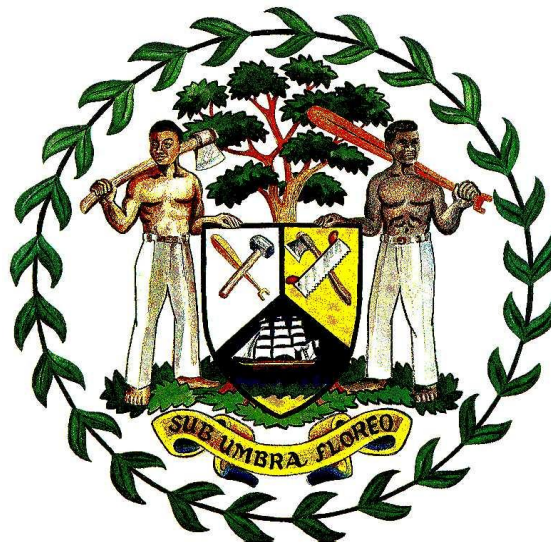


BELIZE

DEPARTMENT OF

CIVIL AVIATION



BELIZE CIVIL AVIATION REGULATIONS

ACCIDENT/INCIDENT INVESTIGATION

BCAR 13

Issue: 2
Revision: 0
Date: 1/09/09



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Issue and Revision System

THE REVISIONS TO THIS REGULATION WILL BE INDICATED BY A VERTICAL BAR ON THE LEFT SIDE, IN FRONT OF THE LINE, SECTION OR FIGURE THAT HAS BEEN AFFECTED. AN ISSUE WILL BE THE REPLACEMENT OF THE COMPLETE DOCUMENT.

THESE REVISIONS MUST BE RECORDED ON THE RECORD OF REVISIONS TABLE OF THIS DOCUMENT, INDICATING THE RESPECTIVE NUMBER, DATE IT WAS ENTERED AND SIGNED BY THE PERSON ENTERING THE REVISION.



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Preamble

This BCAR 13 was developed based on ICAO's Annex 13, Ninth Edition July 2006. It has been customized according to the needs and requirement of the country of Belize. Section 1 is based on Annex 13 and includes Regulatory material, while Section 2 is not Regulatory in Nature.



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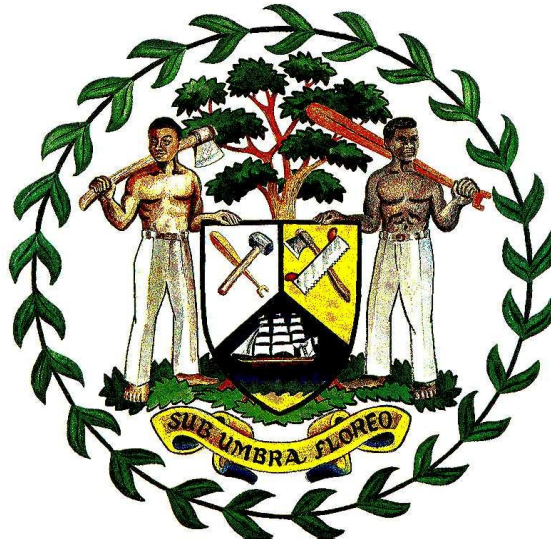
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BELIZE DEPARTMENT OF CIVIL AVIATION



SECTION 1 BCAR 13 REGULATORY MATERIAL



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BCAR 13.1 Applicability

- a) While this BCAR 13 has been adopted pursuant to the provisions of Annex 13 and 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 country of Belize in which the aircraft accident occurred to institute an inquiry in certain circumstances and, as far as its laws permit, to conduct the inquiry in accordance with ICAO procedure and regulation.
- b) BCAR 13 has been established to comply with Annex 13 and customized according to the needs and requirement of the country of Belize.

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CHAPTER 1.

**INTERNATIONAL STANDARDS AND
RECOMMENDED PRACTICES**

BCAR 13.3 DEFINITIONS

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

Accident. An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

- a) a person is fatally or seriously injured as a result of:
 - 1) being in the aircraft, or
 - 2) direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - 3) direct exposure to jet blast,
 - 4) *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:
 - 1) adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - 2) would normally require major repair or replacement of the affected component, *except* for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or

for damage limited to propellers, wing tips, antennas, tires, brakes, fairings,

small dents or puncture holes in the aircraft skin; or

- c) the aircraft is missing or is completely inaccessible.

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.

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.

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

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

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, 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.

Maximum mass: Maximum certificated take-off mass.



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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 the accident investigation authority of the State conducting the investigation, based on information derived from the investigation, made with the intention of preventing accidents or incidents.

Serious incident: An incident involving circumstances indicating that an accident nearly occurred.

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 hemorrhage, 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 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.

BDCA: Belize Department of Civil Aviation

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CHAPTER 2.

BCAR 13.5 PURPOSE

- a) Unless otherwise stated, the specifications in this BCAR apply to activities following accidents and incidents wherever they occur in the country of Belize.

- b) In this BCAR 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 BCAR, in part or in whole, the functions and obligations of the State of Registry.

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CHAPTER 3.

GENERAL

BCAR 13.7 OBJECTIVE OF THE INVESTIGATION

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.

BCAR 13.9 PROTECTION OF EVIDENCE, CUSTODY AND REMOVAL OF AIRCRAFT. RESPONSIBILITY OF THE STATE OF OCCURRENCE

The BDCA 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.

BCAR 13.11 Request from State of Registry, State of the Operator, State of Design or State of Manufacture

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 BDCA 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.

