AIIG/2 Jeddah, Saudi Arabia 13-15 Sep 2022

Update on AIG Area

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Current amendment 18 to Annex 13

- New definition and Standard for "safety recommendation of global concern (SRGC)" and
- Revised provisions on recorded data for accident and incident investigations.



No action expension, at 3 Seasons (ES), of pressure actions it beam. For internative supering the again, after 5 to 3 Seasons and Seasons of Particles, and Season 2 and Seasons.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Timely investigation of accidents and serious incidents



5.1.3 **Recommendation.**— If the State of Occurrence does not institute and conduct an investigation, and does not delegate the investigation to another State or a regional accident and incident investigation organization, as set out in 5.1 and 5.1.2, the State of Registry or, in the following order, the State of the Operator, the State of Design or the State of Manufacture is entitled to request in writing the State of Occurrence to delegate the conducting of such investigation. If the State of Occurrence gives express consent or does not reply to such a request within 30 days, the State making the request should institute and conduct the investigation with such information as is available.

Applicable since 5 November 2020 (amendment 17 of Annex 13)

When an investigation is not conducted or delegated by the State of Occurrence, other States can institute an investigation.

Applicable only when the State of Occurrence gives express consent or does not reply to request to delegate

Release of the Final Report when the State conducting the investigation does not publish the Final Report within a "reasonable timeframe"



6.6.1 **Recommendation.**— If the State conducting the investigation does not make the Final Report or an interim statement publicly available within a reasonable timeframe, other States participating in the investigation are entitled to request in writing from the State conducting the investigation express consent to release a statement containing safety issues raised with such information as is available. If the State conducting the investigation gives express consent or does not reply to such a request within 30 days, the State making the request should release such a statement after coordinating participating States.

Note.— Guidance on what may constitute a "reasonable timeframe" for a State to make a Final Report and/or an interim statement publicly available is contained in the Manual of Aircraft Accident and Incident Investigation (Doc 9756), Part IV — Reporting.

Other States can release a statement with safety issues raised.
Applicable only when the State conducting the investigation gives express consent or does not reply to request from the other States

Applicable since 5 November 2020 (amendment 17 of Annex 13)

Serious Incidents – Abbreviation to use in Notifications (SINCID)

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 SINCID, for incidents INCID:

Applicable since 5 November 2020 (amendment 17 of Annex 13)

Before:
INCID=Serious Incident

Now:
INCID=Incident
SINCID=Serious Incident

Serious
Incidents –
Abbreviation
to use in
Notifications
(SINCID)

Add	PCC.					
	2002 A					
a) for accidents the identifying abbreviation ACCID, for serious		ACCID (Accident)	95300 SATE THE RESERVE A 1000 A 10000 A 1000		INCID (Incident)	
incidents SINCID;						
b)	manufacturer, model, nationality and registration marks, and serial number of the aircraft;		iĝ.	**		
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;		333 8			
e)	date and time (local time or UTC) of the accident or serious incident;	(dd/mm/yyyy – hh:mm) (dd/mm/yyyy UTC date: UTC time:		yyyy – hh:mm)		
f)	last point of departure and point of intended landing of the aircraft;	Last point of departure:				
E)	position of the aircraft with reference to some easily defined geographical point and latitude and longitude;	Point of intended la	nding:			
h)	number of crew and passengers; aboard, killed and seriously injured; others, killed and seriously injured;	Persons on board Fatal Serious Injury Minor	crew crew crew	Pax Pax Pax pax	other	
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;	TRYAIN	TIME			
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;					
1)	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;	Investigator in charge:				
m)	presence and description of dangerous goods on board the aircraft.	□ No	☐ Yes	- If yes, UN#		
	Operation Type (If information is available)	Commercial Aviation General Aviation	<u> </u>	cheduled	Passenger Cargo	
	Level of damage to aircraft (If information is available)	Destroyed Minor	R	Substanti		

Assessment Incidents vs. Serious Incidents

ATTACHMENT C. LIST OF EXAMPLES OF SERIOUS INCIDENTS



2.2 The combination of these two assessments helps to determine which incidents are serious incidents:

		Remaining defences between the incident and the potential accident		
		Effective	Limited	
a) Most credible scenario	Accident	Incident	Serious Incio	
	No accident	Incident		

Applicable since 5 November 2020 (amendment 17 of Annex 13)

An event risk-based analysis can be performed:

a. Consider the most credible scenario by which the incident could have escalated to an accident b. effectiveness of the remaining defences between the incident and the potential accident

