

# Aeronautical Information Circular

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民航局

AUTORIDADE DE AVIAÇÃO CIVIL  
CIVIL AVIATION AUTHORITY

AERONAUTICAL INFORMATION SERVICE

AIC  
No. 03/11  
Date: 01 Nov 11

SUBJECT: **Rules Concerning Aeronautical Accidents and Incidents**

## 1. Introduction

1.1 This AIC defines the rules for reporting, investigation, preservation of evidence and disclosure of information related to aircraft accidents/incidents.

1.2 This AIC supersedes AIC A 03/08 dated 01 July 2008.

## 2. Definitions

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

- A person is fatally or seriously injured as a result of:
  - being in the aircraft, or
  - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
  - direct exposure to jet blast,

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

- The aircraft sustains damage or structural failure which:
  - adversely affects the structural strength, performance or flight characteristics of the aircraft, and
  - would normally require major repair or replacement of the affected component,

except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories) to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheel, fairings, panels, landing gear doors, windcreens, the aircraft skin (such as

small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or

- The aircraft is missing or is completely inaccessible.

*Note – An injury resulting in death within thirty days of the date of the accident is classified as a fatal injury.*

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

*Note – Guidance for the determination of aircraft damage can be found in Appendix 2.*

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

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

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

*Note – Examples of serious incidents can be found in Appendix 1.*

**Serious injury** - an injury which is sustained by a person in an accident and which:

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

### **3. Applicability**

- 3.1 This AIC is applicable to civil aircraft accidents or incidents occurred in Macao SAR or within the air space under Macao SAR jurisdiction.
- 3.2 This AIC is also applicable to accidents or incidents involving Macao registered aircraft or aircraft operated by a Macao operator occurred outside of Macao SAR, in case an investigation is not instituted by the State of Occurrence.

### **4. Report Responsibility**

- 4.1 Accidents and serious incidents shall be reported to AACM as soon as possible. For accidents, the report shall be made within 6 hours after the occurrence. For serious incident, the report shall be made within 12 hours after the occurrence.
- 4.2 For accidents or serious incidents occurred outside of Macao involving Macao registered aircraft or aircraft operated by a Macao operator, the relevant operator, owner or legal representative shall make a report to AACM within 12 hours.
- 4.3 Depending on the circumstances as stated in Paragraph 4.1 and 4.2, the reports shall be prepared by the:
  - Pilot in command;
  - Operator or owner;
  - Director of the airport/heliport;
  - Air Traffic Controller or air traffic service provider.
- 4.4 Reporting of occurrences other than those mentioned in 4.1 and 4.2, which involve a Macao SAR registered aircraft or aircraft operated by a Macao SAR operator or organisations providing a service/facility for aircraft operating in the Macao SAR or Macao SAR's ATZ, shall follow the Mandatory Occurrence Reporting (MOR) Scheme set forth in AACM Aeronautical Circular No. AC/GEN/003.

### **5. Content of the Report**

- 5.1 The report shall contain the following information, as applicable:
  - (a) For accidents the identifying abbreviation ACCID, for serious incidents INCID;
  - (b) Aircraft manufacturer, model, nationality and registration marks, and serial number;
  - (c) Name of owner, operator and hirer, if any, of the aircraft;
  - (d) Qualification of the pilot in command, and nationality of crew and passengers;

- (e) Date and time (local time or UTC) of the accident, incident;
- (f) Last point of departure and point of intended landing;
- (g) Position of the aircraft with reference to some easily defined geographical point, and latitude and longitude;
- (h) Number of crew and passengers; on board, killed and seriously injured; others, killed and serious injured;
- (i) Description of the accident or serious incident and the extent of damage to the aircraft so far as is known;
- (j) Actions taken by local authorities;
- (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) Presence and description of dangerous goods on board the aircraft;
- (m) Identification of the person or entity reporting.

## **6. Notification**

- 6.1 The report shall be forwarded with a minimum of delay and by the most suitable and quickest means available such as telephone, facsimile, or AFTN to the AACM.

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## **7. Investigation**

- 7.1 According to the Annex 13 to the Convention on International Civil Aviation, the State of Occurrence shall institute an investigation into the circumstances of an accident or serious incident. In Macao, the AACM is responsible for such investigation.
- 7.2 The sole objective of the investigation of an accident/incident shall be the prevention of accidents and incidents. It is not the purpose of this activity to apportion blame or liability.
- 7.3 An investigator-in-charge (IIC) shall be nominated by the President of AACM with the purpose of conducting the investigation in accordance with ICAO standards and recommended practices. The IIC shall have independent investigating authority and unhampered access to the wreckage and unrestricted control over it to ensure that a detailed examination can be made without delay by the authorised personnel participating in the investigation.
- 7.4 The AACM may also delegate the whole or any part of the investigation to the State of Registry or the State of the Operator or other States.

