MINISTRY OF CIVIL AVIATION AND COMMUNICATION
Republic of Maldives

MALDIVIAN
CIVIL AVIATION REGULATIONS

MCAR-12
Aircraft Accidents, Incidents and Statistics

Amendment 1 26 May 2009

I. LIST OF AMENDMENTS

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Initial Issue	All	21-4-09	21-4-09	CAD		
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MCAR-12.2.0 Effectivity

This MCAR-12 becomes effective on 21 April 2009.

MCAR-12.2.1 General

Unless otherwise stated, this Regulation shall apply to activities following accidents and incidents involving civil aircraft wherever they occur and apply:

a) to occurrences arising out of or in the course of air navigation, which occur to civil aircraft in or over the Republic of Maldives; or
b) to such occurrences, which occur elsewhere to civil aircraft registered in the Republic of Maldives.

MCAR-12.2.2 Leased and Chartered Aircraft

In these Regulations the specifications concerning the State of the Operator apply only when the aircraft is leased, chartered or interchanged and when Maldives is not the State of Registry and if it interchanges, in respect of these Regulations, in part or in whole, the functions and obligations of the State of Registry.

MCAR-12.2.3 CAD Authority

CAD is vested by the Government of the Republic of Maldives as the Competent Authority for the development and promulgation of Regulations pertaining to aircraft accident investigation.

CHAPTER 3 GENERAL

MCAR-12.3.1 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.

MCAR-12.3.2 PROTECTION OF EVIDENCE, CUSTODY AND REMOVAL OF AIRCRAFT

a) **Responsibility of the State of Occurrence**

1) Accident Investigation Coordination Committee (AICC), acting on behalf of the State of Occurrence, shall take all reasonable measures to protect the evidence and to maintain safe custody of the aircraft and its contents for such a period as may be necessary for the purposes of an investigation. Protection of evidence shall include the preservation, by photographic or other means of any evidence, which might be removed, effaced, lost or destroyed. Safe custody shall include protection against further damage, access by unauthorised persons, pilfering and deterioration.

Note: *The protection of flight recorder's evidence requires that the recovery and handling of the recorder and its recordings be assigned only to qualified personnel.*

b) **Protection of Evidence**

1) When a reportable accident occurs in or over the Republic of Maldives, no person other than an authorised person shall have access to the aircraft involved in the accident and neither the aircraft nor its contents shall, except under the authority of AICC, be removed or otherwise interfered with.

2) The aircraft may be removed or interfered with so far as may be necessary for the purpose of extricating persons or animals, removing any mails, valuables and dangerous goods carried by the aircraft, preventing destruction by fire or other cause, or preventing any danger or obstruction to the public or to air navigation or to other transport or, under the supervision of an Investigator, for the purpose of removing any other property from the aircraft;

3) Should the aircraft be wrecked on water, the aircraft or any of its contents may be removed to such extent as may be necessary for bringing it or them to a place of safety.

4) The operator of an aircraft involved in an accident or incident for which notification must be given, is responsible for preserving to the extent possible any aircraft wreckage and cargo aboard the aircraft and all records, including all recording mediums of flight, maintenance, and voice recorders pertaining to the operation and maintenance of the aircraft and to the airmen, until AICC takes custody thereof and a release is granted.

5) Where it is necessary to move aircraft wreckage or cargo, sketches, descriptive notes, and photographs shall be made, if possible, of the original position and condition of the wreckage and any significant impact marks.

6) The operator of an aircraft involved in an accident or incident shall retain all records, reports, internal documents, and memoranda dealing with the accident or incident, until authorised by AICC to the contrary.

MCAR-12.3.3 Requests from State of Registry/Operator/Design or Manufacturer

If a request is received from the State of Registry, the State of the Operator, the State of Design or the State of Manufacturer that the aircraft, its contents, any other evidence remain undisturbed pending inspection by an accredited representative of the requesting State, AICC acting on behalf of the State of Occurrence, shall take all necessary steps to comply with such request, so far as this is reasonably practicable and compatible with the proper conduct of the investigation; provided that the aircraft may be moved to the extent necessary to extricate persons, animals, mails 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.

MCAR-12.3.4 Release from Custody

Subject to the provisions of the paragraph 12.3.2 and 12.3.3 above, AICC acting on behalf of the State of Occurrence, shall release custody of the aircraft, its contents or any parts thereof as soon as they are no longer required in the investigation, to any person or persons duly designated by the State of Registry or the State of the Operator, as applicable. For this purpose AICC 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 AICC finds it impracticable to grant such access, it shall itself effect removal to a point where access can be given.

CHAPTER 4 NOTIFICATION

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

RESPONSIBILITY OF AICC ACTING ON BEHALF OF THE STATE OF OCCURRENCE

This section applies to the responsibility of AICC acting on behalf of the State of Occurrence for an accident or serious incident to aircraft of another Contracting State.

MCAR-12.4.1 FORWARDING

AICC, if the State of Occurrence is Maldives, 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 Manufacturer; and
5) the International Civil Aviation Organisation, when the aircraft involved is of a maximum mass of over 2250kg

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

MCAR-12.4.2 FORMAT AND CONTENT

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

a) for accidents the identifying abbreviation ACCID, for serious incidents INCID;
b) manufacturer, model, nationality and registration marks, and serial number of the aircraft;
c) name of owner, operator and hirer, if any, of the aircraft;
d) name of the pilot in command; nationality of crew and passengers;
e) date and time (local time or UTC) of the accident or serious incident;
f) last point of departure and point of intended landing of the aircraft;
g) position of the aircraft with reference to some easily defined geographical point and latitude and longitude;

h) number of crew and passengers; aboard, killed and seriously injured; others, killed and seriously injured;
i) description of the accident or serious incident and the extent of damage to the aircraft so far as is known;
j) an indication to what extent the investigation will be conducted or is proposed to be delegated by AICC.
k) physical characteristics of the accident or serious incident area; as well as an indication of access difficulties or special requirements to reach the site;
l) identification of the originating authority and means to contact the investigator-in-charge and the accident investigation authority of the State of Occurrence at any time; and
m) presence and description of dangerous goods on board the aircraft.

MCAR-12.4.3 LANGUAGE

The notification shall be prepared in the English language.

MCAR-12.4.4 ADDITIONAL INFORMATION

As soon as possible to do so, AICC, acting on behalf of the State of Occurrence shall dispatch the details omitted from the notification as well as other known relevant information.

RESPONSIBILITY OF THE STATE OF REGISTRY, STATE OF THE OPERATOR, STATE OF DESIGN, STATE OF MANUFACTURER

The State of Registry, the State of the Operator, the State of Design and the State of Manufacture should acknowledge receipt of the notification of an accident or serious incident

MCAR-12.4.6 Information – Participation

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

Note 1. — *In accordance with 12.5.18, the State of Registry, the State of the Operator, the State of Design and the State of Manufacture have the right to appoint an accredited representative to participate in the investigation.*

Note 2.— *In accordance with 12.5.22, the attention of the State of Registry, the State of the Operator, the State of Design and the State of Manufacture is drawn to their obligation to appoint an accredited representative when specifically requested to do so by the State conducting the investigation of an accident to an aircraft over 2,250 kg. Their attention is also drawn to the usefulness of their presence and participation in the investigation.*

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.

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

MCAR-12.4.8 Forwarding

When AICC, acting on behalf of the State of Registry, institutes the investigation of an accident, AICC shall forward a notification in accordance with the paragraph 12.4.2 and 12.4.3 above, with a 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 Manufacturer; and
4) the International Civil Aviation Organisation, when the aircraft involved is of a maximum mass of over 2250 kg.

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

The State of the Operator, the State of Design and the State of Manufacture should acknowledge receipt of the notification of an accident or serious incident.

MCAR-12.4.9 Information — Participation

a) Upon receipt of the notification the State of the Operator, the State of Design and the State of Manufacturer shall, upon request, provide AICC with any relevant information available to them regarding the aircraft and flight crew involved in the accident or serious incident. AICC 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.

b) Upon receipt of any notification, AICC, acting on behalf of 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 onboard the aircraft.

CHAPTER 5 INVESTIGATION

RESPONSIBILITY FOR INSTITUTING AND CONDUCTING THE INVESTIGATION

ACCIDENTS OR INCIDENTS IN THE TERRITORY OF A CONTRACTING STATE

MCAR-12.5.1 STATE OF OCCURRENCE

AICC, acting on behalf of the State of Occurrence, shall institute an investigation into the circumstances of the accident or serious incident. AICC shall be responsible for the conduct of the investigation, but may delegate the whole or any part of the conducting of such investigation to another State by mutual arrangement and consent. In any event AICC shall use every means to facilitate the investigation.