BCAR 13.13 Release from custody

Subject to the provisions of 13.9 and 13.10, the BDCA 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 BDCA 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 BDCA finds it impracticable to grant such access, it shall itself effect removal to a point where access can be given.

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CHAPTER 4.

NOTIFICATION OF ACCIDENTS OR SERIOUS INCIDENTS IN THE TERRITORY OF A CONTRACTING STATE TO AN AIRCRAFT OF ANOTHER CONTRACTING STATE. RESPONSIBILITY OF THE STATE OF OCCURRENCE.

BCAR 13.15 Forwarding

- a) The BDCA 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:
- 1) the State of Registry;
 - 2) the State of the Operator;
 - 3) the State of Design;
 - 4) the State of Manufacture; and
 - 5) the International Civil Aviation Organization, when the aircraft involved is of a maximum mass of over 2 250 kg.
- b) However, when the BDCA 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.

BCAR 13.17 Format and content

- a) 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:
- 1) for accidents the identifying abbreviation ACCID, for serious incidents INCID;

- 2) manufacturer, model, nationality and registration marks, and serial number of the aircraft;
- 3) name of owner, operator and hirer, if any, of the aircraft;
- 4) name of the pilot-in-command, and nationality of crew and passengers;
- 5) date and time (local time or UTC) of the accident or serious incident;
- 6) last point of departure and point of intended landing of the aircraft;
- 7) position of the aircraft with reference to some easily defined geographical point and latitude and longitude;
- 8) number of crew and passengers; aboard, killed and seriously injured; others, killed and seriously injured;
- 9) description of the accident or serious incident and the extent of damage to the aircraft so far as is known;
- 10) an indication to what extent the investigation will be conducted or is proposed to be delegated by the BDCA;
- 11) physical characteristics of the accident or serious incident area, as well as an indication of access difficulties or special requirements to reach the site;
- 12) identification of the originating authority and means to contact the investigator-in-charge and the accident investigation authority of the BDCA at any time; and
- 13) presence and description of dangerous goods on board the aircraft.

BCAR 13.19 Language

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.



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BCAR 13.21 Additional information

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

BCAR 13.23 Information — Participation

- a) The State of Registry, the State of the Operator, the State of Design and the State of Manufacture will acknowledge receipt of the notification of an accident or serious incident.

Upon receipt of the notification, the State of Registry, the State of the Operator, the State of Design and the State of State of Manufacture will, as soon as possible, provide the BDCA 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 BDCA 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.

- b) 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.

BCAR 13.25 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

- a) When the State of Registry institutes the investigation of an accident or serious incident, the BDCA shall forward a

notification, with minimum delay and by the most suitable and quickest means available, to:

- 1) the State of the Operator;
- 2) the State of Design;
- 3) the State of Manufacture; and
- 4) the International Civil Aviation Organization, when the aircraft involved is of a maximum mass of over 2 250 kg.

BCAR 13.27 RESPONSIBILITY OF THE STATE OF THE OPERATOR, THE STATE OF DESIGN AND THE STATE OF MANUFACTURE

Information — Participation

- a) The State of the Operator, the State of Design and the State of Manufacture will acknowledge receipt of the notification of an accident or serious incident
- b) 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.
- c) 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.



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BCAR 13.29 Suspension of licenses

When an accident or incident has occurred in Belize, the licenses of the pilots of the aircraft involved in the accident shall be considered temporarily suspended for a term conveniently decided by the Director of Civil Aviation and until it has been evaluated by the medical practitioner nominated for such purpose as the case merits. It is understood that in the case of licenses of foreign pilots, the suspension shall be limited to operations in Belize.

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CHAPTER 5.

**BCAR 13.31 RESPONSIBILITY FOR
INSTITUTING AND CONDUCTING THE
INVESTIGATION. ACCIDENTS OR
INCIDENTS IN THE TERRITORY OF A
CONTRACTING STATE**

INVESTIGATION IN BELIZE

The BDCA 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 by mutual arrangement and consent. In any event the BDCA shall use every means to facilitate the investigation.

**BCAR 13.33 ACCIDENTS OR INCIDENTS
IN THE TERRITORY OF A NON-
CONTRACTING STATE**

State of Registry

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 BCAR 13, the State of Registry or, failing that, the State of the Operator, the State of Design or the State of Manufacture will endeavor to institute and conduct an investigation in cooperation with the State of Occurrence but, failing such cooperation, shall itself conduct an investigation with such information as is available.

**BCAR 13.35 ACCIDENTS OR INCIDENTS
OUTSIDE THE TERRITORY OF ANY STATE**

Outside the State of Territory

- a) 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.

- b) The States nearest to 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.

**BCAR 13.37 ORGANIZATION AND
CONDUCT OF THE INVESTIGATION
RESPONSIBILITY OF THE STATE
CONDUCTING THE INVESTIGATION**

General

- a) The accident investigation authority (BDCA) shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of this BCAR. The investigation shall include:
 - 1) the gathering, recording and analysis of all available information on that accident or incident;
 - 2) if appropriate, the issuance of safety recommendations;
 - 3) if possible, the determination of the causes; and
 - 4) the completion of the final report.
- b) When possible, the scene of the accident shall be visited, the wreckage examined and statements taken from witnesses.
- c) Any judicial or administrative proceedings to apportion blame or liability shall be separate from any investigation conducted under the provisions of this BCAR.



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**BCAR 13.39 Investigator-in-charge —
Designation**

The BDCA, while conducting the investigation shall designate the investigator-in-charge of the investigation.

**BCAR 13.41 Investigator-in-charge —
Access and control**

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.

