investigation from requesting the State of Design and the State of Manufacture to give assistance in the investigation of accidents other than those in 5.22.

PARTICIPATION OF OTHER STATES

Rights

5.23 Any State which on request provides information, facilities or experts to the State conducting the investigation shall be entitled to appoint an accredited representative to participate in the investigation.

Note.— Any State that provides an operational base for field investigations, or is involved in search and rescue or wreckage recovery operations, or is involved as a State of a code-share or alliance partner of the operator, may also be invited to appoint an accredited representative to participate in the investigation.

ENTITLEMENT OF ACCREDITED REPRESENTATIVES

Advisers

5.24 A State entitled to appoint an accredited representative shall also be entitled to appoint one or more advisers to assist the accredited representative in the investigation.

Note 1.— Nothing in the above provisions is intended to preclude a State participating in an investigation from calling upon the best technical experts from any source and appointing such experts as advisers to its accredited representative.

Note 2.— Facilitation of the entry of the accredited representatives, their advisers and equipment is covered in Annex 9 — Facilitation. The carriage of an official or service passport may expedite the entry.

5.24.1 Advisers assisting accredited representatives shall be permitted, under the accredited representatives' supervision, to participate in the investigation to the extent necessary to enable the accredited representatives to make their participation effective.

Participation

5.25 Participation in the investigation shall confer entitlement to participate in all aspects of the investigation, under the control of the investigator-in-change, in particular to:

- a) visit the scene of the accident;
- b) examine the wreckage;

- c) obtain witness information and suggest areas of questioning;
- d) have full access to all relevant evidence as soon as possible;
- e) receive copies of all pertinent documents;
- f) participate in read-outs of recorded media;
- g) participate in off-scene investigative activities such as component examinations, technical briefings, tests and simulations;
- h) participate in investigation progress meetings including deliberations related to analysis, findings, causes, contributing factors and safety recommendations; and
- i) make submissions in respect of the various elements of the investigation.

However, participation of States other than the State of Registry, the State of the Operator, the State of Design and the State of Manufacture may be limited to those matters which entitled such States to participation under 5.23.

Note 1.— It is recognized that the form of participation would be subject to the procedures of the State in which the investigation, or part thereof, is being conducted.

Note 2.— The collection and recording of information need not be delayed to await the arrival of an accredited representative.

Note 3.— Nothing in this Standard precludes the State conducting the investigation from extending participation beyond the entitlement enumerated.

Note 4.— The pertinent documents referred to in subparagraph e) also include documents such as the reports on examinations of components or studies performed within the framework of the investigation.

Obligations

5.26 Accredited representatives and their advisers:

- a) shall provide the State conducting the investigation with all relevant information available to them; and
- b) shall not divulge information on the progress and the findings of the investigation without the express consent of the State conducting the investigation.

Note.— Nothing in this Standard precludes prompt release of facts when authorized by the State conducting the investigation, nor does this Standard preclude accredited representatives from reporting to their respective States in order to facilitate appropriate safety actions.

PARTICIPATION OF STATES HAVING SUFFERED FATALITIES OR SERIOUS INJURIES TO ITS CITIZENS

Rights and entitlement

5.27 A State which has a special interest in an accident by virtue of fatalities or serious injuries to its citizens shall be entitled to appoint an expert who shall be entitled to:

- a) visit the scene of the accident;
- b) have access to the relevant factual information which is approved for public release by the State conducting the investigation, and information on the progress of the investigation; and
- c) receive a copy of the Final Report.

This will not preclude the State from also assisting in the identification of victims and in meetings with survivors from that State.

Note.— Guidance related to assistance to aircraft accident victims and their families is provided in the Manual on Assistance to Aircraft Accident Victims and their Families (Doc 9973).

5.28 Recommendation.— *The State conducting the investigation should release, at least during the first year of the investigation, established factual information and indicate the progress of the investigation in a timely manner.*

CHAPTER 6. FINAL REPORT

6.1 **Recommendation.**— *The format of the Final Report in the Appendix should be used. However, it may be adapted to the circumstances of the accident or incident.*

RESPONSIBILITY OF ANY STATE

Release of information — Consent

6.2 States shall not circulate, publish or give access to a draft report or any part thereof, or any documents obtained during an investigation of an accident or incident, without the express consent of the State which conducted the investigation, unless such reports or documents have already been published or released by that latter State.

RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

Consultation

6.3 The State conducting the investigation shall send a copy of the draft Final Report to the following States inviting their significant and substantiated comments on the report as soon as possible:

- a) the State that instituted the investigation;
- b) the State of Registry;
- c) the State of the Operator;
- d) the State of Design;
- e) the State of Manufacture; and
- f) any State that participated in the investigation as per Chapter 5.

If the State conducting the investigation receives comments within sixty days of the date of the transmittal letter, it shall either amend the draft Final Report to include the substance of the comments received or, if desired by the State that provided comments, append the comments to the Final Report. If the State conducting the investigation receives no comments within sixty days of the date of the first transmittal letter, it shall issue the Final Report in accordance with 6.4, unless an extension of that period has been agreed by the States concerned.

Note 1.— Nothing in this Standard is intended to preclude the State conducting the investigation from consulting other States, such as those States which provided relevant information, significant facilities, or experts who participated in the investigation under 5.27.

Note 2.— Comments to be appended to the Final Report are restricted to non-editorial-specific technical aspects of the Final Report upon which no agreement could be reached.

Note 3.— When sending the draft Final Report to recipient States, the State conducting the investigation may consider using the most suitable and quickest means available, such as facsimile, e-mail, courier service or express mail.

Note 4.— Intended safety recommendations are to be included in the draft Final Report.

6.3.1 Recommendation.— *The State conducting the investigation should send, through the State of the Operator, a copy of the draft Final Report to the operator to enable the operator to submit comments on the draft Final Report.*

6.3.2 Recommendation.— *The State conducting the investigation should send, through the State of Design and the State of Manufacture, a copy of the draft Final Report to the organizations responsible for the type design and the final assembly of the aircraft to enable them to submit comments on the draft Final Report.*

Recipient States

6.4 The Final Report of the investigation of an accident shall be sent with a minimum of delay by the State conducting the investigation to:

- a) the State that instituted the investigation;
- b) the State of Registry;
- c) the State of the Operator;
- d) the State of Design;
- e) the State of Manufacture;
- f) any State that participated in the investigation;
- g) any State having suffered fatalities or serious injuries to its citizens; and
- h) any State that provided relevant information, significant facilities or experts.

Release of the Final Report

6.5 In the interest of accident prevention, the State conducting the investigation of an accident or incident shall make the Final Report publicly available as soon as possible and, if possible, within twelve months.

Note.— Making a Final Report publicly available can be achieved by posting the Final Report on the Internet, and does not necessarily require a hard-copy publication of the Final Report.

6.6 If the report cannot be made publicly available within twelve months, the State conducting the investigation shall make an interim statement publicly available on each anniversary of the occurrence, detailing the progress of the investigation and any safety issues raised.

6.7 When the State that has conducted an investigation into an accident or an incident involving an aircraft of a maximum mass of over 5 700 kg has released a Final Report, that State shall send to the International Civil Aviation Organization a copy of the Final Report.

Note.— Whenever practicable, the Final Report sent to ICAO is to be prepared in one of the working languages of the Organization and in the form shown in the Appendix.

Safety recommendations

6.8 At any stage of the investigation of an accident or incident, the accident or incident investigation authority of the State conducting the investigation shall recommend in a dated transmittal correspondence to the appropriate authorities, including those in other States, any preventive action that it considers necessary to be taken promptly to enhance aviation safety.

Note.— Precedence for the issuance of safety recommendations from an accident or incident investigation should be given to the State conducting the investigation; however, in the interest of safety, other States participating in the investigation may issue safety recommendations after coordinating with the State conducting the investigation.

6.9 A State conducting investigations of accidents or incidents shall address, when appropriate, any safety recommendations arising out of its investigations in a dated transmittal correspondence to the accident investigation authorities of other State(s) concerned and, when ICAO documents are involved, to ICAO.

Note.— When Final Reports contain safety recommendations addressed to ICAO, because ICAO documents are involved, these reports must be accompanied by a letter outlining the specific action proposed.

RESPONSIBILITY OF A STATE RECEIVING OR ISSUING
SAFETY RECOMMENDATIONS

Action on safety recommendations

6.10 A State that receives safety recommendations shall inform the proposing State, within ninety days of the date of the transmittal correspondence, of the preventive action taken or under consideration, or the reasons why no action will be taken.

Note.— Nothing in this Standard is intended to preclude the State conducting the investigation from making proposals for preventive action other than safety recommendations.

6.11 **Recommendation.**— *A State conducting the investigation or any other State issuing a safety recommendation should implement procedures to record the responses to the safety recommendation issued.*

6.12 **Recommendation.**— *A State that receives a safety recommendation should implement procedures to monitor the progress of the action taken in response to that safety recommendation.*

CHAPTER 7. ADREP REPORTING

Note 1.— Attachment B provides a notification and reporting checklist.