Recommendation. — *AICC, acting on behalf of the State of Occurrence, should institute an investigation into the circumstances of a serious incident. Such a State may delegate the whole or any part of the conducting of such investigation to another State by mutual arrangement and consent. In any event AICC should use every means to facilitate the investigation.*

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

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

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

MCAR-12.5.2 STATE OF REGISTRY

When the accident or serious incident has occurred in the territory of a non-Contracting State, which does not intend to conduct an investigation in accordance with MCAR-12 or ICAO Annex 13, AICC, acting on behalf of the State of Registry or State of the Operator, should endeavour to institute and conduct an investigation in co-operation with the State of Occurrence but, failing such co-operation, should itself conduct an investigation with such information as is available

ACCIDENTS OR SERIOUS INCIDENTS OUTSIDE THE TERRITORY OF ANY STATE

MCAR-12.5.3 STATE OF REGISTRY

a) When the location of the accident or the serious incident cannot definitely be established as being in the territory of any State, AICC, acting on behalf of the State of Registry, shall institute and conduct an 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) States nearest the scene of an accident in international waters shall provide such assistance as they are able and shall, likewise, respond to requests by the State of Registry.

Recommendation. — *If the State of Registry is a non-Contracting State which does not intend to conduct an investigation in accordance with MCAR-12 or ICAO Annex 13, the State of the Operator or, failing that, the State of Design or the State of Manufacture should endeavour to institute and conduct an investigation. However, such a State may delegate the whole or any part of the investigation to another State by mutual arrangement and consent.*

ORGANIZATION AND CONDUCT OF THE INVESTIGATION

RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

MCAR-12.5.4A GENERAL

a) AICC shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of these regulations. The investigation shall include:
   1) the gathering, recording and analysis of all available relevant 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.

Recommendation.— *Any judicial or administration proceedings to apportion blame or liability should be separate from any investigation conducted under these regulations.*

MCAR-12.5.4B INVESTIGATION TEAM

For the purpose of carrying out investigations into accidents and incidents to which these Regulations apply, the Chairperson of the AICC shall convene an Accident Investigation Team. When an accident or incident involves a civil and a military aircraft, the Team shall be composed of equal numbers of Investigators appointed by AICC and those of the relevant military aviation authority. The committee shall be under the direction of an Investigator-in-charge

MCAR-12.5.5 INVESTIGATOR-IN-CHARGE – DESIGNATION

a) Chairperson of the AICC shall designate the Investigator-in-charge of the investigation and shall initiate the investigation immediately.

b) The Investigator-in-charge shall determine whether or not an investigation shall be carried out into any accident or incident to which these Regulations apply and the form of the investigation. He may himself carry out, or may cause an Investigator(s) to carry out, an investigation of any such accident.

c) Without any prejudice to the power of an Investigator to seek such advice or assistance as he may deem necessary in making an investigation, AICC may at the request of the Investigator-in-charge, appoint additional experts from whatever source, to assist the Investigator in a particular investigation and such person(s) shall for the purpose of so doing have such of the powers of an Investigator under these Regulations, as may be specified in their appointment.

MCAR-12.5.6A INVESTIGATOR-IN-CHARGE – ACCESS AND CONTROL

a) 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 authorised personnel participating in the investigation.

b) The Investigator-in-charge may at any time publish, or cause to be published, information relating to an accident whether or not such an accident is subject of an investigation or undergoing a re-opening of the original investigation.

MCAR-12.5.6B FURNISHING OF INFORMATION

Where an accident to which these Regulations apply occurs, whether in or over the Republic of Maldives or elsewhere, the owner, operator, pilot in command, hirer or any other person involved in the loading or operation of the aircraft shall, if so

required by notice in writing given to him by the Investigator-in-charge, send to the Investigator-in-charge, within such time as may be specified in the notice, such information as is in his possession or control with respect to the accident and in such form as the Investigator-in-charge may require.

MCAR-12.5.6C SERVING OF NOTICES OR DOCUMENTS

Any notice or other document required or authorised by any provision of these Regulations to be served on or given to any person, may be served or given:

1) by delivering it to that person;
2) by leaving it at his usual or last-known residence or place of business, whether in the Republic of Maldives or elsewhere;
3) by sending it to him by post at that address; or
4) by sending it to him at that address by telex or facsimile, in which case the document is regarded as served when received.

MCAR-12.5.6D POWERS OF INVESTIGATORS

For the purpose of the investigation of any accident or incident to which these Regulations apply, or any inquiries undertaken with a view to determining whether any such investigation should be held, an Investigator shall have power:

1) by summons, under his authority, to call before him and examine all persons as he thinks fit, to require such persons to answer any questions or furnish any information or procure any documents, and articles which the Investigator may consider relevant and to retain any such books, papers, documents and articles until the completion of the investigation, or, as the case may be, it is determined that an investigation shall not be carried out;
2) to take statements from all such persons as he thinks fit and to require any such person to make and sign a declaration of the truth of the statements made by him;
3) on production if required of his credentials, to remove, test, take measures for the preservation of or otherwise deal with any aircraft other than an aircraft involved in the accident or incident where it appears to the investigating Inspector requisite for the purposes of the investigation, and
4) to have access to and examine any aircraft involved in any such accident and the place where the accident occurred and to require any such aircraft or any part of equipment thereof to be preserved unaltered pending investigation;
5) to examine, remove, test and take measures for the preservation of, or otherwise deal with, the aircraft involved in the accident, or, where it appears to the Investigator to be necessary for the purposes of such investigation, any other aircraft, or any part of such aircraft or anything contained therein;
6) on production, if required, of his credentials, to enter and inspect any place, building or aircraft, the entry or inspection whereof appears to the Investigator

to be necessary for the purpose of any such investigation except that an Investigator shall not have power to enter any premises which at the time are being used as a dwelling;

7) to take such measures for the preservation of evidence as he considers appropriate.

MCAR-12.5.6E OBSTRUCTION OF INVESTIGATIONS

1) No person shall obstruct or impede an Investigator, or any person acting under the authority of AICC, in the exercise of any powers or duties under these Regulations.

2) No person shall without reasonable excuse, fail to comply with any summons or requisition of an Investigator conducting an investigation or undertaking any inquiries with a view to determining whether any investigation should be held under these Regulations.

MCAR-12.5.6F FORM AND CONDUCT OF INVESTIGATIONS

1) An investigation into any accident to which these Regulations apply may be a formal investigation or a field investigation.

2) Public notice that a formal investigation is taking place shall be given in such a manner as the Investigator-in-charge may decide and shall invite any persons who desire to make representations concerning the circumstances or causes of the accident, to do so in writing within the time to be specified in the notice.

3) All investigations shall be held in private.

4) Where it appears to the Investigator in the course of any investigations that in order to resolve any conflict of evidence or that for any other reason it is expedient to do so, he may permit any person to appear before him and to call evidence and examine witnesses.

5) The Investigator-in-charge, in co-ordination with the Accident Investigation Team, may determine that any investigation being carried out into an accident shall be discontinued. In the event of a formal investigation being discontinued no report shall be made thereon to AICC. However, public notice should be given, in such a manner as the Investigator-in-charge may determine that the investigation has been discontinued.

6) Following the discontinuance of any investigation, the Investigator-in-charge shall submit to AICC, such information as he considers desirable in the interest of the avoidance of accidents in the future.

MCAR-12.5.6G INVESTIGATOR-IN-CHARGE'S REPORT AND APPEAL

a) **Investigator's Report**

Subject to the provisions of paragraph 12.5.6G (b), upon completion of a formal investigation, the Investigator-in-charge shall submit to AICC, a draft Final Report of the Investigator(s) who carried out the investigation. The report shall state the facts relating to the accident followed by an analysis of the facts and conclusions as to the causes of the accident, together with any recommendations, which the Investigator-in-charge may make with a view to the preservation of life and the avoidance of accidents in the future.

b) **Representation**

1) No report(s) shall be submitted in accordance with the paragraph 12.5.6G (a), in respect of an accident until the Investigator-in-charge has:

   i. where it appears to him to be practicable to do so, served notice under this Regulation upon the operator and commander of the aircraft involved in the accident and on any person whose reputation is, in the Investigator-in-charge's opinion, likely to be adversely affected by the report or, if any of the foregoing be a deceased individual, upon such person or persons as appear to the Investigator-in-charge, at the time he proposes to serve Notice, to represent best the interest of the deceased in the matter; and

   ii. considered any representations, which may be made to him/her in accordance with sub-paragraph 12.5.6G (b) 3), by or on behalf of the person served with such a notice.