**BCAR 13.41 Flight recorders — Accidents
and Incidents**

- a) Effective use will be made of flight recorders in the investigation of an accident or an incident. The BDCA, while conducting the investigation shall arrange for the read-out of the flight recorders without delay.
- b) In the event that the BDCA, while conducting the investigation of an accident or an incident does not have adequate facilities to read out the flight recorders, it shall use the facilities made available to it by other States, giving consideration to the following:
 - 1) the capabilities of the read-out facility;
 - 2) the timeliness of the read-out; and
 - 3) the location of the read-out facility.

BCAR 13.43 Autopsy examinations

- a) The BDCA, while conducting an 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.

BCAR 13.45 Medical examinations

When appropriate, the BDCA conducting an investigation shall arrange for medical examination of the crew, passengers and involved aviation personnel, by a physician, preferably experienced in accident investigation. These examinations shall be expeditious.

**BCAR 13.47 Coordination — Judicial
authorities**

The BDCA, while 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.

**BCAR 13.49 Informing aviation security
authorities**

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 BDCA concerned are so informed.

BCAR 13.51 Non-disclosure of records

- a) The BDCA, while 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



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outweighs the adverse domestic and international impact such action may have on that or any future investigations:

- 1) all statements taken from persons by the investigation authorities in the course of their investigation;
 - 2) all communications between persons having been involved in the operation of the aircraft;
 - 3) medical or private information regarding persons involved in the accident or incident;
 - 4) cockpit voice recordings and transcripts from such recordings; and
 - 5) Opinions expressed in the analysis of information, including flight recorder information.
- b) 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.

BCAR 13.53 Re-opening of investigation

If after the investigation has been closed, new and significant evidence becomes available, the BDCA conducting the investigation will re-open it.

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

BCAR 13.55 Flight recorders — Accidents and serious incidents

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.

BCAR 13.57 Organizational information

The State of Registry and the State of the Operator, on request from the BDCA 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
PARTICIPATION OF THE STATE OF REGISTRY, THE STATE OF THE OPERATOR, THE STATE OF DESIGN AND THE STATE OF MANUFACTURE**

BCARS 13.59 Rights of Participation in an Investigation

- a) 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.
- b) The State of Registry or the State of the Operator shall appoint one or more advisers,
- c) proposed by the operator, to assist its accredited representative
- d) .When neither the State of Registry, nor the State of the Operator appoint an accredited representative, the BDCA conducting the investigation shall invite the operator to participate, subject to the procedures of the BDCA conducting the investigation.
- e) 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.
- f) When neither the State of Design nor the State of Manufacture appoint an accredited



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representative, the State conducting the investigation shall invite the organizations responsible for the type design and the final assembly of the aircraft to participate, subject to the procedures of the BDCA conducting the investigation.

BCAR 13.61 Obligations of Participants.

When the BDCA, while 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.

BCAR 13.63 RIGHTS OF PARTICIPATION OF OTHER STATES

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

BCAR 13.65 ENTITLEMENT OF ACCREDITED REPRESENTATIVES ADVISERS

- a) 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.
- b) 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.

BCAR 13.67 Participation at The Scene of The Accident

a) 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:

- 1) visit the scene of the accident;
- 2) examine the wreckage;
- 3) obtain witness information and suggest areas of questioning;
- 4) have full access to all relevant evidence as soon as possible;
- 5) receive copies of all pertinent documents;
- 6) participate in read-outs of recorded media;
- 7) participate in off-scene investigative activities such as component examinations, technical briefings, tests and simulations;
- 8) participate in investigation progress meetings including deliberations related to analysis, findings, causes and safety recommendations; and
- 9) make submissions in respect of the various elements of the investigation.

b) 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 BCAR 13.65.

BCAR 13.69 Obligations of Accredited representatives and their advisers:

- a) shall provide the BDCA conducting the investigation with all relevant information available to them; and
- b) shall not divulge information on the progress and the findings of the



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investigation without the express consent of the State conducting the investigation.

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

**BCAR 13.71 Rights and entitlement of
participating States**

a) Whenever the BDCA has a special interest in an accident by virtue of fatalities or serious injuries to its citizens shall, upon making a request to do so, be permitted by the State conducting the investigation to appoint an expert who shall be entitled to:

- 1) visit the scene of the accident;
- 2) have access to the relevant factual information;
- 3) participate in the identification of the victims;
- 4) assist in questioning surviving passengers who are citizens of the expert's State; and
- 5) receive a copy of the Final Report.
- 6) participate in read-outs of recorded media;
- 7) participate in off-scene investigative activities such as component examinations, technical briefings, tests and simulations;
- 8) participate in investigation progress meetings including deliberations related to analysis, findings, causes and safety recommendations; and
- 9) make submissions in respect of the various elements of the investigation.

BCAR 13.73 Obligations

a) Accredited representatives and their advisers:

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

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

BCAR 13.75 Rights and entitlement

a) A State which has a special interest in an accident by virtue of fatalities or serious injuries to its citizens shall, upon making a request to do so, be permitted by the BDCA who will be conducting the investigation to appoint an expert who shall be entitled to:

- 1) visit the scene of the accident;
- 2) have access to the relevant factual information;
- 3) participate in the identification of the victims;
- 4) assist in questioning surviving passengers who are citizens of the expert's State; and
- 5) receive a copy of the Final Report.



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CHAPTER 6. FINAL REPORT

The format of the Final Report in the Appendix shall be used. However, it may be adapted to the circumstances of the accident or incident.

BCAR 13.77 RESPONSIBILITY OF ANY STATE

Release of information — Consent

Any draft report, document or any part thereof, will not be circulated, be published or give access to by the BDCA, 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.