Note 2.— The provisions of this chapter may require two separate reports for any one accident or incident. They are:

Preliminary Report

Accident/Incident Data Report.

PRELIMINARY REPORT

RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

Accidents to aircraft over 2 250 kg

7.1 When the aircraft involved in an accident is of a maximum mass of over 2 250 kg, the State conducting the investigation shall send the Preliminary Report to:

- a) the State of Registry or the State of Occurrence, as appropriate;
- b) the State of the Operator;
- c) the State of Design;
- d) the State of Manufacture;
- e) any State that provided relevant information, significant facilities or experts; and
- f) the International Civil Aviation Organization.

Accidents to aircraft of 2 250 kg or less

7.2 When an aircraft, not covered by 7.1, is involved in an accident and when airworthiness or matters considered to be of interest to other States are involved, the State conducting the investigation shall forward the Preliminary Report to:

- a) the State of Registry or the State of Occurrence, as appropriate;
- b) the State of the Operator;
- c) the State of Design;
- d) the State of Manufacture; and
- e) any State that provided relevant information, significant facilities or experts.

Language

7.3 The Preliminary Report shall be submitted to appropriate States and to the International Civil Aviation Organization in one of the working languages of ICAO.

Dispatch

7.4 The Preliminary Report shall be sent by facsimile, e-mail, or airmail within thirty days of the date of the accident unless the Accident/Incident Data Report has been sent by that time. When matters directly affecting safety are involved, it shall be sent as soon as the information is available and by the most suitable and quickest means available.

ACCIDENT/INCIDENT DATA REPORT**RESPONSIBILITY OF THE STATE
CONDUCTING THE INVESTIGATION****Accidents to aircraft over 2 250 kg**

7.5 When the aircraft involved in an accident is of a maximum mass of over 2 250 kg, the State conducting the investigation shall send, as soon as practicable after the investigation, the Accident Data Report to the International Civil Aviation Organization.

Additional information

7.6 **Recommendation.**— *The State conducting the investigation should, upon request, provide other States with pertinent information additional to that made available in the Accident/Incident Data Report.*

Incidents to aircraft over 5 700 kg

7.7 If a State conducts an investigation into an incident to an aircraft of a maximum mass of over 5 700 kg, that State shall send, as soon as is practicable after the investigation, the Incident Data Report to the International Civil Aviation Organization.

Note.— *The types of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in Attachment C.*

CHAPTER 8. ACCIDENT PREVENTION MEASURES

Note.— In addition to the provisions of this Chapter, other provisions relative to the promotion of accident prevention by collection and analysis of safety data and by a prompt exchange of safety information, as part of the State safety programme (SSP), are included in Annex 19 — Safety Management and, to this effect, are applicable to this Annex. Further guidance is contained in the Safety Management Manual (SMM) (Doc 9859).

Database and preventive actions

8.1 A State shall establish and maintain an accident and incident database to facilitate the effective analysis of information on actual or potential safety deficiencies and to determine any preventive actions required.

Note.— Additional information on which to base preventive actions may be contained in the Final Reports on accidents and incidents that have been investigated.

8.2 **Recommendation.**— *State authorities responsible for the implementation of the SSP should have access to the accident and incident database referenced in 8.1 to support their safety responsibilities.*

Note.— An accident and incident database may be included in a safety database, which may refer to a single or multiple database(s). Further provisions on a safety database are contained in Annex 19 — Safety Management. Additional guidance is also included in the Safety Management Manual (SMM) (Doc 9859).

8.3 **Recommendation.**— *In addition to safety recommendations arising from accident and incident investigations, safety recommendations may result from diverse sources, including safety studies. If safety recommendations are addressed to an organization in another State, they should also be transmitted to that State's investigation authority.*

APPENDIX. FORMAT OF THE FINAL REPORT

(See Chapter 6)

PURPOSE

The purpose of this format is to present the Final Report in a convenient and uniform manner.

Detailed guidance on completing each section of the Final Report is found in the *Manual of Aircraft Accident and Incident Investigation* (Doc 9756).

FORMAT

Title. The Final Report begins with a title comprising:

name of the operator; manufacturer, model, nationality and registration marks of the aircraft; place and date of the accident or incident.