Investigation Delegation Agreements

ATTACHMENT F. INVESTIGATION DELEGATION AGREEMENTS



- 1. In accordance with paragraph 5.1, the State of Occurrence is responsible for instituting and conducting an investigation, but it may delegate the whole or any part of the conducting of such investigation to another State or a regional accident and incident investigation organization (RAIO) by mutual arrangement and consent. Similarly, delegation of the conducting of an investigation may take place when a State is expected or required to institute an investigation of an accident or serious incident occurring in the territory of a non-Contracting State that does not intend to conduct an investigation in accordance with this Annex, or when the location of the accident or serious incident cannot definitely be established as being in the territory of any State.
- 2. Entering into an investigation delegation agreement normally begins with a decision made by the State responsible for instituting and conducting the investigation. In general, such a State may consider delegating the conducting of the investigation to another State or RAIO, in particular for those situations when it may be beneficial or more practical for the selected State or RAIO to conduct the investigation, or when the State responsible for instituting the investigation lacks the resources or capability to investigate the occurrence in accordance with this Annex.
- 3. Depending on the parties involved in the investigation, the scope of the investigation to be conducted by another State or RAIO would determine whether a formal investigation delegation agreement is necessary, or if a mutual understanding would suffice. In general, delegation of the whole investigation would require a formal investigation delegation agreement. In the case of delegation of part of the investigation, a formal delegation agreement would be at the discretion of the two parties.
- 4. When the whole investigation is delegated to another State or an RAIO, such State or RAIO 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 delegating State usually retains the responsibility for the conduct of the investigation, including the issuance of the Final Report and the ADREP reporting. In any event, the delegating State shall use every means to facilitate the investigation.
- 5. It is important to differentiate between the institution and the conduct of an investigation in terms of the triggering and terminating events of each function. *Instituting* the investigation begins at the time the accident investigation authority is informed about the accident or incident and forwards the official notification of the occurrence to concerned States and to ICAO as required by paragraph 4.1. *Conducting* the investigation is the function of performing an investigation in accordance with this Annex, and issuing reports including the Final Report.
- 6. It is important that the investigation delegation agreement achieves the purpose of the investigation and maintains conformity with the requirements of this Annex. Therefore, the parties to the agreement should ensure that the responsibility of each party is clearly defined. The contents and details of the agreement depend on the scope of the delegation.

Applicable since 5 November 2020 (amendment 17 of Annex 13)

Note.— The Manual of Aircraft Accident and Incident Investigation, Part I — Organization and Planning (Doc 9756),
Chapter 2, contains guidance material on the delegation of investigations and a model delegation agreement.

Manual of Aircraft Accident and Incident Investigation Doc 9756, Part IV – Reporting, Third Edition, 2020





approved by and published under the authority of the Secretary General.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

- Release and distribution of the Final Report
- Release and distribution of safety recommendations
- Damage to aircraft
- Format of the Final Report
- ADREP reporting





INTERNATIONAL CIVIL AVIATION ORGANIZATION

1.5 RELEASE AND DISTRIBUTION OF THE FINAL REPORT

- 1.5.1 The State conducting the investigation shall release the Final Report in the shortest possible time and, if possible, within twelve months of the date of the occurrence. If the report cannot be released within twelve months, the State conducting the investigation shall release an interim statement on each anniversary of the occurrence detailing the progress of the investigation and any safety issues raised.
- 1.5.2 Related to the release of Final Reports, Annex 13, 6.6.1 recommends that "If the State conducting the investigation does not make the Final Report or an interim statement publicly available within a reasonable timeframe, other States participating in the investigation are entitled to request in writing from the State conducting the investigation express consent to release a statement containing safety issues raised with such information as is available. If the State conducting the investigation gives express consent or does not reply to such a request within 30 days, the State making the request should release such a statement after coordinating with participating States." An important aspect of this recommendation is the concept of a reasonable timeframe and what this may constitute.
- 1.5.3 The possibilities that may cause a delay in the publishing of the Final Report need to be assessed. A worldwide review related to the release of Final Reports assessed 1 157 occurrences of fatal accidents between 1990 and 2016 involving civil aircraft of a maximum mass of over 5 700 kg. The review determined that of the occurrences where a Final Report was generated and made publicly available. 25 per cent were made publicly available within one year of the occurrence; 65 per cent within two years; 84 per cent within three years; and 94 per cent were concluded in four years. In addition to the aforementioned, the following factors should be taken into consideration in determining a "reasonable timeframe" for the issuance of the Final Report or an interim statement:
 - a) the availability of an interim statement(s) released by the State conducting the investigation on each anniversary of the occurrence, detailing the progress of the investigation and any safety issues raised, should the Final Report not be publicly available within twelve months;
 - b) the level of complexity of the investigation of the occurrence may extend the time necessary to finalize the investigation, which may result in the Final Report being published in a two- to four-year period, as indicated above:
 - a higher credibility is usually given to safety lessons shared promptly, which are likely to have a stronger impact on accident prevention and on the enhancement of safety; and
 - d) the prompt sharing of safety lessons on systemic deficiencies (e.g. those not solely related to a specific aircraft type, operator, manufacturer, maintenance organization, or air navigation service provider) may provide safety benefits at a global level, including to States not participating in the investigation.