BCAR 13.79 RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

Consultation

- a) The BDCA conducting the investigation shall send a copy of the draft Final Report to the State that instituted the investigation and to all States that participated in the investigation, inviting their significant and substantiated comments on the report as soon as possible. The draft Final Report of the investigation shall be sent for comments to:
- 1) the State of Registry;
 - 2) the State of the Operator;
 - 3) the State of Design; and
 - 4) the State of Manufacture.
- b) If the BDCA 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 BDCA receives no comments within sixty days of the date of the first transmittal letter, it shall issue the Final Report in accordance with BCAR 13.81, unless an extension of that period has been agreed by the States concerned.

- c) The BDCA while conducting an investigation shall 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.
- d) The BDCA while conducting an investigation shall 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.

BCAR 13.81 Recipient States

- a) The Final Report of the investigation of an accident shall be sent with a minimum of delay by the State conducting the investigation to:
- 1) the State that instituted the investigation;
 - 2) the State of Registry;
 - 3) the State of the Operator;
 - 4) the State of Design;
 - 5) the State of Manufacture;
 - 6) any State having suffered fatalities or serious injuries to its citizens; and
 - 7) the State of Design;
 - 8) the State of Manufacture;
 - 9) any State having suffered fatalities or serious injuries to its citizens and



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10) the State of the Operator; d) the State of Design

BCAR 13.83 Release of the Final Report

- a) In the interest of accident prevention, the BDCA conducting the investigation of an accident or incident shall release the Final Report as soon as possible.
- b) The BDCA conducting the investigation will 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 BDCA conducting the investigation will release an interim report on each anniversary of the occurrence, detailing the progress of the investigation and any safety issues raised.
- c) The BDCA upon completion of 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, will send to the International Civil Aviation Organization a copy of the Final Report.

Whenever the BDCA receives any safety recommendations, it shall inform the proposing State of the preventive action taken or under consideration, or the reasons why no action will be taken.

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BCAR 13.85 Safety recommendations

- a) The BDCA at any stage of the investigation of an accident or incident, shall recommend to the appropriate authorities, including those in other States, any preventive action that it considers necessary to be taken promptly to enhance aviation safety.
- b) The BDCA while conducting an investigation of an accidents or incidents shall address, when appropriate, any safety recommendations arising out of its investigations to the accident investigation authorities of other State(s) concerned and, when ICAO documents are involved, to ICAO.

BCAR 13.87 RESPONSIBILITY OF A STATE RECEIVING SAFETY RECOMMENDATIONS

Action on safety recommendations



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CHAPTER 7.

BCAR 13.89 ADREP REPORTING

The provisions of this chapter may require two separate reports for any one accident or incident. They are: Preliminary Report
Accident/Incident Data Report

BCAR 13.91 PRELIMINARY REPORT

**RESPONSIBILITY OF THE STATE
CONDUCTING THE INVESTIGATION**

Accidents to aircraft over 2 250 kg

- a) When the aircraft involved in an accident is of a maximum mass of over 2 250 kg, the BDCA conducting the investigation, will send a Preliminary report to:
- 1) the State of Registry or the State of Occurrence, as appropriate;
 - 2) the State of the Operator;
 - 3) the State of Design;
 - 4) the State of Manufacture;
 - 5) any State that provided relevant information, significant facilities or experts; and
 - 6) the International Civil Aviation Organization.

BCAR 13.93 Accidents to aircraft of 2 250 kg or less

- a) When an aircraft, not covered by BCAR 13.91, is involved in an accident and when airworthiness or matters considered to be of interest to other States are involved, the BDCA while conducting an investigation will forward the Preliminary Report to:
- 1) the State of Registry or the State of Occurrence, as appropriate;
 - 2) the State of the Operator;

- 3) the State of Design
- 4) ;the State of Manufacture; and
- 5) any State that provided relevant information, significant facilities or experts.

BCAR 13.95 Language

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

BCAR 13.97 Dispatch

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.

BCAR 13.99 ACCIDENT/INCIDENT DATA REPORT

**RESPONSIBILITY OF THE STATE
CONDUCTING THE INVESTIGATION**

a) Accidents to aircraft over 2 250 kg

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

b) Additional information

1) The BDCA while conducting an investigation should, provide other States with pertinent safety information, in addition to that made available in the Accident/Incident Data Report.



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c) Incidents to aircraft over 5 700 kg

1) The BDCA while conducting 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.

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CHAPTER 8.

BCAR 13.101 ACCIDENT PREVENTION MEASURES

a) Incident reporting systems

- 1) The BDCA will establish a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies.
- 2) A voluntary incident reporting system shall be non-punitive and afford protection to the sources of the information.
- 3) The BDCA shall establish a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system.

b) Database systems

- 1) The BDCA shall establish an accident and incident database to facilitate the effective analysis of information obtained, including that from its incident reporting systems. The database systems shall use standardized formats to facilitate data exchange.

c) Analysis of data — Preventive actions

- 1) The BDCA shall establish an accident and incident database and an incident reporting system in order to analyze the information contained in its accident/incident reports and the database to determine any preventive actions required.
- 2) If the BDCA, in its analysis of the information contained in its database identifies safety matters considered to be of interest to other States, shall

forward such safety information to them as soon as possible.

- 3) 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 shall also be transmitted to that State's investigation authority.

d) Exchange of safety information

- 1) The BDCA shall promote the establishment of safety information sharing networks among all users of the aviation system and shall facilitate the free exchange of information on actual and potential safety deficiencies.

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Include as appropriate.