Synopsis. Following the title is a synopsis describing briefly all relevant information regarding:

notification of accident to national and foreign authorities; identification of the accident investigation authority and accredited representation; organization of the investigation; authority releasing the report and date of publication;

and concluding with a brief résumé of the circumstances leading to the accident.

Body. The body of the Final Report comprises the following main headings:

1. Factual information
2. Analysis
3. Conclusions
4. Safety recommendations

each heading consisting of a number of subheadings as outlined in the following.

Appendices. Include as appropriate.

Note.— In preparing a Final Report, using this format, ensure that:

- a) all information relevant to an understanding of the factual information, analysis and conclusions is included under each appropriate heading;
- b) where information in respect of any of the items in 1.— Factual information is not available, or is irrelevant to the circumstances leading to the accident, a note to this effect is included under the appropriate subheadings.

1. FACTUAL INFORMATION

1.1 **History of the flight.** A brief narrative giving the following information:

- Flight number, type of operation, last point of departure, time of departure (local time or UTC), point of intended landing.
- Flight preparation, description of the flight and events leading to the accident, including reconstruction of the significant portion of the flight path, if appropriate.
- Location (latitude, longitude, elevation), time of the accident (local time or UTC), whether day or night.

1.2 **Injuries to persons.** Completion of the following (in numbers):

<i>Injuries</i>	<i>Crew</i>	<i>Passengers</i>	<i>Others</i>
Fatal			
Serious			
Minor/None			

Note.— *Fatal injuries include all deaths determined to be a direct result of injuries sustained in the accident. Serious injury is defined in Chapter 1 of the Annex.*

1.3 **Damage to aircraft.** Brief statement of the damage sustained by aircraft in the accident (destroyed, substantially damaged, slightly damaged, no damage).

1.4 **Other damage.** Brief description of damage sustained by objects other than the aircraft.

1.5 **Personnel information:**

- a) Pertinent information concerning each of the flight crew members including: age, validity of licences, ratings, mandatory checks, flying experience (total and on type) and relevant information on duty time.
- b) Brief statement of qualifications and experience of other crew members.
- c) Pertinent information regarding other personnel, such as air traffic services, maintenance, etc., when relevant.

1.6 **Aircraft information:**

- a) Brief statement on airworthiness and maintenance of the aircraft (indication of deficiencies known prior to and during the flight to be included, if having any bearing on the accident).
- b) Brief statement on performance, if relevant, and whether the mass and centre of gravity were within the prescribed limits during the phase of operation related to the accident. (If not and if of any bearing on the accident give details.)
- c) Type of fuel used.

1.7 **Meteorological information:**

- a) Brief statement on the meteorological conditions appropriate to the circumstances including both forecast and actual conditions, and the availability of meteorological information to the crew.

b) Natural light conditions at the time of the accident (sunlight, moonlight, twilight, etc.).

1.8 **Aids to navigation.** Pertinent information on navigation aids available, including landing aids such as ILS, MLS, NDB, PAR, VOR, visual ground aids, etc., and their effectiveness at the time.

1.9 **Communications.** Pertinent information on aeronautical mobile and fixed service communications and their effectiveness.

1.10 **Aerodrome information.** Pertinent information associated with the aerodrome, its facilities and condition, or with the take-off or landing area if other than an aerodrome.

1.11 **Flight recorders.** Location of the flight recorder installations in the aircraft, their condition on recovery and pertinent data available therefrom.

1.12 **Wreckage and impact information.** General information on the site of the accident and the distribution pattern of the wreckage; detected material failures or component malfunctions. Details concerning the location and state of the different pieces of the wreckage are not normally required unless it is necessary to indicate a break-up of the aircraft prior to impact. Diagrams, charts and photographs may be included in this section or attached in the Appendices.

1.13 **Medical and pathological information.** Brief description of the results of the investigation undertaken and pertinent data available therefrom.

Note.— Medical information related to flight crew licences should be included in 1.5 — Personnel information.

1.14 **Fire.** If fire occurred, information on the nature of the occurrence, and of the fire fighting equipment used and its effectiveness.

1.15 **Survival aspects.** Brief description of search, evacuation and rescue, location of crew and passengers in relation to injuries sustained, failure of structures such as seats and seat-belt attachments.

1.16 **Tests and research.** Brief statements regarding the results of tests and research.

1.17 **Organizational and management information.** Pertinent information concerning the organizations and their management involved in influencing the operation of the aircraft. The organizations include, for example, the operator; the air traffic services, airway, aerodrome and weather service agencies; and the regulatory authority. The information could include, but not be limited to, organizational structure and functions, resources, economic status, management policies and practices, and regulatory framework.