Considerations for "reasonable timeframe" for the issuance of a Final Report or interim statement

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INTERNATIONAL CIVIL AVIATION ORGANIZATION

1.6 RELEASE AND DISTRIBUTION OF SAFETY RECOMMENDATIONS

- 1.6.1 At any stage of the investigation of an accident or incident, the investigation authority of the State conducting the investigation shall recommend, in a dated transmittal correspondence to the appropriate authorities (including those in other States, and to ICAO when ICAO documents are involved), any preventive action that it considers necessary to be taken promptly to enhance aviation safety.
- 1.6.2 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.
- 1.6.3 A State conducting the investigation, or any other State issuing a safety recommendation, must implement procedures to record the responses to the safety recommendation issued. A State that receives a safety recommendation must implement procedures to monitor the progress of the action taken in response to that safety recommendation.
- 1.6.4 States are required to inform ICAO, i.e. the Accident Investigation Section of ICAO's Air Navigation Bureau, in a dated transmittal correspondence, of issued safety recommendations of global concern (SRGCs) as well as the responses received concerning these recommendations. An SRGC is defined as "a safety recommendation regarding a systemic deficiency having a probability of recurrence, with significant consequences at a global level, and requiring timely action to improve safety". Examples of what is and what is not an SRGC are listed in Appendix 6 to Chapter 1.
- 1.6.5 For the purpose of advancing aviation safety, SRGCs, as well as the responses received thereto, sent to ICAO will be recorded in an ICAO central database that is publicly available. States, even if they are not the addressee of the SRGC, should regularly monitor this database for awareness and adoption of timely corrective action as appropriate.

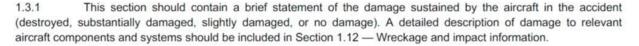
Note.— Appendix 6 to this chapter contains more detailed guidelines on the identification, drafting and follow-up of safety recommendations.

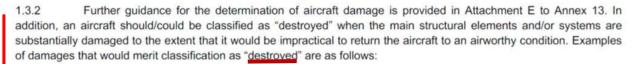
1.6.6 In general, safety recommendations are addressed to a State's regulatory/safety oversight agency and may not be widely disseminated. To this effect, the ICAO central database is a means to enhance awareness of other States' regulatory/safety oversight agencies, accident investigation authorities, airlines, etc. about SRGCs and their responses for the purpose of accident prevention measures, resulting in the enhancement of safety.

Definition of SRGC ICAO central database about SRGC and their responses

FORMAT AND CONTENT OF THE FINAL REPORT

1.3 Damage to aircraft





 a) damage to an aircraft where the structure is deformed, crushed, demolished or consumed by fire to such an extent that the make and model is not readily distinguishable without viewing its writ documents, data plate or insignia;

b) most of the parts are damaged and need to be replaced or repaired;

c) for large aircraft, keel beam damage that exceeds the structural repair manual (SRM);

d) fuselage broken in two or more sections;

 e) multi-site damage locations that exceed the SRM, such as engine separation, wing separated or broken, or empennage separated or broken; and

f) aircraft is submerged in saltwater for 24 hours or longer.

Note 1.— A classification of "destroyed" is usually associated with a hull loss, meaning that the aircraft is damaged beyond economical repair. However, an aircraft may be repaired for other reasons, such as historical value. Therefore, a technical determination of damage classification "destroyed" is not to be affected by the decision of whether to repair or rebuild an accident aircraft.

Note 2.— Occurrence where the aircraft damage is coded as "destroyed" is to be classified as an "accident".