Appendix 1

FORMAT OF THE FINAL REPORT

a) PURPOSE

- 1) 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 Investigation* (Doc 6920).

b) FORMAT

- 1) **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.
- 2) **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.
- 3) **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 sub-headings as outlined in the following.

c) Appendices.

- 1) In preparing a Final Report, using this format, ensure that:
- 2) all information relevant to an understanding of the factual information, analysis and conclusions is included under each appropriate heading;
- 3) 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 sub-headings.

d) FACTUAL INFORMATION

- 1) **History of the flight.** A brief narrative giving the following information:
 - i. Flight number, type of operation, last point of departure, time of departure (local time or UTC), point of intended landing.
 - ii. Flight preparation, description of the flight and events leading to the accident, including reconstruction of the significant portion of the flight path, if appropriate.
 - iii. Location (latitude, longitude, elevation), time of the accident (local time or UTC), whether day or night.

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

Injures	Crew	Passengers	Others
Fatal			
Serious			
Minor/ none			



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- 3) **Damage to aircraft.** Brief statement of the damage sustained by aircraft in the accident (destroyed, substantially damaged, slightly damaged, no damage).
- 4) **Other damage.** Brief description of damage sustained by objects other than the aircraft
- 5) **Personnel information:**
- i. Pertinent information concerning each of the flight crew members including: age, validity of licenses, ratings, mandatory checks, flying experience (total and on type) and relevant information on duty time.
 - ii. Brief statement of qualifications and experience of other crew members.
 - iii. Pertinent information regarding other personnel, such as air traffic services, maintenance, etc., when relevant.
- 6) **1.6 Aircraft information:**
- i. 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).
 - ii. 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.)
 - iii. Type of fuel used.
- 7) **Meteorological information:**
- i. 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.
 - ii. Natural light conditions at the time of the accident (sunlight, moonlight, twilight, etc.).
- 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.
- 9) **Communications.** Pertinent information on aeronautical mobile and fixed service communications and their effectiveness.
- 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.
- 11) **Flight recorders.** Location of the flight recorder installations in the aircraft, their condition on recovery and pertinent data available there from.
- 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.
- 13) **Medical and pathological information.** Brief description of the results of the investigation undertaken and pertinent data available there from.



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

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 seatbelt attachments.

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

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.

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

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 sub-headings 1.1 to 1.18.

e) ANALYSIS

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

f) CONCLUSIONS

a) List the findings and causes established in the investigation. The list of causes shall include both the immediate and the deeper systemic causes.

g) SAFETY RECOMMENDATIONS

1) As appropriate, briefly state any recommendations made for the purpose of accident prevention and any resultant corrective action.

h) ANNEXES

1) These Annexes do not constitute a part of BCAR 13 — Aircraft Accident and Incident Investigation. The material contained herein is intended to assist in the application of BCAR 13.

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ANNEX 1.

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

- a) The Standards and Recommended Practices of ANNEX13 — *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.
- b) 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.
- c) 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 shall have speedy access to all documents and other information relevant to that investigation.
- d) 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, shall accept full or partial responsibility for the conduct of the investigation.



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ANNEX 2.

LIST OF EXAMPLES OF SERIOUS INCIDENTS

- 1) The term “serious incident” is defined in Chapter 1 as follows:
 - 1) ***Serious incident.*** An incident involving circumstances indicating that an accident nearly occurred.
- 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.
 - i. Near collisions requiring an avoidance maneuver to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate.
 - ii. Controlled flight into terrain only marginally avoided.
 - iii. Aborted take-offs on a closed or engaged runway, on a taxiway or unassigned runway.
 - iv. Take-offs from a closed or engaged runway from a taxiway or unassigned runway.
 - v. Landing or attempted landings on a closed or engaged runway, on a taxiway or unassigned runway.
 - vi. Gross failures to achieve predicted performance during take-off or initial climb.
 - vii. Fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents.
 - viii. Events requiring the emergency use of oxygen by the flight crew.
 - ix. Aircraft structural failures or engine disintegrations not classified as an accident.
 - x. Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft.
 - xi. Flight crew incapacitation in flight.
 - xii. Fuel quantity requiring the declaration of an emergency by the pilot.
 - xiii. Runway incursions classified with severity A. The manual on the Prevention of Runway Incursions (Doc 9870) contains information on the severity classifications.
 - xiv. Take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways.



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- xv. System failures, weather phenomena, operations outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft.
- xvi. Failures of more than one system in a redundancy system mandatory for flight guidance and navigation.

ANNEX 3.

a) GUIDELINES FOR FLIGHT RECORDER READ-OUT AND ANALYSIS

1) Initial response

- i. 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 analyzed. 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.
- ii. 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 makes timely arrangements to read out the flight recorders at a suitable readout facility.

2) Choice of facility

- i. 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 is typically used by airlines and maintenance facilities, is not considered adequate for investigation purposes. Special recovery and analysis techniques are usually required if the recorders have been damaged.
- ii. Facilities for the read-out of flight recorders shall 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 analyze 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 analyze 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.



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

- i. The State of Manufacture (or Design) has airworthiness responsibilities and the expertise normally required to read out and analyze flight recorder information. Since flight recorder information can often reveal airworthiness problems, the State of Manufacture (or Design) shall 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).
- ii. 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 shall also have a representative present when the flight recorder read-out and analysis are being conducted.

4) Recommended procedures

- i. The flight data recorder and the cockpit voice recorder shall 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.
- ii. Flight recorders shall not be opened or powered up and original recordings shall not be copied (particularly not by high-speed copy devices) prior to the read-out because of the risk of damage to the recordings.
- iii. The facility at which the flight recorders are read out for another State shall 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.
- iv. 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.
- v. 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.