2) The Notice referred to in sub-paragraph 12.5.6G (b) 1), shall include particulars of any proposed analysis of facts and conclusions as to the cause or causes of the accident, which may affect the person on whom or in respect of whom the Notice is served.

3) Written representations made to the Investigator-in-charge pursuant to sub-paragraph 12.5.6G (b), shall be within 28 days from the service of the Notice referred to in that sub-paragraph. The Investigator-in-charge shall have the power to extend such period, and this power may be exercised notwithstanding that the period so prescribed has expired.

4) After considering the written representation, the Investigator-in-charge may determine that the person(s) concerned shall be heard by the Team and shall have the right to give evidence, produce witnesses and examine any other witnesses giving evidence. The Investigator(s) who made the report shall be entitled to be heard.

5) The Accident Investigation Team shall have full investigative powers under these regulations and, in addition, the Investigator-in-charge may administer an oath to or require a solemn affirmation from any witness.

6) Where new and important evidence is given which was not provided to the original investigation, the Team may recommend that the investigation be reopened.

7) Where at any time the Team is satisfied that any of the findings and conclusions in the Investigator-in-charge's report do not adversely affect the reputation of the person in respect of whom the Notice was served, the Team may recommend to the Investigator-in-charge that the proceedings in respect of those findings and conclusions be discontinued and the report be submitted to AICC.

MCAR-12.5.7 FLIGHT RECORDERS

a) AICC, when conducting the investigation, shall arrange for the readout of the flight recorders without delay. Effective use shall be made of flight recorders in the investigation of all accidents and incidents.

b) In the event that AICC 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 readout facility;
2) the timeliness of the readout; and
3) the location of the read out facility.

MCAR-12.5.9 AUTOPSY EXAMINATIONS

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

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

MCAR-12.5.10 CO-ORDINATION – JUDICIAL AUTHORITIES

AICC, when conducting the investigation, shall recognise the need for co-ordination 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 readouts of flight recorder recordings.

MCAR-12.5.11 INFORMING AVIATION SECURITY OR JUDICIAL AUTHORITIES

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

b) If the Investigator-in-charge finds evidence or suspects that the accident or incident was a result of a criminal act, he shall refer the matter to the competent and relevant judicial authorities of the State(s) concerned with a view to the institution of necessary legal proceedings.

MCAR-12.5.12 NON-DISCLOSURE OF RECORDS

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

    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) recordings and transcripts of recordings from air traffic control units; and
    6) 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.

MCAR-12.5.13 RE-OPENING OF INVESTIGATION

a) If, after AICC investigation has been closed, new and significant evidence becomes available, AICC, if it conducted the investigation, shall re-open it. However, when the State, which conducted the investigation did not institute it,

that State shall first obtain the consent of the State, which instituted the investigation.

b) Any investigation reopened shall be subject to and conducted in accordance with the provisions of these Regulations relating to a formal investigation thereof.

RESPONSIBILITY OF ANY OTHER STATE

MCAR-12.5.14 INFORMATION – ACCIDENTS AND INCIDENTS

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

b) AICC, in regard to any facilities or services of which have been, or would normally have been, used by an aircraft prior to an accident or an incident, and which has information pertinent to the investigation, shall provide such information to the State conducting the investigation.

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

MCAR-12.5.16 FLIGHT RECORDERS

When an aircraft involved in an accident or a serious incident lands in a State other than the State of Occurrence, AICC, acting on behalf of 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.

MCAR-12.5.17 ORGANISATIONAL INFORMATION

AICC, acting on behalf of the State of Registry and/or the State of the Operator, on request from the State conducting the investigation, shall provide pertinent information on any organisation 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

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

MCAR-12.5.18 RIGHTS

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

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

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

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

c) 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.

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

MCAR-12.5.22 OBLIGATIONS

When the State conducting an investigation of an accident to an aircraft of a maximum mass of over 2250 kg specifically requests participation by AICC, acting on behalf of the State of Registry, the State of the Operator, the State of Design and the State of Manufacturer, AICC shall provide an accredited representative.

Note 1.— Nothing in 12.5.22 is intended to preclude the State conducting an investigation from requesting the State that designed or manufactured the power plant or major components of the aircraft to appoint an accredited representative whenever the former State believes that a useful contribution can be made to the investigation or when such participation might result in increased safety.

Note 2. — Nothing in 12.5.22 is intended to preclude the State conducting an investigation from requesting the State of Design and the State of Manufacture to give assistance in the investigation of accidents other than those in 12.5.22.

PARTICIPATION OF OTHER STATES

MCAR-12.5.23 RIGHTS

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

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

ENTITLEMENT OF ACCREDITED REPRESENTATIVES

MCAR-12.5.24 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.

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

b) Advisers assisting an accredited representative shall be permitted, under the accredited representative's supervision, to participate in the investigation to the extent necessary to enable the accredited representative to make their participation effective.

MCAR-12.5.25 PARTICIPATION

a) Participation in the investigation shall confer entitlement to participate in all aspects of the investigation, under the control of the Investigator-in-charge, 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 readouts 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 Manufacturer may be limited to those matters, which entitled such States to participation under paragraph 12.5.23

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

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

Note 3.— The pertinent documents referred to in subparagraph e) also include documents such as the reports on examinations of components or studies performed within the framework of the investigation.

MCAR-12.5.26 Obligations

The accredited representatives and their advisers;

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

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

MCAR-12.5.27 Rights and Entitlements

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 State conducting the investigation to appoint an expert who shall be entitled to:

a) visit the scene of the accident;
b) have access to the relevant factual information;
c) participate in the identification of the victims;
d) assist in questioning surviving passengers who are citizens of the expert's State; and
e) receive a copy of the Final Report.

CHAPTER 6 FINAL REPORT

MCAR-12.6.1 Recommendation.— *The format of the Final Report in the Appendix should be used. However, it may be adapted to the circumstances of the accident or incident.*

RESPONSIBILITY OF ANY STATE

MCAR-12.6.2 RELEASE OF INFORMATION - CONSENT

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

RESPONSIBILITY OF THE STATE CONDUCTING THE INVESTIGATION

MCAR-12.6.3 CONSULTATION

a) AICC, if conducting the investigation, shall send a copy of the draft Final Report to the State, which 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;
   4) the State of Manufacturer.

b) If AICC 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 AICC receives no comments within sixty days of the date of the first transmittal letter, it shall issue the Final Report to the recipient States unless an extension of that period has been agreed by the States concerned.

   Note 1.— Comments to be appended to the Final Report are restricted to non-editorial-specific technical aspects of the Final Report upon which no agreement could be reached.

   Note 2.— When sending the draft Final Report to recipient States, AICC, if conducting the investigation may consider using the most suitable and quickest means available, such as facsimile, e-mail, courier service or express mail.

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

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

MCAR-12.6.4 RECIPIENTS

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

a) the State which instituted the investigation;
b) State of Registry;
c) the State of the Operator;
d) the State of Design;
e) the State of Manufacturer;
f) any States having suffered fatalities or serious injuries to its citizens;
g) any State which provided relevant information, significant facilities or experts; and
h) the International Civil Aviation Organisation, only for accidents involving an aircraft of maximum mass of over 5700 kg.

MCAR-12.6.5 RELEASE OF FINAL REPORT

a) In the interest of accident prevention, AICC, if conducting the investigation of an accident or incident shall release the Final Report as soon as possible.

Recommendation.— *AICC, if conducting the investigation should 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 should release an interim report on each anniversary of the occurrence, detailing the progress of the investigation and any safety issues raised.*

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

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

MCAR-12.6.8 SAFETY RECOMMENDATIONS

a) At any stage of the investigation of an accident or incident, AICC, acting on behalf of the accident or incident investigation authority, shall recommend to the appropriate authorities, including those in other States, any preventive action, which it considers necessary to be taken promptly to enhance aviation safety.

b) AICC, if conducting investigations of 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.

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

RESPONSIBILITY OF A STATE RECEIVING SAFETY RECOMMENDATIONS

MCAR-12.6.10 ACTIONS ON SAFETY RECOMMENDATIONS

On receipt of any safety recommendations or other proposals for preventative action received, AICC shall inform the proposing State of the preventative action taken or under consideration, or the reasons why no action will be taken.