1.18 **Additional information.** Relevant information not already included in 1.1 to 1.17.

1.19 **Useful or effective investigation techniques.** When useful or effective investigation techniques have been used during the investigation, briefly indicate the reason for using these techniques and refer here to the main features as well as describing the results under the appropriate subheadings 1.1 to 1.18.

2. ANALYSIS

Analyse, as appropriate, only the information documented in 1. — Factual information and which is relevant to the determination of conclusions and causes and/or contributing factors.

3. CONCLUSIONS

List the findings, causes and/or contributing factors established in the investigation. The list of causes and/or contributing factors should include both the immediate and the deeper systemic causes and/or contributing factors.

Note.— As stated in 6.1, the Final Report format presented in this Appendix may be adapted to the circumstances of the accident or incident. Thus, States may use either “causes” or “contributing factors”, or both, in the Conclusions.

4. SAFETY RECOMMENDATIONS

As appropriate, briefly state any recommendations made for the purpose of accident prevention and identify safety actions already implemented.

APPENDICES

Include, as appropriate, any other pertinent information considered necessary for the understanding of the report.

ATTACHMENTS

ATTACHMENT A. RIGHTS AND OBLIGATIONS OF THE STATE OF THE OPERATOR IN RESPECT OF ACCIDENTS AND INCIDENTS INVOLVING LEASED, CHARTERED OR INTERCHANGED AIRCRAFT

The Standards and Recommended Practices of Annex 13 — *Aircraft Accident and Incident Investigation* were developed when the State of Registry and the State of the Operator normally were the same. In recent years, however, international aircraft leasing and interchanging arrangements have developed so that in many instances the State of the Operator is different from the State of Registry.

Leasing or interchange arrangements sometimes include the provision of flight crews from the State of Registry. However, more often, flight crews are provided by the State of the Operator and the aircraft operated under national legislation of the State of the Operator. Similarly, a variety of arrangements for airworthiness can emerge from these arrangements. Airworthiness responsibility may rest, wholly or partly, with the State of the Operator or State of Registry. Sometimes the operator, in conformity with an airworthiness control system specified by the State of Registry, carries out maintenance and keeps records.

In the event of an accident or an incident, it is important that any State which has assumed responsibility for the safety of an aircraft has the right to participate in an investigation, at least in respect of that responsibility. It is also important that the State conducting the investigation should have speedy access to all documents and other information relevant to that investigation.

When the location of an accident or an incident cannot definitely be established as being in the territory of another State, the State of the Operator, after consultation with the State of Registry, should accept full or partial responsibility for the conduct of the investigation.

ATTACHMENT B. NOTIFICATION AND REPORTING CHECKLIST

Note.— In this checklist, the following terms have the meaning indicated below:

- International occurrences: *accidents and serious incidents occurring in the territory of a Contracting State to aircraft registered in another Contracting State;*
- Domestic occurrences: *accidents and serious incidents occurring in the territory of the State of Registry;*
- Other occurrences: *accidents and serious incidents occurring in the territory of a non-Contracting State, or outside the territory of any State.*

1. NOTIFICATION — ACCIDENTS AND SERIOUS INCIDENTS

<i>From</i>	<i>For</i>	<i>Send to</i>	<i>Annex 13 reference</i>
State of Occurrence	International occurrences: All aircraft	State of Registry State of the Operator State of Design State of Manufacture ICAO (when aircraft over 2 250 kg or is a turbojet-powered aeroplane)	4.1
State of Registry	Domestic and other occurrences: All aircraft	State of the Operator State of Design State of Manufacture ICAO (when aircraft over 2 250 kg or is a turbojet-powered aeroplane)	4.8

2. FINAL REPORT

Accidents and incidents wherever they occurred

<i>From</i>	<i>Type of report</i>	<i>Concerning</i>	<i>Send to</i>	<i>Annex 13 reference</i>
State conducting the investigation	FINAL REPORT	All aircraft	State instituting the investigation State of Registry State of the Operator State of Design State of Manufacture State having interest because of fatalities State providing information, significant facilities or experts	6.4
		Aircraft over 5 700 kg	ICAO	6.7