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ANNEX 4

**a) LEGAL GUIDANCE FOR THE PROTECTION OF INFORMATION FROM
SAFETY DATA COLLECTION AND PROCESSING SYSTEMS**

1) INTRODUCTION

- I. 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 Assembly of ICAO, 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.
- II. The guidance contained in this Annex 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.
- III. 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.
- IV. The guidance contained in this Annex, 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.
- V. Throughout this Annex:
 - 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.i) below;
 - B. An 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,



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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:
- records pertaining to accident and incident investigations, as described in Chapter 5;
 - mandatory incident reporting systems, as described in Chapter 8;
 - voluntary incident reporting systems, as described in Chapter 8; and
 - 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.

2. GENERAL PRINCIPLES

- I. 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.
- II. It is not the purpose of protecting safety information to interfere with the proper administration of justice in States.
- III. 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.
- IV. National laws and regulations protecting safety information should prevent its inappropriate use.
- V. Providing protection to qualified safety information under specified conditions is part of a BDCA safety responsibilities.

3. PRINCIPLES OF PROTECTION

- I. 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.
- II. The protection should be specific for each SDCPS, based upon the nature of the safety information it contains.
- III. A formal procedure should be established to provide protection to qualified safety information, in accordance with specified conditions.
- IV. Safety information should not be used in a way different from the purposes for which it was collected.



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- V. 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:

- i. 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 willful misconduct;
- ii. 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 willful misconduct; or
- iii. 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

- I. Subject to the principles of protection and exception outlined above, any person seeking disclosure of safety information should justify its release.
- II. Formal criteria for disclosure of safety information should be established and should include, but not necessarily be limited to, the following:
- III. Disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations;
- IV. Disclosure of the safety information does not inhibit its future availability in order to improve safety;
- V. Disclosure of relevant personal information included in the safety information complies with applicable privacy laws; and
- VI. Disclosure of the safety information is made in a de-identified, summarized or aggregate form.

**6. RESPONSIBILITY OF THE CUSTODIAN
OF SAFETY INFORMATION**



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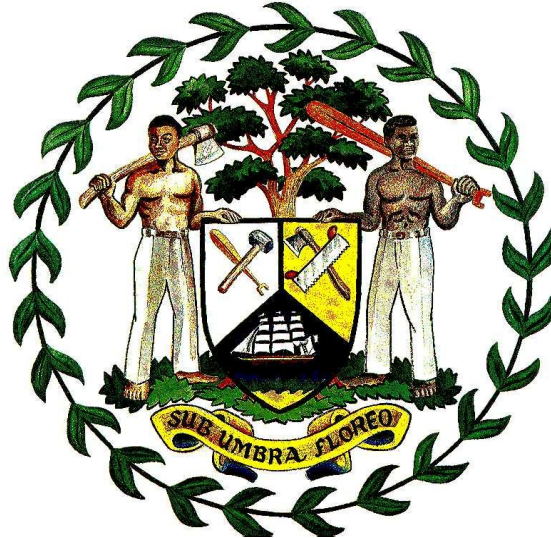
-
- a) Each SDCPS should have a designated custodian. It is the responsibility of the custodian of safety information to apply all possible protection regarding the disclosure of the information, unless:
 - i. The custodian of the safety information has the consent of the originator of the information for disclosure; or
 - ii. 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**

- a) 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:
- b) 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
- c) 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.



BELIZE DEPARTMENT OF CIVIL AVIATION



SECTION 2 JOINT STANDING OPERATING PROCEDURE



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**STANDING OPERATING PROCEDURE FOR CIVIL AIRCRAFT ACCIDENT INVESTIGATION IN
BELIZE**

INTRODUCTION

- a) Civil aircraft involvement in accidents anywhere in Belize and its surrounding waters. Fortunately major accidents do not occur very often, but when they do, those concerned are expected to work with promptness and efficiency. The Joint Standing Operating Procedures are hereby promulgated in an effort to assist Civil Aviation, Police and other emergency agencies in order to conduct inquiries, investigations and response so as to determine the circumstances and causes of the accident. They also supplement the International Civil Aviation Organization's (ICAO) Standards and Recommended Practices of Annex 13, BCARs 13 and the Manual of Aircraft Accident Investigation.
- b) Accidents that occur at Philip Goldson International Airport will be handled in accordance with existing Airport Emergency Orders.

MEMORANDUM ON THE INVESTIGATION OF CIVIL AIRCRAFT ACCIDENTS

a) The Investigator In-Charge of Accidents

- 1) The Investigator In-Charge of Accidents is an officer directly responsible to the Director of Civil Aviation. To assist in the investigation, the Director will appoint an Investigator In-Charge and Two specialist officers (Flight Operations and aircraft Airworthiness) assigned to the Department of Civil Aviation to make up the investigation team.
- 2) In the event of a major air accident the Director will request further assistance of foreign investigators drawn from the countries of manufacture of the aircraft involved, the country of registration of the aircraft and the countries of whom large numbers of casualties are their nationals. These larger countries, which have the technical and pathological resources necessary for a large scale investigation, which a smaller country cannot possess will, in meeting the Director's request, be meeting their own obligations to the International Civil Aviation Organization (ICAO).
- 3) The foreign investigators will form part of the Belize investigating team and assist in preparing the report to the Director. Accordingly these foreign nationals will be given the same assistance and facilities as the BDCA members.