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

CHAPTER 7 ADREP REPORTING

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

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

Preliminary Report
Accident/Incident Data Report

PRELIMINARY REPORT

RESPONSIBILITY OF AICC, ACTING ON BEHALF OF STATE CONDUCTING THE INVESTIGATION

MCAR-12.7.1 ACCIDENTS TO AIRCRAFT OVER 2250 KG

When the aircraft involved in an accident, is of a maximum mass of over 2250 kg, AICC, if conducting the investigation, shall send the Preliminary Report to:

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

MCAR-12.7.2 ACCIDENTS TO AIRCRAFT OF 2250 KG OR LESS

When the aircraft of a maximum mass of 2250 kg or less is involved in an accident, and when airworthiness or matters considered to be of interest to other States are involved, AICC, if conducting the investigation, shall forward the Preliminary Report to:

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

MCAR-12.7.3 LANGUAGE

The Preliminary Report shall be submitted to appropriate States and to the International Civil Aviation Organisation in the English language.

MCAR-12.7.4 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.

ACCIDENT/INCIDENT DATA REPORT

RESPONSIBILITY OF AICC, ACTING ON BEHALF OF THE STATE CONDUCTING THE INVESTIGATION

MCAR-12.7.5 ACCIDENTS TO AIRCRAFT OVER 2250 KG

When the aircraft involved in an accident is of a maximum mass of over 2250 kg, AICC, if conducting the investigation, shall send, as soon as practicable after the investigation, the Accident Data Report to the International Civil Aviation Organisation.

MCAR-12.7.6 ADDITIONAL INFORMATION

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

MCAR-12.7.7INCIDENTS INVOLVING AIRCRAFT OVER 5700 KG

If AICC conducts an investigation into an incident to an aircraft of a maximum mass of over 5700 kg, AICC shall send, as soon as practicable after the investigation, the Incident Data Report to the International Civil Aviation Organisation.

CHAPTER 8 ACCIDENT PREVENTION MEASURES

Note. — The objective of these specifications is to promote accident prevention by analysis of accident and incident data and by a prompt exchange of information.

MCAR-12.8.1 INCIDENT REPORTING SYSTEMS

a) CAD shall establish and maintain a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies. The following persons or organisations are responsible for reporting incidents under this provision:

- All operators of licensed Aerodromes
- Providers of Air Navigation Services in the Maldives
- MCAR-145 organisations as per MCAR-145.60
- Any person or organisation responsible in accordance with point MCAR-M.201 as per MCAR-M.202
- All Maldivian air operators

b) CAD should establish a voluntary incident reporting system to facilitate the collection of information that may not be captured by a mandatory incident reporting system.

c) Voluntary incident reporting shall be non-punitive and afford protection to the sources of the information.

Note 1. *— A non-punitive environment is fundamental to voluntary reporting.*

Note 2. *— CAD is encouraged to facilitate and promote the voluntary reporting of events that could affect aviation safety by adjusting their applicable laws, regulations and policies, as necessary.*

Note 3. — *Guidance related to both mandatory and voluntary incident reporting systems is contained in the Safety Management Manual (SMM) (Doc 9859).*

Note 4. — *Attachment E contains legal guidance for the protection of information from safety data collection and processing systems.*

MCAR-12.8.4 - DATABASE SYSTEMS

CAD should establish an accident and incident database to facilitate the effective analysis of information obtained including that from its incident reporting systems.

The database systems should use standardized formats to facilitate data exchange.

MCAR-12.8.6 - ANALYSIS OF DATA — PREVENTIVE ACTIONS

a) CAD having established an accident and incident database and an incident reporting system shall analyse the information contained in its accident/incident reports and the database to determine any preventive actions required.

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

b) If CAD, in the analysis of the information contained in its database, identifies safety matter considered to be of interest to other States, that State should forward such safety information to them as soon as possible.

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

MCAR-12.8.9 - EXCHANGE OF SAFETY INFORMATION

CAD should promote the establishment of safety information sharing networks among all users of the aviation system and should facilitate the free exchange of information on actual and potential safety deficiencies.

CHAPTER 9 OPERATING DATA AND STATISTICS

MCAR-12.9.1 Aircraft operating statistics

a) All Air transport undertakings granted with a certificate under these regulations shall submit the following statistical information in a form and manner as determined by the Director;

1) Traffic
2) On-flight Origin & Destination
3) Traffic by Flight Stage
4) Fleet and Personnel
5) Financial Data

b) All operators of licensed Aerodromes shall submit the following statistical information in a form and manner as determined by the Director;

1) Traffic
2) Financial Data

c) Providers of Air Navigation Services in the Maldives shall submit the following statistical information in a form and manner as determined by the Director;

1) Enroute Services Traffic Data
2) Air Navigation Services Financial Data

MCAR-12.9.2 Confidentiality of statistical information

a) The CAD or any person employed by the CAD shall not communicate to any person outside the CAD any financial information provided under 12.9.1 except:

1) With the consent of the provider; or

2) In accordance with Article 67 of Chicago Convention; or

3) Pursuant to a statutory requirement.

b) CAD will provide to the Council of the International Civil Aviation Organization statistics that relate to international air transport operations.

CIVIL AVIATION DEPARTMENT MALDIVES

Aminath Solih
DIRECTOR GENERAL

ATTACHMENTS

These Attachments do not constitute a part of MCAR 12 — Aircraft Accident, Incidents and Statistics

The material contained herein is intended to assist in the application of MCAR 12

ATTACHMENT A

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

The Standards and Recommended Practices of Annex 13 —Aircraft Accident and Incident Investigation were developed when the State of Registry and the State of the Operator normally were the same. In recent years, however, international aircraft leasing and interchanging arrangements have developed so that in many instances the State of the Operator is different from the State of Registry. Leasing or interchange arrangements sometimes include the provision of flight crews from the State of Registry. However, more often, flight crews are provided by the State of the Operator and the aircraft operated under national legislation of the State of the Operator. Similarly, a variety of arrangements for airworthiness can emerge from these arrangements.

Airworthiness responsibility may rest, wholly or partly, with the State of the Operator or State of Registry. Sometimes the operator, in conformity with an airworthiness control system specified by the State of Registry, carries out maintenance and keeps records. In the event of an accident or an incident, it is important that any State which has assumed responsibility for the safety of an aircraft has the right to participate in an investigation, at least in respect of that responsibility. It is also important that the State conducting the investigation should have speedy access to all documents and other information relevant to that investigation.

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

ATTACHMENT B

NOTIFICATION AND REPORTING CHECKLIST

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

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

1. NOTIFICATION — ACCIDENTS AND SERIOUS INCIDENTS

From	*For*	*Send to*	*MCAR 12 reference*
State of Occurrence	International occurrences: All aircraft	State of Registry State of the Operator State of Design State of Manufacture ICAO (when aircraft over 2 250kg)	12.4.1
State of Registry	Domestic and other occurrences: Aircraft over 2, 250kg	State of the Operator State of Design State of Manufacture ICAO (when aircraft over 2, 250kg)	12.4.8

2. FINAL REPORT

Accidents and serious incidents wherever they occurred

From	*Type of report*	*concerning*	*Send to*	*MCAR 12 reference*
State conducting the	FINAL REPORT	All aircraft	State instituting the investigation State of Registry State of the Operator State of Design State of Manufacture State having interest because of fatalities State providing information, significant facilities or experts	12.6.4
		Aircraft over 5,700kg	ICAO	12.6.5 (b)

3. ADREP REPORT
Accidents and serious incidents wherever they occurred

From	*Type of report*	*concerning*	*Send to*	*MCAR 12 reference*
State conducting the Investigation	PRELIMINARY REPORT	Accidents to aircraft 2,250 kg	State of Registry or State of Occurrence State of Operator State of Design State of Manufacture State providing information, Significant facilities Or experts ICAO	12.7.1
		Accidents to aircraft of 2,250 kg or less if Airworthiness or matters of interest are involved	same as above, except ICAO	12.7.2
	ACCIDENT DATA REPORT	Accidents to aircraft over 2,250 kg	ICAO	12.7.5
	INCIDENT DATA REPORT	incidents to aircraft over 5,700 kg	ICAO	12.7.7

4. ACCIDENT PREVENTION MEASURES

Safety matters of interest to other States

From	*Type of report*	*concerning*	*Send to*	*MCAR 12 reference*
State analyzing safety	any	Matters considered to be of interest to other States	states having an interest	12.8.6
States making safety recommendations	safety recommendations	recommendations made to another States	Accident investigation authority in that State	12.6.8 12.8.8

ATTACHMENT C

LIST OF EXAMPLES OF SERIOUS INCIDENTS

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

Serious incident **-** An incident involving circumstances indicating that 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.

iv. Take-offs from a closed or engaged runway with marginal separation from obstacle(s).

v. Landings or attempted landings on a closed or engaged 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. Take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways.