3. ADREP REPORT

Accidents and incidents wherever they occurred

<i>From</i>	<i>Type of report</i>	<i>Concerning</i>	<i>Send to</i>	<i>Annex 13 reference</i>
State conducting the investigation	PRELIMINARY REPORT	Accidents to aircraft over 2 250 kg	State of Registry or State of Occurrence State of the Operator State of Design State of Manufacture State providing information, significant facilities or experts ICAO	7.1
		Accidents to aircraft of 2 250 kg or less if airworthiness or matters of interest are involved	Same as above, <i>except</i> ICAO	7.2
	ACCIDENT DATA REPORT	Accidents to aircraft over 2 250 kg	ICAO	7.5
	INCIDENT DATA REPORT	Incidents to aircraft over 5 700 kg	ICAO	7.7

4. ACCIDENT PREVENTION MEASURES

Safety matters of interest to other States

<i>From</i>	<i>Type</i>	<i>Concerning</i>	<i>Send to</i>	<i>Annex 13 reference</i>
States making safety recommendations	Safety recommendations	Recommendations made to another State	Accident investigation authority in that State	6.8 8.3
		ICAO documents	ICAO	6.9

ATTACHMENT C. LIST OF EXAMPLES OF SERIOUS INCIDENTS

1. The term “serious incident” is defined in Chapter 1 as follows:

Serious incident. An incident involving circumstances indicating that there was a high probability of an accident and associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down.

2. The incidents listed are typical examples of incidents that are likely to be serious incidents. The list is not exhaustive and only serves as guidance to the definition of serious incident.

Near collisions requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate.

Collisions not classified as accidents.

Controlled flight into terrain only marginally avoided.

Aborted take-offs on a closed or engaged runway, on a taxiway¹ or unassigned runway.

Take-offs from a closed or engaged runway, from a taxiway¹ or unassigned runway.

Landings or attempted landings on a closed or engaged runway, on a taxiway¹ or unassigned runway.

Gross failures to achieve predicted performance during take-off or initial climb.

Fires and/or smoke in the cockpit, in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents.

Events requiring the emergency use of oxygen by the flight crew.

Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident.

Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft.

Flight crew incapacitation in flight.

Fuel quantity level or distribution situations requiring the declaration of an emergency by the pilot, such as insufficient fuel, fuel exhaustion, fuel starvation, or inability to use all usable fuel on board.

Runway incursions classified with severity A. The *Manual on the Prevention of Runway Incursions* (Doc 9870) contains information on the severity classifications.

1. Excluding authorized operations by helicopters.

Take-off or landing incidents. Incidents such as under-shooting, overrunning or running off the side of runways.

System failures, weather phenomena, operations outside the approved flight envelope or other occurrences which caused or could have caused difficulties controlling the aircraft.

Failures of more than one system in a redundancy system mandatory for flight guidance and navigation.

The unintentional or, as an emergency measure, the intentional release of a slung load or any other load carried external to the aircraft.

ATTACHMENT D. GUIDELINES FOR FLIGHT RECORDER READ-OUT AND ANALYSIS

Initial response

The aftermath of a major accident is a demanding time for any State's investigation authority. One of the immediate items requiring a decision is where to have the flight recorders read out and analysed. It is essential that the flight recorders be read out as early as possible after an accident. Early identification of problem areas can affect the investigation at the accident site where evidence is sometimes transient. Early identification of problem areas may also result in urgent safety recommendations which may be necessary to prevent a similar occurrence.

Many States do not have their own facilities for the playback and analysis of flight recorder information (both voice and data) and consequently request assistance from other States. It is essential, therefore, that the accident investigation authority of the State conducting the investigation make timely arrangements to read out the flight recorders at a suitable read-out facility.

Choice of facility

The investigating State may request assistance from any State that, in its opinion, can best serve the investigation. The manufacturer's standard replay equipment and playback software, which are typically used by airlines and maintenance facilities, are not considered adequate for investigation purposes. Special recovery and analysis techniques are usually required if the recorders have been damaged.

Facilities for the read-out of flight recorders should have the following capabilities:

- a) the ability to disassemble and read out recorders that have sustained substantial damage;
- b) the ability to play back the original recording/memory module without the need for the use of a manufacturer's copy device or the recorder housing that was involved in the accident or incident;
- c) the ability to manually analyse the raw binary waveform from digital tape flight data recorders;
- d) the ability to enhance and filter voice recordings digitally by means of suitable software; and
- e) the capability to graphically analyse data, to derive additional parameters not explicitly recorded, to validate the data by cross-checking and other analytical methods to determine data accuracy and limitations.

Participation by the State of Manufacture (or Design) and the State of the Operator

The State of Manufacture (or Design) has airworthiness responsibilities and the expertise normally required to read out and analyse flight recorder information. Since flight recorder information can often reveal airworthiness problems, the State of Manufacture (or Design) should have a representative present when the flight recorder read-out and analysis are being conducted in a State other than the State of Manufacture (or Design).