b) The authority to investigate aircraft accidents

- 1) The authority of the Director to investigate aircraft accidents is contained in the Civil Aviation Act. The current statutes defining the procedures to be followed in the investigation of aircraft accidents and the powers of The Investigator In-Charge of Accidents are in the Civil Aviation (Investigation of Accidents)



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Regulations presently in force.

c) Definition of an accident

In this context an aircraft accident has the following meaning:

- 1) An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:
 - i. a person is fatally or seriously injured as a result of
 - ii. being in the aircraft, or
 - iii. direct contact with any part of the aircraft, including parts which have become detached from the aircraft or
 - iv. 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 a stowaways hiding outside the areas normally available to the passengers and crew, or

- 2) the aircraft sustains damage or structural failure which;
 - i. adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - ii. would normally require major repair or replacement of the affected component

except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or

- 3) the aircraft is missing or is completely inaccessible

"Serious injury" means an injury which is sustained by a person in an accident and which-

- i. requires hospitalization for more than 48 hours commencing within seven days from the date the injury was received; or
- ii. results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- iii. involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
- iv. involves injury to any internal organ; or
- v. involves second or third degree burns or any burns affecting more than five percent of the body surface; or



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- vi. involves verified exposure to infectious substances or injurious radiation.

4) Notification of accidents

- i. All accidents are required to be notified to the BDCA or the Director of Civil Aviation.
- ii. The legal responsibility for notification of an accident rests first with the commander of the aircraft or, if he be killed or incapacitated, then the operator. If the accident occurs on or adjacent to an aerodrome, then the aerodrome authority is also required to notify the accident. In practice the first information is often provided by the police department in that area.
- iii. The notification is required to be passed to the AIG Group of Experts at the Department of Civil Aviation by the quickest means and giving, as far as possible, the following information:
 - A. the type, model, nationality and registration marks of the aircraft;
 - B. the name of the owner, operator and hirer (if any) of the aircraft;
 - C. the person in command;
 - D. the date and time (local) of the accident;
 - E. the last point of departure and the next point of intended landing of the aircraft involved;
 - F. the position of the accident in relation to some easily defined geographical location;
 - G. the number of persons on board and the number killed or seriously injured;
 - H. the nature of the accident as far as it is known;
 - I. brief particulars of damage to the aircraft.
- iv. The person reporting the accident to the Inspector (Investigator) is also required to inform the local police of the accident and the place where it occurred. This may be the first information received by the police, although it is more likely it will have already come to them through an emergency call from a member of the public. The police should immediately telephone at JICC who will in turn inform AIG Investigator's or any Senior Officer at the Department of Civil Aviation at the Philip S.W. Goldson International
- v. Airport on telephones 225 2014 or 225 2052, and pass on as much information as is available, or in their absence, the Senior Air Traffic Control Officer on duty on telephone 225 2153.
- vi. In the event of an aircraft being reported missing or overdue, the police may be alerted by other sources. When this happens it is essential that the closest liaison is established with the Department of Civil Aviation.

5) Response to aircraft accidents

- i. The notification of an accident is passed to the Director of Civil Aviation, who has to decide whether or not to order a Field Investigation into the accident.
- ii. If the accident involves fatalities, a team of Accident Inspectors will be assigned to carry out preliminary inquiries (called a Field Investigation) whether or not a formal Investigation Inspector's are ultimately decided upon. The Inspectors have powers to require evidence to be produced and to retain it. In the case of an accident to a large public transport aircraft with many fatalities the Minister may order a Public Inquiry in which case, although the Inspector's



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Investigation formally ceases, the team of Inspectors continues work under the authority of the Government's legal department

- iii. Accident Investigator's appointed to investigate an accident set off as soon as possible
- iv. After notification, however their time of arrival at the scene of the accident may be dependant on the distance they have to travel. There will usually be a period of several hours after the initial notification before the Investigator's can reach the scene. It is most important that the site is kept secure prior to the arrival of the Investigators and continued until the wreckage has been removed under the authority of the Inspector either to some other place for detailed examination to continue, or is released to the owners

6) Purpose of the inquiry

- i. The fundamental purpose of inquiring into an aircraft accident is to determine the circumstances and causes with a view to the preservation of life and the avoidance of accidents in the future. The nature of the inquiry into an aircraft accident is inquisitorial rather than accusatorial; the object being to take remedial rather than punitive action. The apportionment of blame or liability is not included amongst the duties of the Aircraft Accident Inspectors. Reduced to simple terms, the Investigator has to determine what happened, how it happened and why it happened; to seek out, record and analyze the facts; to draw conclusions and, where appropriate, make recommendations
- ii. If prior to, during or after the aircraft investigations there is evidence of criminal liability, or terrorist act, the Police in turn will lead the criminal investigations.

7) Organization of the investigation

- i. With the increasing complexity of the aviation environment, e.g. flight operations, aircraft systems, air traffic control, it has become necessary for Aircraft Accident Inspectors to call on outside specialists to assist them in particular aspects of specific investigations. These personnel can be co-opted from the airline operator involved, the manufacturers of the aircraft, its engine and equipment, or other regional or government agencies. They are formed into working groups under the direction of the Investigator In-Charge of Accidents. The number and scope of the groups depends on the size and complexity of the particular accident. The Investigator In-Charge of Accidents is responsible for the overall organization, conduct, and control of an accident investigation. The Investigator In-Charge of Accidents will decide what specialist working groups are required and will co-ordinate and direct the efforts of the groups with the Director of Civil Aviation.
- ii. The Investigator In-Charge of Accidents will act as the co-ordinating authority and should be kept continually informed as to the progress made by the groups. Regular meetings of all group leaders will be held by the Investigator In-Charge of Accidents so that there can be a free interchange of facts and ideas between the various groups. He will also be the main link with the Police.