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

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

ATTACHMENT D

GUIDELINES FOR FLIGHT RECORDER READ-OUT AND ANALYSIS

Initial response

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

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

Choice of facility

The investigating State may request assistance from any State that, in its opinion, can best serve the investigation. The manufacturer's standard replay equipment and playback software, which 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.

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

a) The ability to disassemble and read out recorders that have sustained substantial damage;

b) The ability to play back the original recording/memory module without the need for the use of a manufacturer's copy device or the recorder housing that was involved in the accident or incident;

c) The ability to manually analyse the raw binary waveform from digital tape flight data recorders;

d) The ability to enhance and filter voice recordings digitally by means of suitable software; and

e) The capability to graphically analyse data, to derive additional parameters not explicitly recorded, to validate the data by cross-checking and other analytical methods to determine data accuracy and limitations.

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

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

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

Recommended procedures

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

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

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

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

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

ATTACHMENT E

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

1. INTRODUCTION

1.1 The protection of safety information from inappropriate use is essential to ensure its continued availability, since the use of safety information for other than safety-related purposes may inhibit the future availability of such information, with an adverse effect on safety. This fact was recognized by the 35th 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.

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

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

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

1.5 Throughout this Attachment:

a) *Safety information* refers to information contained in SDCPS established for the sole purpose of improving aviation safety, and qualified for protection under specified conditions in accordance with 3.1 below;

b) *Operational personnel* refer to personnel involved in aviation operations who are in a position to report safety information to SDCPS. Such personnel include, but are not limited to, flight crews, air traffic controllers, aeronautical station operators, maintenance technicians, cabin crews, flight dispatchers and apron personnel;

c) *Inappropriate use* refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public;

d) SDCPS refers to processing and reporting systems, databases, schemes for exchange of information, and recorded information and include:

1) Records pertaining to accident and incident investigations, as described in Chapter 5;
2) Mandatory incident reporting systems, as described in Chapter 8;
3) Voluntary incident reporting systems, as described in Chapter 8; and
4) self-disclosure reporting systems, including automatic data capture systems, as described in Annex 6, Part I, Chapter 3, as well as manual data capture systems.

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

2. GENERAL PRINCIPLES

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

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

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

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

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

3. PRINCIPLES OF PROTECTION

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

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

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

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

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

4. PRINCIPLES OF EXCEPTION

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

a) There is evidence that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or willful misconduct;

b) An appropriate authority considers that circumstances reasonably indicate that the occurrence may have been caused by conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or willful misconduct; or

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

5. PUBLIC DISCLOSURE

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

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

a) Disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations;

b) Disclosure of the safety information does not inhibit its future availability in order to improve safety;

c) Disclosure of relevant personal information included in the safety information complies with applicable privacy laws; and

d) Disclosure of the safety information is made in a deidentified, summarized or aggregate form.

6. RESPONSIBILITY OF THE CUSTODIAN OF SAFETY INFORMATION

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

a) The custodian of the safety information has the consent of the originator of the information for disclosure; or

b) The custodian of the safety information is satisfied that the release of the safety information is in accordance with the principles of exception.

7. PROTECTION OF RECORDED INFORMATION

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

a) Subject to the principles of protection and exception above, national laws and regulations should consider ambient workplace recordings required by legislation as privileged protected information, i.e. information deserving enhanced protection; and

b) National laws and regulations should provide specific measures of protection to such recordings as to their confidentiality and access by the public. Such specific measures of protection of workplace recordings required by legislation may include the issuance of orders of non-public disclosure.

SECTION 2 - ACCEPTABLE MEANS OF COMPLIANCE 12.8.1(a)

1. PURPOSE

This AMC is interpretative material and provides guidance in order to determine which occurrences should be reported to CAD and it provides guidance on the timescale for submission of such reports.

It also describes the objective of the overall occurrence reporting system including internal and external functions.

2. APPLICABILITY

(a) In most cases the obligation to report is on the holders of a certificate or approval, which in most cases are organisations, but in some cases can be a single person. In addition some reporting requirements are directed to persons. However, in order not to complicate the text, only the term 'organisation' is used.

(b) The AMC also does not apply to dangerous goods reporting. The definition of reportable dangerous goods occurrences is different from the other occurrences and the reporting system is also separate. This subject is covered in specific operating requirements and guidance and ICAO Documents namely:

(i) ICAO Annex 18, The safe Transport of Dangerous Goods by Air, Chapter 12

(ii) ICAO Doc 9284-AN/905, Technical Instructions for the Safe Transport of Dangerous Goods by Air

3. OBJECTIVE OF OCCURRENCE REPORTING

(a) The occurrence reporting system is an essential part of the overall monitoring function. The objective of the occurrence reporting, collection, investigation and analysis systems described in the operating rules, and the airworthiness rules is to use the reported information to contribute to the improvement of aviation safety, and not to attribute blame, impose fines or take other enforcement actions.

(b) The detailed objectives of the occurrence reporting systems are:

(i) To enable an assessment of the safety implications of each occurrence to be made, including previous similar occurrences, so that any necessary action can be initiated. This includes determining what and why it had occurred and what might prevent a similar occurrence in the future.

(ii) To ensure that knowledge of occurrences is disseminated so that other persons and organisations may learn from them.

c) The occurrence reporting system is complementary to the normal day to day procedures and

'control' systems and is not intended to duplicate or supersede any of them. The occurrence reporting system is a tool to identify those occasions where routine procedures have failed.

d) Occurrences should remain in the database when judged reportable by the person submitting the report as the significance of such reports may only become obvious at a later date.

4. REPORTING TO CAD

(a) Requirements

(i) As detailed in the operating rules, occurrences defined as an incident, malfunction, defect, technical defect or exceedence of technical limitations that endangers or could endanger the safe operation of the aircraft must be reported to CAD.

(ii) Reserved

(iii) Reserved

(iv) The maintenance rules stipulate that occurrences defined as any condition of the aircraft or aircraft component that has resulted or may result in an unsafe condition that could seriously hazard the aircraft must be reported to CAD.

(v) Reporting does not remove the reporter's or organisation's responsibility to commence corrective actions to prevent similar occurrences in the future. Known and planned preventive actions should be included within the report.

(vi) Reports relating to 'security incidents' should be notified to CAD.

(vii) Reports relating to air traffic, aerodrome occurrences or bird strikes should also be notified to CAD.

(b) Paragraph 10.g. of this AMC provides guidance as to what should be reported by an organisation to CAD. The list of criteria provided may be used as guidance for establishing which occurrences shall be reported by which organisation.

5. NOTIFICATION OF ACCIDENTS AND SERIOUS INCIDENTS

In addition to the requirement to notify the appropriate accident to AICC directly of any accident or serious incident, operators should also report to CAD.

6. REPORTING TIME

(a) The period of 72 hours is normally understood to start from when the occurrence took place or from the time when the reporter determined that there was, or could have been, a potentially hazardous or unsafe condition.

(b) For many occurrences there is no evaluation needed; it must be reported. However, there will be occasions when, as part of Safety Management System (SMS) or Quality Programme, a previously non-reportable occurrence is determined to be reportable.

(c) Within the overall limit of 72 hours for the submission of a report, the degree of urgency should be determined by the level of hazard judged to have resulted from the occurrence:

(i) Where an occurrence is judged to have resulted in an immediate and particularly significant hazard CAD expects to be advised immediately, and by the fastest possible means (e.g. telephone, fax, telex, e-mail) of whatever details are available at that time. This initial notification should then be followed up by a report within72 hours.

(ii) Where the occurrence is judged to have resulted in a less immediate and less significant hazard, report submission may be delayed up to the maximum of 72 hours in order to provide more details or more reliable information.

7. CONTENT OF REPORTS

(a) Notwithstanding other required reporting means as promulgated in national requirements, reports may be transmitted in any form considered acceptable to CAD. The amount of information in the report should be commensurate with the severity of the occurrence. Each report should at least contain the following elements, as applicable to each organisation:

(i) Organisation name

(ii) Approval reference (if relevant)

(iii) Information necessary to identify the aircraft or part affected.