The State of the Operator has regulatory responsibilities regarding the flight operation and can provide insights into operational issues which may be specific to the operator. Since flight recorder information can reveal operational problems, the State of the Operator should also have a representative present when the flight recorder read-out and analysis are being conducted.

Recommended procedures

The flight data recorder and the cockpit voice recorder should be read out by the same facility, because they contain complementary data which can help validate each recording and aid in determining timing and synchronization.

Flight recorders should not be opened or powered up and original recordings should not be copied (particularly not by high-speed copy devices) prior to the read-out because of the risk of damage to the recordings.

The facility at which the flight recorders are read out for another State should be given an opportunity to comment on the Final Report in order to ensure that the characteristics of the flight recorder analysis have been taken into account.

The facility at which the flight recorders are read out may require the expertise of the aircraft manufacturer and the operator in order to verify the calibration data and validate the recorded information.

The State conducting the investigation may leave the original recordings, or a copy of them, with the read-out facility until the investigation is completed, in order to facilitate the timely resolution of additional requests or clarifications, providing that the facility has adequate security procedures to safeguard the recordings.

ATTACHMENT E. LEGAL GUIDANCE FOR THE PROTECTION OF INFORMATION FROM SAFETY DATA COLLECTION AND PROCESSING SYSTEMS

1. INTRODUCTION

1.1 The protection of safety information from inappropriate use is essential to ensure its continued availability, since the use of safety information for other than safety-related purposes may inhibit the future availability of such information, with an adverse effect on safety. This fact was recognized by the 35th Session of the ICAO Assembly, which noted that existing national laws and regulations in many States may not adequately address the manner in which safety information is protected from inappropriate use.

1.2 The guidance contained in this Attachment is therefore aimed at assisting States enact national laws and regulations to protect information gathered from safety data collection and processing systems (SDCPS), while allowing for the proper administration of justice. The objective is to prevent the inappropriate use of information collected solely for the purpose of improving aviation safety.

1.3 Because of the different legal systems in States, the legal guidance must allow States the flexibility to draft their laws and regulations in accordance with their national policies and practices.

1.4 The guidance contained in this Attachment, therefore, takes the form of a series of principles that have been distilled from examples of national laws and regulations provided by States. The concepts described in these principles could be adapted or modified to meet the particular needs of the State enacting laws and regulations to protect safety information.

1.5 Throughout this Attachment:

- a) *safety information* refers to information contained in SDCPS established for the sole purpose of improving aviation safety, and qualified for protection under specified conditions in accordance with 3.1 below;
- b) *operational personnel* refers to personnel involved in aviation operations who are in a position to report safety information to SDCPS. Such personnel include, but are not limited to, flight crews, air traffic controllers, aeronautical station operators, maintenance technicians, cabin crews, flight dispatchers and apron personnel;
- c) *inappropriate use* refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public;
- d) SDCPS refers to processing and reporting systems, databases, schemes for exchange of information, and recorded information and include:
 - 1) records pertaining to accident and incident investigations, as described in Chapter 5 of this Annex;
 - 2) mandatory incident reporting systems, as described in Annex 19, Chapter 5;
 - 3) voluntary incident reporting systems, as described in Annex 19, Chapter 5; and

- 4) self-disclosure reporting systems, including automatic data capture systems, as described in Annex 6, Part I, Chapter 3, as well as manual data capture systems.

Note.— Information on safety data collection and processing systems can be found in the Safety Management Manual (SMM) (Doc 9859).

2. GENERAL PRINCIPLES

2.1 The sole purpose of protecting safety information from inappropriate use is to ensure its continued availability so that proper and timely preventive actions can be taken and aviation safety improved.

2.2 It is not the purpose of protecting safety information to interfere with the proper administration of justice in States.

2.3 National laws and regulations protecting safety information should ensure that a balance is struck between the need for the protection of safety information in order to improve aviation safety, and the need for the proper administration of justice.

2.4 National laws and regulations protecting safety information should prevent its inappropriate use.

2.5 Providing protection to qualified safety information under specified conditions is part of a State's safety responsibilities.

3. PRINCIPLES OF PROTECTION

3.1 Safety information should qualify for protection from inappropriate use according to specified conditions that should include, but not necessarily be limited to: the collection of information was for explicit safety purposes and the disclosure of the information would inhibit its continued availability.