Definition of classification "destroyed" and examples





INTERNATIONAL CIVIL AVIATION ORGANIZATION

FORMAT AND CONTENT OF THE FINAL REPORT





INTERNATIONAL CIVIL AVIATION ORGANIZATION

1.8 Aids to navigation

- 1.8.1 Include relevant information on ground-based navigation and landing aids available, such as non-directional radio beacon (NDB), very high frequency omnidirectional radio range (VOR), distance measuring equipment (DME), instrument landing system (ILS), precision approach radar (PAR), and visual ground aids as well as their serviceability at the time of the accident.
- 1.8.2 When relevant, include pertinent information on equipment on board the aircraft, such as auto flight system flight management system (FMS), global positioning system (GPS), inertial navigation system (INS), aircraft communication addressing and reporting system (ACARS), enhanced ground proximity warning system (EGPWS), TCAS and electronic flight bag (EFB), including their serviceability. Availability of relevant maps, charts, approach plates, pertinent air-based navigation (such as global navigation satellite system (GNSS)), surveillance data from primary and secondary radar equipment, automatic dependent surveillance broadcast (ADS-B), automatic dependent surveillance contract (ADS-C), satellite communication (SATCOM) and satellite data should also be discussed and included in, or attached to, the report. The information should include the effectiveness of the pertinent systems at the time.

Use of ground-based recordings and information on equipment on board the aircraft

FORMAT AND CONTENT OF THE FINAL REPORT

1.11 Flight recorders



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INTERNATIONAL CIVIL AVIATION ORGANIZATION

1.11.1 Provide the particulars for each flight recorder, such as manufacturer, model, number of parameters recorded, recording medium and duration of the recording. The recorders would include flight data recorders (FDRs), cockpit voice recorders (CVRs), flight crew-machine interface recordings (FCMIR), quick access recorders/direct access recorders (QARs/DARs), engine parameter recorders (such as electronic engine control (EEC)), health and usage monitoring systems (HUMS), airborne image recorders (AIRs), data link recorders, lightweight recorders, non-volatile memory chips in aircraft systems, other on-board data storage equipment, and communication and/or video storage devices, or ground-based recorders.

1.11.2 Describe the performance of the means for timely recovery of flight recorder data as required by Annex 6 — Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, 6.3.6 Flight recorder data recovery. When applicable, describe the location and retrieval of automatic deployable flight recorders, including the performance of the emergency locator transmitter(s) (ELT(s)) for locating the recorder, or the recovery of any transmitted flight recorder data.

Note.— Guidance on approving the means to locate an aircraft in distress and make flight recorder data available in a timely manner is contained in the Manual on Location of Aircraft in Distress and Flight Recorder Data Recovery (Doc 10054).

Means of timely recovery of flight recorder data, deployable recorders, ELTs... Reference to Doc 10054

FORMAT AND CONTENT OF THE FINAL REPORT

1.15 Survival aspects



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- 1.15.1 Give a brief description of the search and rescue activities. When applicable, include information regarding the serviceability and effectiveness of the fixed and/or portable ELT(s) or the equipment enabling the location of the wreckage and potential survivors. Pertinent information on the aircraft tracking system, in particular the autonomous distress tracking (ADT) system(s), should also be documented.
- 1.15.2 The location of crew members and passengers in relation to injuries sustained should be stated. The failure of structures such as seats, seat belts and overhead bins should be described. Also, the use and effectiveness of safety equipment should be reported. Aspects pertinent to the crashworthiness of the aircraft should be addressed as well as occupant survivability in relation to impact forces and fire.
- 1.15.3 If an evacuation was conducted, a description of the following information is usually included:
 - first notification of an accident to the emergency services and the response time;
 - emergency lighting in the aircraft (installation, activation, functioning and failures);
 - communications;
 - passenger behaviour and carry-on baggage;
 - emergency exits (types of exits and their use);
 - evacuation slides (types of slides, activation and their use);
 - injuries sustained in the evacuation; and

Information on autonomous distress tracking (ADT) to be documented

Chapter 3



Doc 9756 Manual of Aircraft Accident and Incident linvestigation Signify — Reporting There of Research (St. 1997) There of Research (St. 1997) The of Research (St. 19

INTERNATIONAL CIVIL AVIATION ORGANIZATION

THE ACCIDENT/INCIDENT DATA REPORTING (ADREP) SYSTEM

3.1 ADREP REPORTING SYSTEM — GENERAL

- 3.1.1 In accordance with Annex 13, States report to ICAO information on all aircraft accidents which involve aircraft of a maximum certificated take-off mass of over 2 250 kg. ICAO also gathers information on aircraft incidents considered important for safety and accident prevention. Thorough accident and incident investigations identify safety issues in the aviation system, both at the airline level and at the national level. However, it is sometimes difficult to differentiate between isolated manifestations of a problem and systemic unsafe conditions with a potential for loss of life or property damage. Such safety issues must be validated; in part, this is done by comparing the accident and incident experience in question with the broader experience of the airline, the State and other States. This type of comparative analysis requires reliable and complete data. The ADREP System operated by ICAO provides States with the data that will assist them in validating safety issues. Based on this validation process with its attendant assessment of risk, accident investigation authorities can offer meaningful recommendations for correcting unsafe conditions in the aviation system.
- 3.1.2 Detailed information concerning the reporting of accidents and incidents to the ADREP system is contained in Appendix 1 to this Chapter. ADREP reports can be sent in an ADREP compatible format, such as the European Coordination Centre for Accident and Incident Reporting System (ECCAIRS).