(iv) Date and time if relevant

(v) A written summary of the occurrence

(vi) Any other specific information required

(b) For any occurrence involving a system or component, which is monitored or protected by a warning and/or protection system (for example: fire detection/extinguishing) the occurrence report should always state whether such system(s) functioned properly.

8. RESERVED

9. REPORTING BETWEEN ORGANISATIONS

(a) Requirements exist that address the reporting of data relating to unsafe or unairworthy conditions. These reporting lines are:

(i) Reserved;

(ii) Maintenance organisation to the organisation responsible for the design;

(iii) Maintenance organisation to operator;

(iv) Operator to organisation responsible for the design;

(v) Reserved.

(b) The 'Organisation responsible for the design' is a general term, which can be any one or a combination of the following organisations

(i) Holder of Type Certificate (TC) of an Aircraft, Engine or Propeller;

(ii) Holder of a Supplemental Type Certificate (STC) on an Aircraft, Engine or Propeller;

(iii) Holder of a Technical Standard Order (TSO) Authorisation; or

(iv) Holder of a European Part Approval (EPA), Parts Manufacturer Approval (PMA) or equivalent

(c) If it can be determined that the occurrence has an impact on or is related to an aircraft component which is covered by a separate design approval (TC, STC, TSO, EPA, PMA or equivalent), then the holders of such approval/authorization should be informed. If an occurrence happens on a component which is covered by an TC, STC or TSO, EPA, PMA or equivalent (e.g. during maintenance), then only that TC, STC, TSO Authorisation, EPA, PMA or equivalent holder needs to be informed.

(d) The form and timescale for reports to be exchanged between organisations is left for individual organisations to determine. What is important is that a relationship exists between the organisations to ensure that there is an exchange of information relating to occurrences.

(e) Paragraph 10.g. of this AMC provides guidance as to what should be reported by an organisation to CAD. The list of criteria provided may be used as guidance for establishing which occurrences shall be reported to which organisation. For example, certain operational occurrences will not need to be reported by an operator to the design or production organisation.

10. REPORTABLE OCCURRENCES

(a) *General*. There are different reporting requirements for operators (and/or commanders) and maintenance organisations. Moreover, as explained in paragraph 4. and 9. above, there are not only requirements for reporting to CAD, but also for reporting to other entities. The criteria for all these different reporting lines are not the same.

(b) *Operations and Maintenance*. The list of examples of reportable occurrences offered below under g. is established from the perspective of primary sources of occurrence information in the operational area (operators and maintenance organisations) to provide guidance for those persons developing criteria for individual organisations on what they need to report to CAD. The list is neither definitive nor exhaustive and judgement by the reporter of the degree of hazard or potential hazard involved is essential.

(c) Reserved.

(d) Reserved.

(e) *Customised list.* Each approval, certificate, authorisation, should develop a customised list adapted to its aircraft, operation or product. The list of reportable occurrences applicable to an organisation is usually published within the organisation's expositions/handbooks/manuals.

(f) *Internal reporting*. The perception of safety is central to occurrence reporting. It is for each organisation to determine what is safe and what is unsafe and to develop its reporting system on that basis. The organisation should establish an internal reporting system whereby reports are centrally collected and reviewed to establish which reports meet the criteria for occurrence reporting to CAD and other organisations, as required.

(g) *List of examples of reportable occurrences.* The following is a generic list. Not all examples are applicable to each reporting organisation. Therefore each organisation should define and agree with CAD a specific list of reportable occurrences or a list of more generic criteria, tailored to its activity and scope of work (see also 10.e above). In establishing that customised list, the organisation should take into account the following considerations:

Reportable occurrences are those where the safety of operation was or could have been endangered or which could have led to an unsafe condition. If in the view of the reporter an occurrence did not hazard the safety of the operation but if repeated in different but likely circumstances would create a hazard, then a report should be made. What is judged to be reportable on one class of product, part or appliance may not be so on another and the absence or presence of a single factor, human or technical, can transform an occurrence into a serious incident or accident.

Specific operational approvals, e.g. RVSM, ETOPS, RNAV, or a design or maintenance programme, may have specific reporting requirements for failures or malfunctions associated with that approval or programme.

A lot of the qualifying adjectives like 'significant' have been deleted from the list. Instead it is expected that all examples are qualified by the reporter using the general criteria that are applicable in his field, and specified in the requirement. (e.g. for operators: 'hazards or could have hazarded the operation').

CONTENTS:

I. AIRCRAFT FLIGHT OPERATIONS

A. Operation of the Aircraft

(1) (a) Risk of collision with an aircraft, terrain or other object or an unsafe situation when avoidance action would have been appropriate.

(b) An avoidance manoeuvre required to avoid a collision with an aircraft, terrain or other object.

(c) An avoidance manoeuvre to avoid other unsafe situations.

(2) Take-off or landing incidents, including precautionary or forced landings. Incidents such as under-shooting, overrunning or running off the side of runways. Take-offs, rejected take-offs, landings or attempted landings on a closed, occupied or incorrect runway. Runway incursions.

(3) Inability to achieve predicted performance during take-off or initial climb.

(4) Critically low fuel quantity or inability to transfer fuel or use total quantity of usable fuel.

(5) Loss of control (including partial or temporary loss of control) from any cause.

(6) Occurrences close to or above V1 resulting from or producing a hazardous or potentially hazardous situation (e.g. rejected take-off, tail strike, engine power loss etc.).

(7) Go-around producing a hazardous or potentially hazardous situation.

(8) Unintentional significant deviation from airspeed, intended track or altitude. (more than 91 m (300 ft)) from any cause.

(9) Descent below decision height/altitude or minimum descent height/altitude without the required visual reference.

(10) Loss of position awareness relative to actual position or to other aircraft.

(11) Breakdown in communication between flight crew (CRM) or between Flight crew and other parties (cabin crew, ATC, engineering).

(12) Heavy landing - a landing deemed to require a 'heavy landing check'.

(13) Exceedance of fuel imbalance limits.

(14) Incorrect setting of an SSR code or of an altimeter subscale.

(15) Incorrect programming of, or erroneous entries into, equipment used for navigation or performance calculations, or use of incorrect data.

(16) Incorrect receipt or interpretation of radiotelephony messages.

(17) Fuel system malfunctions or defects, which had an effect on fuel supply and/or distribution.

(18) Aircraft unintentionally departing a paved surface.

(19) Collision between an aircraft and any other aircraft, vehicle or other ground object.

(20) Inadvertent and/or incorrect operation of any controls.

(21) Inability to achieve the intended aircraft configuration for any flight phase (e.g. landing gear and doors, flaps, stabilisers, slats etc).

(22) A hazard or potential hazard which arises as a consequence of any deliberate simulation of failure conditions for training, system checks or training purposes.

(23) Abnormal vibration.

(24) Operation of any primary warning system associated with manoeuvring of the aircraft e.g. configuration warning, stall warning (stick shake), over speed warning etc. unless:

(a) the crew conclusively established that the indication was false. Provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning; or

(b) operated for training or test purposes.

(25) GPWS/TAWS 'warning' when:

(a) the aircraft comes into closer proximity to the ground than had been planned or anticipated; or

(b) the warning is experienced in IMC or at night and is established as having been triggered by a high rate of descent (Mode 1); or

(c) the warning results from failure to select landing gear or land flap by the appropriate point on the approach (Mode 4); or

(d) any difficulty or hazard arises or might have arisen as a result of crew response to the 'warning' e.g. possible reduced separation from other traffic. This could include warning of any Mode or Type i.e. genuine, nuisance or false.

(26) GPWS/TAWS 'alert' when any difficulty or hazard arises or might have arisen as a result of crew response to the 'alert'.

(27) ACAS RAs.

(28) Jet or prop blast incidents resulting in significant damage or serious injury.

B. Emergencies

(1) Fire, explosion, smoke or toxic or noxious fumes, even though fires were extinguished.

(2) The use of any non-standard procedure by the flight or cabin crew to deal with an emergency when:

(a) the procedure exists but is not used; or

(b) a procedure does not exist; or

(c) the procedure exists but is incomplete or inappropriate; or

(d) the procedure is incorrect; or

(e) the incorrect procedure is used.

(3) Inadequacy of any procedures designed to be used in an emergency, including when being used for maintenance, training or test purposes.

(4) An event leading to an emergency evacuation.

(5) Depressurisation.