3.2 The protection should be specific for each SDCPS, based upon the nature of the safety information it contains.

3.3 A formal procedure should be established to provide protection to qualified safety information, in accordance with specified conditions.

3.4 Safety information should not be used in a way different from the purposes for which it was collected.

3.5 The use of safety information in disciplinary, civil, administrative and criminal proceedings should be carried out only under suitable safeguards provided by national law.

4. PRINCIPLES OF EXCEPTION

Exceptions to the protection of safety information should only be granted by national laws and regulations when:

- a) there is evidence that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct;
- b) an appropriate authority considers that circumstances reasonably indicate that the occurrence may have been caused by conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct; or

- c) a review by an appropriate authority determines that the release of the safety information is necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information.

5. PUBLIC DISCLOSURE

5.1 Subject to the principles of protection and exception outlined above, any person seeking disclosure of safety information should justify its release.

5.2 Formal criteria for disclosure of safety information should be established and should include, but not necessarily be limited to, the following:

- a) disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations;
- b) disclosure of the safety information does not inhibit its future availability in order to improve safety;
- c) disclosure of relevant personal information included in the safety information complies with applicable privacy laws; and
- d) disclosure of the safety information is made in a de-identified, summarized or aggregate form.

6. RESPONSIBILITY OF THE CUSTODIAN OF SAFETY INFORMATION

Each SDCPS should have a designated custodian. It is the responsibility of the custodian of safety information to apply all possible protection regarding the disclosure of the information, unless:

- a) the custodian of the safety information has the consent of the originator of the information for disclosure; or
- b) the custodian of the safety information is satisfied that the release of the safety information is in accordance with the principles of exception.

7. PROTECTION OF RECORDED INFORMATION

Considering that ambient workplace recordings required by legislation, such as cockpit voice recorders (CVRs), may be perceived as constituting an invasion of privacy for operational personnel that other professions are not exposed to:

- a) subject to the principles of protection and exception above, national laws and regulations should consider ambient workplace recordings required by legislation as privileged protected information, i.e. information deserving enhanced protection; and
- b) national laws and regulations should provide specific measures of protection to such recordings as to their confidentiality and access by the public. Such specific measures of protection of workplace recordings required by legislation may include the issuance of orders of non-public disclosure.

ATTACHMENT F. GUIDANCE FOR THE DETERMINATION OF AIRCRAFT DAMAGE

1. If an engine separates from an aircraft, the event is categorized as an accident even if damage is confined to the engine.
2. A loss of engine cowls (fan or core) or reverser components which does not result in further damage to the aircraft is not considered an accident.
3. Occurrences where compressor or turbine blades or other engine internal components are ejected through the engine tail pipe are not considered an accident.
4. A collapsed or missing radome is not considered an accident unless there is related substantial damage in other structures or systems.
5. Missing flap, slat and other lift augmenting devices, winglets, etc., that are permitted for dispatch under the configuration deviation list (CDL) are not considered to be an accident.
6. Retraction of a landing gear leg, or wheels-up landing, resulting in skin abrasion only. If the aircraft can be safely dispatched after minor repairs, or patching, and subsequently undergoes more extensive work to effect a permanent repair, then the occurrence would not be classified as an accident.
7. If the structural damage is such that the aircraft depressurizes, or cannot be pressurized, the occurrence is categorized as an accident.
8. The removal of components for inspection following an occurrence, such as the precautionary removal of an undercarriage leg following a low-speed runway excursion, while involving considerable work, is not considered an accident unless significant damage is found.
9. Occurrences that involve an emergency evacuation are not counted as an accident unless someone receives serious injuries or the aircraft has otherwise sustained significant damage.

Note 1.— Regarding aircraft damage which adversely affects the structural strength, performance or flight characteristics, the aircraft may have landed safely, but cannot be safely dispatched on a further sector without repair.

Note 2.— If the aircraft can be safely dispatched after minor repairs and subsequently undergoes more extensive work to effect a permanent repair, then the occurrence would not be classified as an accident. Likewise, if the aircraft can be dispatched under the CDL with the affected component removed, missing or inoperative, the repair would not be considered as a major repair and consequently the occurrence would not be considered an accident.

Note 3.— The cost of repairs, or estimated loss, such as provided by insurance companies may provide an indication of the damage sustained but should not be used as the sole guide as to whether the damage is sufficient to count the occurrence as an accident. Likewise, an aircraft may be considered a “hull loss” because it is uneconomic to repair, without it having incurred sufficient damage to be classified as an accident.

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