Note.— Chapter 7 of ICAO Annex 13 contains the Standards and Recommended Practices for ADREP reporting.

New reference to guidance on ADREP system: Appendix 1 to Chapter 3 of Doc 9756, Part 4 (no longer in SMM)



INTERNATIONAL CIVIL AVIATION ORGANIZATION

Annex 13 — Aircraft Accident and Incident Investigation, requires States to report data obtained during the early stages of an investigation of an accident. ICAO also gathers information on aircraft incidents for safety and accident prevention. For ease of reference, the term "occurrence" refers to accidents, serious incidents and incidents.

INTRODUCTION

2. ACCIDENTS AND INCIDENTS DATA REPORTING (ADREP) REPORTS

2.1 General

- 2.1.1 The ICAO ADREP system collects data from States in order to enhance safety by means of analysis, which is accomplished either by validation of known safety issues or identification of emerging safety trends, leading to recommendations for accident prevention purposes.
- 2.1.2 There are two different stages when an ADREP report to ICAO is required after an occurrence. These are:
 - a) ADREP Preliminary Report; and
 - b) Data Report.
- 2.1.3 These ADREP Reports are discussed further in Sections 2.2 and 2.3, and Table 4-A6-1 depicts a sequential summary of a notification and reporting checklist in accordance with Annex 13, Attachment B.

2.2 Preliminary Report

- 2.2.1 The Preliminary Report is one of the primary means of communication for the dissemination of data obtained during the early stages of the investigation. It is an interim report that contains additional information that was not known or available at the time of the notification. Although the Preliminary Report is not compulsory for incidents, States are encouraged to consider using the Preliminary Report for investigations conducted into serious incidents.
- 2.2.2 Annex 13, 7.1 requires, when the aircraft involved in an accident is of a maximum mass of over 2 250 kg, that the State conducting the investigation send the Preliminary Report to: the State of Registry or the State of Occurrence, as appropriate; the State of the Operator; the State of Design; the State of Manufacturer; any State that provided relevant information, significant facilities or experts; and ICAO. Annex 13, 7.2 is for accidents to aircraft of 2250 kg or less 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 all the States, as in 7.1, with the exception of ICAO.
- 2.2.3 Annex 13, 7.4 requires the Preliminary Report to be sent by facsimile, email, 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, the Preliminary Report shall be sent as soon as the information is available and by the most suitable and quickest means available.

- 2.2.4 In case of a high profile investigation of a major accident, the State conducting the investigation is encouraged to consider publishing a written Preliminary Report, in addition to the ADREP Preliminary Report, and release investigative information such as media briefings within 30 days of the accident, noting the guidance in Chapter 2 of this document. For major or complex accident investigations, consideration should also be given to making the content of the ADREP Preliminary Report public within 30 days.
- 2.2.5 Publication of Preliminary Reports must be subject to the protection of accident and incident investigation records afforded by Annex 13, 5.12.

- Introduction of written Preliminary Report in addition to ADREP Preliminary Report
- Instructions for compiling ADREP reports:
 Occurrence Category coding, Event Type coding, Narratives, Safety recommendations
- If occurrence is available in an ADREP Compatible format (e.g. ECCAIRS format), a copy of the electronic file (e.g. .E5F) should be attached to the notification e-mail and sent to adrep@icao.int.

Flight Recorder Specific Working Group FLIRECSWG

A State letter (SP 55/4-20/94 closing 30 March 2021) related to proposed amendments to Annex 6, Parts I, II and III regarding:

- the availability of flight recorders maintenance documentation and
- the recalibration intervals of flight data recorder (FDR) sensors.

new Note to reference the Flight Recorder System Maintenance (FRSM) Manual (Doc 10104)

FLIRECSWG/13 Meeting (23 to 25 February 2021):

- audio recordings for turbine-engined aircraft less than 5700 kg MCTOM when operated by a single flight crew member;
- safety recommendation addressed to ICAO related to filtering of FDR parameters; and
- report back of progress by EUROCAE WG-118 for the revision of the ED-112A MOPS