(6) The use of any emergency equipment or prescribed emergency procedures in order to deal with a situation.

(7) An event leading to the declaration of an emergency ('Mayday' or 'Pan').

(8) Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance, training or test purposes.

(9) Events requiring any emergency use of oxygen by any crew member.

C. Crew Incapacitation

(1) Incapacitation of any member of the flight crew, including that which occurs prior to departure if it is considered that it could have resulted in incapacitation after take-off.

(2) Incapacitation of any member of the cabin crew which renders them unable to perform essential emergency duties.

D. Injury

(1) Occurrences, which have or could have led to significant injury to passengers or crew but which are not considered reportable as an accident.

E. Meteorology

(1) A lightning strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

(2) A hail strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

(3) Severe turbulence encounter – an encounter resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft.

(4) A windshear encounter

(5) Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any essential service.

F. Security

(1) Unlawful interference with the aircraft including a bomb threat or hijack.

(2) Difficulty in controlling intoxicated, violent or unruly passengers.

(3) Discovery of a stowaway.

G. Other Occurrences

(1) Repetitive instances of a specific type of occurrence which in isolation would not be considered 'reportable' but which due to the frequency at which they arise, form a potential hazard.

(2) A bird strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

(3) Wake turbulence encounters.

(4) Any other occurrence of any type considered to have endangered or which might have endangered the aircraft or its occupants on board the aircraft or on the ground.

II. AIRCRAFT TECHNICAL

A. Structural

Not all structural failures need to be reported. Engineering judgement is required to decide whether a failure is serious enough to be reported. The following examples can be taken into consideration:

(1) Damage to a Principal Structural Element that has not been qualified as damage tolerant (life limited element). Principal Structural Elements are those which contribute significantly to carrying flight, ground, and pressurisation loads, and whose failure could result in a catastrophic failure of the aircraft.

(2) Defect or damage exceeding admissible damages to a Principal Structural Element that has been qualified as damage tolerant.

(3) Damage to or defect exceeding allowed tolerances of a structural element which failure could reduce the structural stiffness to such an extent that the required flutter, divergence or control reversal margins are no longer achieved.

(4) Damage to or defect of a structural element, which could result in the liberation of items of mass that may injure occupants of the aircraft.

(5) Damage to or defect of a structural element, which could jeopardise proper operation of systems. See paragraph II.B. below.

(6) Loss of any part of the aircraft structure in flight.

B. Systems

The following generic criteria applicable to all systems are proposed:

(1) Loss, significant malfunction or defect of any system, subsystem or set of equipment when standard operating procedures, drills etc. could not be satisfactorily accomplished.

(2) Inability of the crew to control the system, e.g.:

(a) uncommanded actions;

(b) incorrect and or incomplete response, including limitation of movement or stiffness;

(c) runaway;

(d) mechanical disconnection or failure.

(3) Failure or malfunction of the exclusive function(s) of the system (one system could integrate several functions).

(4) Interference within or between systems.

(5) Failure or malfunction of the protection device or emergency system associated with the system.

(6) Loss of redundancy of the system.

(7) Any occurrence resulting from unforeseen behaviour of a system.

(8) For aircraft types with single main systems, subsystems or sets of equipment: Loss, significant malfunction or defect in any main system, subsystem or set of equipment.

(9) For aircraft types with multiple independent main systems, subsystems or sets of equipment: The loss, significant malfunction or defect of more than one main system, subsystem or set of equipment

(10) Operation of any primary warning system associated with aircraft systems or equipment unless

the crew conclusively established that the indication was false provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning.

(11) Leakage of hydraulic fluids, fuel, oil or other fluids which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.

(12) Malfunction or defect of any indication system when this results in the possibility of misleading indications to the crew.

(13) Any failure, malfunction or defect if it occurs at a critical phase of flight and relevant to the operation of that system.

(14) Occurrences of significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance calculation method) including braking action, fuel consumption etc.

(15) Asymmetry of flight controls; e.g. flaps, slats, spoilers etc.

Annex 1 to this ASC gives a list of examples of reportable occurrences resulting from the application of these generic criteria to specific systems

C. Propulsion (including Engines, Propellers and Rotor Systems) and APUs

(1) Flameout, shutdown or malfunction of any engine.

(2) Overspeed or inability to control the speed of any high speed rotating component (for example: Auxiliary power unit, air starter, air cycle machine, air turbine motor, propeller or rotor).

(3) Failure or malfunction of any part of an engine or powerplant resulting in any one or more of the following:

(a) non containment of components/debris;

(b) uncontrolled internal or external fire, or hot gas breakout;

(c) thrust in a different direction from that demanded by the pilot;

(d) thrust reversing system failing to operate or operating inadvertently;

(e) inability to control power, thrust or rpm;

(f) failure of the engine mount structure;

(g) partial or complete loss of a major part of the powerplant;

(h) Dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers;

(i) inability, by use of normal procedures, to shutdown an engine;

(j) inability to restart a serviceable engine.

(4) An uncommanded thrust/power loss, change or oscillation which is classified as a loss of thrust or power control (LOTC).

(a) for a single engine aircraft; or

(b) where it is considered excessive for the application, or

(c) where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin engine aircraft; or

(d) for a multi engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical.

(5) Any defect in a life controlled part causing retirement before completion of its full life.

(6) Defects of common origin which could cause an in flight shut down rate so high that there is the possibility of more than one engine being shut down on the same flight.

(7) An engine limiter or control device failing to operate when required or operating inadvertently.

(8) Exceedance of engine parameters.

(9) FOD resulting in damage.

Propellers and -transmission

(10) Failure or malfunction of any part of a propeller or powerplant resulting in any one or more of the following:

(a) An overspeed of the propeller;

(b) The development of excessive drag;

(c) A thrust in the opposite direction to that commanded by the pilot;

(d) A release of the propeller or any major portion of the propeller;

(e) A failure that results in excessive unbalance;

(f) The unintended movement of the propeller blades below the established minimum in-flight low-pitch position;

(g) An inability to feather the propeller;

(h) An inability to command a change in propeller pitch;

(i) An uncommanded change in pitch;

(j) An uncontrollable torque or speed fluctuation;

(k) The release of low energy parts.

Rotors and -transmission

(11) Damage or defect of main rotor gearbox / attachment which could lead to in flight separation of the rotor assembly, and /or malfunctions of the rotor control.

(12) Damage to tail rotor, transmission and equivalent systems.

APUs

(13) Shut down or failure when the APU is required to be available by operational requirements, e.g. ETOPS, MEL.

(14) Inability to shut down the APU.

(15) Overspeed.

(16) Inability to start the APU when needed for operational reasons.

D. Human Factors

(1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

E. Other Occurrences

(1) Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.

(2) An occurrence not normally considered as reportable (for example, furnishing and cabin equipment, water systems), where the circumstances resulted in endangering of the aircraft or its occupants.

(3) A fire, explosion, smoke or toxic or noxious fumes.

(4) Any other event which could hazard the aircraft, or affect the safety of the occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.

(5) Failure or defect of passenger address system resulting in loss or inaudible passenger address system.

(6) Loss of pilots seat control during flight.

III. AIRCRAFT MAINTENANCE AND REPAIR

A. Incorrect assembly of parts or components of the aircraft found during an inspection or test procedure not intended for that specific purpose.

B. Hot bleed air leak resulting in structural damage.

C. Any defect in a life controlled part causing retirement before completion of its full life.

D. Any damage or deterioration (i.e. fractures, cracks, corrosion, delamination, disbonding etc) resulting from any cause (such as flutter, loss of stiffness or structural failure) to:

(1) primary structure or a principal structural element (as defined in the manufacturers' Repair Manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element;

(2) secondary structure which consequently has or may have endangered the aircraft;

(3) the engine, propeller or rotorcraft rotor system.

E. Any failure, malfunction or defect of any system or equipment, or damage or deterioration found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by a Regulatory Authority, when:

(1) it is detected for the first time by the reporting organisation implementing compliance;

(2) on any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available.

F. Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance or test purposes.

G. Non compliance or significant errors in compliance with required maintenance procedures.

H. Products, parts, appliances and materials of unknown or suspect origin.

I. Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.

J. Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

IV. AIR NAVIGATION SERVICES, FACILITIES AND GROUND SERVICES

A. Air Navigation Services

(1) Provision of significantly incorrect, inadequate or misleading information from any ground sources, e.g. Air Traffic Control (ATC), Automatic Terminal Information Service (ATIS), Meteorological Services, navigation databases, maps, charts, manuals, etc.