8) Accident sites.

- i. It is vital that an accident site be identified and sealed off as soon as possible people required for rescue and fire-fighting is allowed access to the wreckage. The number of people



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in and around the wreckage needs to be kept to an absolute minimum and vital evidence is retained.

- ii. The Regulations specify that "when an accident occurs in or over Belize, of which notification is required no person other than an authorized person shall have access to the aircraft involved in the accident and the aircraft shall not, under the authority of the Minister be removed or otherwise interfered with". Apart from the Inspectors, authorized persons include any Police Constable or any Customs Officer.
- iii. The probability of looting from the wreckage and bodies is high. Apart from the crime of theft, the removal or destruction of vital evidence as to the cause of the accident is almost certain. Looters apprehended may be more readily charged with interfering with wreckage than on proof of theft.
- iv. It is the responsibility of the Police to guard the wreckage and provide security for the accident site. The Investigator In-Charge of Accidents attempts to keep the period during which the accident site needs to be guarded to a minimum. However, it must be appreciated that the plotting of a wreckage trail and on the spot examinations of instruments, engines, and the like can take some time, particularly in the case of a large aircraft.

9) Photographs, videos, sketches

- i. It is often necessary for wreckage to be moved for the purpose of rescue or removal of bodies before accident inspectors arrive. It is therefore, very important that, wherever practicable, a comprehensive record be made of the original situation by photograph, video and sketch. Coverage should include an overall view of the site and close-up of the wreckage, especially the pilot's flight deck area and of the bodies. In these circumstances, the cost of film is of no consequence and over-recording is far more valuable to the investigation, than saving money under-recording.

10) Eye-witnesses

- i. The Police can assist the Inspectors a great deal by compiling lists of witnesses and taking their initial statements. Officers taking statements must emphasize to witnesses the importance that statements are strictly confined to a record of the facts as seen by the witnesses, they must not include opinions. Although the Police may need these statements for their own purposes, it is important that they be made available to the Inspectors. In cases where it is necessary to try and establish the final flight path of an aircraft, the number of witnesses and their position at the time of their observations can be more important than the individual quality of their evidence. Special aviation knowledge on the part of a witness is no guarantee of accuracy. It is important that the Police are kept fully aware of the locations of survivors, particularly the crew, and to ensure they are protected from interrogation by the news media.

11) Documents

- i. A large number of documents and papers are carried by aircraft, and the recovery and preservation of these is vital. All papers associated with an aircraft accident should be carefully collected and held, with a minimum of handling of damaged or burnt specimens. The documents carried will include the Certificate of Airworthiness, Certificate of Registration, Certificate of Maintenance, Technical Log, Load and Balance Sheets, Passenger and Freight



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Manifests, Crew Licences, Log Books, Navigation Log Sheets, Aircraft and Operations Manuals, maps, notes, etc. In the past the examination of documents and analysis of the information contained in them has proved vital evidence for investigators.

12) Flight recorders

- i. Large passenger aircraft carry flight data recorders (FDR) and cockpit voice recorders (CVR), most of which work on an electromagnetic principle. After an accident, the location of the recorders is of prime importance but they should not be searched for with metal detectors because they can erase everything on the record. Flight recorders are usually painted red and are designed to be resistant to crash forces and fire. Once a flight recorder has been located, it is preferable that its position should be noted and that it should be handled as little as possible before being retrieved by the accident specialists. Unskilled handling after a crash can cause unnecessary damage which might lead to loss of information and delay in reading out the recording.

13) Communications

- i. A further service that the police can provide to assist accident personnel in the field is in the area of communications. Use of police radio and telephone links for passing and recording messages, and the fact that Police Information Room is available and manned 24 hours a day can be very useful to Inspectors of Accidents during the on-site stage of the investigation. At the sites of large accidents accident personnel may have their own radio links for on-site communications with a main control station.

14) Liaison with the Coroner

- i. A coroner is required to inquire into all the circumstances of a sudden, violent or unnatural death, which includes aircraft fatalities. Whilst the Accident Investigator is strictly concerned with the cause of the accident, the two aspects of a fatality are inseparable. In practice, the Coroner's Officer and Accident Investigator collaborate in the investigation.

15) Aviation pathology

- i. It is important for the pathologist dealing with an air accident to have knowledge of aviation and aviation medicine. The answer to many of the questions raised may well depend on a comparison of accidents in which the specialist knowledge of the aviation pathologist will be invaluable. Whilst the cause of death following an aircraft accident is generally obvious in the broad sense, the standard autopsy report may not meet the requirements of the aircraft accident investigation. In some cases the Investigator needs and expects as much information from the pathologist's examination of the bodies of the occupants of the aircraft as he does from the engineering examination of the aircraft structure. Information which might reasonably be required of a pathologist is:
 - A. Evidence of the cause of the accident
 - B. Mechanical failure in the aircraft (from body injury evidence)
 - C. Physical. Who was controlling the aircraft? Was there disease which could influence the function of the crew or incapacitate them?



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- D. Toxicological. Were the crew affected by noxious fumes, drugs, or alcohol?
- E. Physiological. Was there a defect in the pressurization system?
- F. Evidence of injury by pre-impact explosion or fire.
- G. Evidence of sequence of events of the accident
- H. .Was the accident anticipated or not?
- I. Evidence as to survivability.

Finally, in the case of an accident to a large aircraft, problems associated with the identification of multiple casualties are introduced. The identification of casualties is not an end in itself, but must be regarded as a part of the whole investigation. A body should not be buried until the pathological investigation is complete.

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