(2) Provision of less than prescribed terrain clearance.

(3) Provision of incorrect pressure reference data (i.e. altimeter setting).

(4) Incorrect transmission, receipt or interpretation of significant messages when this results in a hazardous situation.

(5) Separation minima infringement.

(6) Unauthorised penetration of airspace

(7) Unlawful radio communication transmission.

(8) Failure of ANS ground or satellite facilities.

(9) Major ATC/ Air Traffic Management (ATM) failure or significant deterioration of aerodrome infrastructure.

(10) Aerodrome movement areas obstructed by aircraft, vehicles, animals or foreign objects, resulting in a hazardous or potentially hazardous situation.

(11) Errors or inadequacies in marking of obstructions or hazards on aerodrome movement areas resulting in a hazardous situation.

(12) Failure, significant malfunction or unavailability of airfield lighting.

B. Aerodrome and Aerodrome Facilities

(1) Significant spillage during fuelling operations.

(2) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.

(3) Unsatisfactory ground de-icing / anti-icing

C. Passenger Handling, Baggage and Cargo

(1) Significant contamination of aircraft structure, or systems and equipment arising from the carriage of baggage or cargo.

(2) Incorrect loading of passengers, baggage or cargo, likely to have a significant effect on aircraft mass and/or balance.

(3) Incorrect stowage of baggage or cargo (including hand baggage) likely in any way to hazard the aircraft, its equipment or occupants or to impede emergency evacuation.

(4) Inadequate stowage of cargo containers or other substantial items of cargo.

(5) Dangerous goods incidents reporting: see operating rules.

D. Aircraft Ground Handling and Servicing

(1) Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

(2) Non compliance or significant errors in compliance with required servicing procedures.

(3) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen and potable water).

Annex 1 to AMC 12.8.1(a)

Reportable occurrences to specific systems

The following subparagraphs give examples of reportable occurrences resulting from the application of the generic criteria to specific systems listed in paragraph 10.g. II.B of this AMC.

1.Air conditioning/ventilation

(a) complete loss of avionics cooling

(b) depressurisation

2. Autoflight system

(a) failure of the autoflight system to achieve the intended operation while engaged

(b) significant reported crew difficulty to control the aircraft linked to autoflight system functioning

(c) failure of any autoflight system disconnect device

(d) Uncommanded autoflight mode change

3. Communications

(a) failure or defect of passenger address system resulting in loss or inaudible passenger address

(b) total loss of communication in flight

4. Electrical system

(a) loss of one electrical system distribution system (AC or DC)

(b) total loss or loss or more than one electrical generation system

(c) failure of the back up (emergency) electrical generating system

5. Cockpit/Cabin/Cargo

(a) pilot seat control loss during flight

(b) failure of any emergency system or equipment, including emergency evacuation signalling system, all exit doors, emergency lighting, etc

(c) loss of retention capability of the cargo loading system

6. Fire protection system

(a) fire warnings, except those immediately confirmed as false

(b) undetected failure or defect of fire/smoke detection/protection system, which could lead to loss or reduced fire detection/protection

(c) absence of warning in case of actual fire or smoke

7. Flight controls

(a) Asymmetry of flaps, slats, spoilers etc.

(b) Limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems

(c) Flight control surface run away

(d) Flight control surface vibration felt by the crew

(e) Mechanical flight control disconnection or failure

(f) Significant interference with normal control of the aircraft or degradation of flying qualities

8. Fuel system

(a) Fuel quantity indicating system malfunction resulting in total loss or erroneous indicated fuel quantity on board

(b) Leakage of fuel which resulted in major loss, fire hazard, significant contamination

(c) Malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel

(d) Fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution

(e) Inability to transfer or use total quantity of usable fuel

9. Hydraulics

(a) Loss of one hydraulic system (ETOPS only)

(b) Failure of the isolation system to operate

(c) Loss of more than one hydraulic circuits

(d) Failure of the back up hydraulic system

(e) Inadvertent Ram Air Turbine extension

10. Ice detection/protection system

(a) Undetected loss or reduced performance of the anti-ice/de-ice system

(b) Loss of more than one of the probe heating systems

(c) Inability to obtain symmetrical wing de icing

(d) Abnormal ice accumulation leading to significant effects on performance or handling qualities

(e) Crew vision significantly affected

11. Indicating/warning/recording systems

(a) Malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system

(b) Loss of a red warning function on a system

(c) For glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/warning function

12. Landing gear system /brakes/tyres

(a) Brake fire

(b) Significant loss of braking action

(c) Unsymmetrical braking leading to significant path deviation

(d) Failure of the L/G free fall extension system (including during scheduled tests)

(e) Unwanted gear or gear doors extension/retraction

(f) Multiple tyres burst

13. Navigation systems (including precision approaches system) and air data systems

(a) Total loss or multiple navigation equipment failures

(b) Total failure or multiple air data system equipment failures

(c) Significant misleading indication

(d) Significant navigation errors attributed to incorrect data or a database coding error

(e) Unexpected deviations in lateral or vertical path not caused by pilot input.

(f) Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

14. Oxygen

(a) For pressurised aircraft: loss of oxygen supply in the cockpit

(b) Loss of oxygen supply to a significant number of passengers (more than 10%), including when found during maintenance or training or test purposes

15. Bleed air system

(a) Hot bleed air leak resulting in fire warning or structural damage

(b) Loss of all bleed air systems

(c) Failure of bleed air leak detection system

Annex II to AMC 12.8.1(a)

List of air navigation services related occurrences to be reported

Note 1: Although this Annex lists the majority of reportable occurrences, it cannot be completely comprehensive. Any other occurrences, which are judged by those involved to meet the criteria, should also be reported.

Note 2: This Annex does not include accidents and serious incidents.

Note 3: This Annex includes ANS occurrences which pose an actual or potential threat to flight safety, or can compromise the provision of safe ANS services.

Note 4: The contents of this Annex shall not preclude the reporting of any occurrence, situation or condition which, if repeated in different but likely circumstances or allowed to continue uncorrected, could create a hazard to aircraft safety.

(i) **Near collision incidents (encompassing specific situations where one aircraft and another aircraft/the ground/a vehicle/person or object are perceived to be too close to each other):**

(a) separation minima infringement;

(b) inadequate separation;

(c) near-controlled flight into terrain (near CFIT);

(d) runway incursion where avoiding action was necessary.

(ii) **Potential for collision or near collision (encompassing specific situations having the potential to be an accident or a near collision, if another aircraft is in the vicinity):**

(a) runway incursion where no avoiding action is necessary;

(b) runway excursion;

(c) aircraft deviation from ATC clearance;

(d) aircraft deviation from applicable air traffic management (ATM) regulation:

1. aircraft deviation from applicable published ATM procedures;

2. unauthorised penetration of airspace;

3. deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulation(s).

(iii) **ATM-specific occurrences (encompassing those situations where the ability to provide safe ATM services is affected, including situations where, by chance, the safe operation**

of aircraft has not been jeopardised). This shall include the following occurrences:

(a) inability to provide ATM services:

1. inability to provide air traffic services;

2. inability to provide airspace management services;

3. inability to provide air traffic flow management services; (b) failure of Communication function;

(c) failure of Surveillance function;

(d) failure of Data Processing and Distribution function;

(e) failure of Navigation function;

(f) ATM system security.

Appendix to Annex II

The following subparagraphs give examples of reportable ATM occurrences resulting from the application of the general criteria listed in paragraph (iii) of Annex II to aircraft operations.

1. Provision of significantly incorrect, inadequate or misleading information from any ground sources, e.g. air traffic control (ATC), automatic terminal information service (ATIS), meteorological services, navigation databases, maps, charts, manuals, etc.

2. Provision of less than prescribed terrain clearance.

3. Provision of incorrect pressure reference data (i.e. altimeter setting).

4. Incorrect transmission, receipt or interpretation of significant messages when this results in a hazardous situation.

5. Separation minima infringement.

6. Unauthorised penetration of airspace.

7. Unlawful radio communication transmission.

8. Failure of ANS ground or satellite facilities.

9. Major ATC/ATM failure or significant deterioration of aerodrome infrastructure.

10. Aerodrome movement areas obstructed by aircraft, vehicles, animals or foreign objects, resulting in a hazardous or potentially hazardous situation.

11. Errors or inadequacies in marking of obstructions or hazards on aerodrome movement

areas resulting in a hazardous situation.

12. Failure, significant malfunction or unavailability of airfield lighting.