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

## **8. Investigator in Charge**

- 8.1 The IIC has the following privileges:
- (a) Decide tasks necessary for the investigation;
  - (b) Ensure the investigation is conducted in accordance with ICAO standards and recommended practices;
  - (c) Under cooperation with Judicial Authority, immediately preserve evidence and wreckage and collect all relevant materials for examination and analysis;
  - (d) Investigate all circumstances of the accident and incident, including those not directly related to the accident or incident but crucial to flight safety;
  - (e) When necessary, contact any authority or personnel in order to exchange information and request or accept assistance from any organizations or entities;
  - (f) Request judiciary authorities to provide autopsy reports for those flight crew members and passengers who died in the accident or died after, as a consequence of the accident, the results of examination to the bodies of aircraft operating personnel and casualties, and analysis to samples collected;
  - (g) Order personnel relevant to the accident to conduct alcohol or psychotropic drug testing;

- (h) Request judiciary authorities to provide information of persons who have been confirmed as witnesses by such authorities;
- (i) Request air traffic service provider to preserve communication and radar records, and request for transcripts;
- (j) Request Macao Meteorological and Geophysical Bureau to provide weather condition report and information at the time of the accident or incident;
- (k) Request relevant aviation entities to provide any information helpful to the investigation;
- (l) Without prejudice to judiciary investigation, request judiciary authorities or police to protect, supervise and secure the site, relevant aircraft, its contents and wreckage;
- (m) Request for various examination, including medical examination and necessary analysis, to relevant personnel and physical evidence;
- (n) Listen to statements from personnel involved in the accident or incident, or witness, and request them to testify;

8.2 The IIC has the power to enter the following places and obtain the following information:

- (a) Accident or incident site, the aircraft, its contents and parts thereof;
- (b) Any location helpful to the investigation;
- (c) Flight recorders or other content of records, and the readout and analysis of relevant information;
- (d) Autopsy report of aircraft operating personnel and casualties, examination results or results of examination to collected samples;
- (e) Any relevant information in possession of the aircraft owner, operator, maintenance organizations or manufacturer, and other entities responsible for civil aviation, including airports and air traffic service providers.

## **9. Retention of Data from CVR and FDR**

9.1 Following an accident or serious incident, the flight recorders, such as but not limited to the Cockpit Voice Recorder (CVR), the Flight Data Recorder (FDR) and the Airborne Image Recorder System (AIR), if located, must be secured. Power to recorders must be off and remains off until the recorder is removed to prevent erasure of recorded information. The recovery and handling of flight recorders will be assigned only to qualified personnel by the IIC. The AACM shall arrange for the readout of the flight recorders.

## **10. Preservation of Evidence**

- 10.1 Following an accident or serious incident, all reasonable measures must be taken 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 the investigation. Firefighters and police forces must act in order to guarantee that wreckage is properly secured and to avoid taking unnecessary steps that might alter or destroy evidences that could help explain the accident or serious incident. Safe custody shall include protection against further damage, access by unauthorised persons, pilfering and deterioration.
- 10.2 During the rescue operation, wreckage may only be handled or removed in order to:
- Remove injured or locked up persons or human remains;
  - Protect wreckage from further damage;
  - Protect person from injuries.
- 10.3 After the rescue operation, any handling or removal of wreckage must be authorised by the IIC. A complete record by means of photograph, film or video recording of the wreckage and accident/incident site must be conducted before removal is authorised by the IIC.
- 10.4 Any disturbance to the wreckage should be recorded. Objects removed should be marked and numbered. A stake should be placed in the original position of the object removed. The original positions of survivors, human remains and portions of moved wreckage must be recorded carefully.
- 10.5 The IIC can take necessary measures in order to protect the accident/incident site.
- 10.6 The owner or operator of an aircraft involved in the accident or serious incident must keep all records and reports pertaining to the aircraft and crew, including all internal documents and memoranda concerning the accident or serious incident, until the IIC allows its destruction.
- 10.7 Any entities in possession of evidence or information relevant to the investigation shall preserve relevant information and provide such information to the IIC upon request. All relevant organisations such as maintenance, air traffic control, communication, meteorology, aeronautical information, fuel and ticketing, etc, must seal and secure all relevant documentation, data, tools, equipment, facilities, communication record, voice recording, radar recording, etc., concerning the aircraft involved in the accident or serious incident.

## **11. Report by Flight Crew**

- 11.1 Flight crew involved in an accident or serious incident shall prepare a written report detailing the occurrence and include all the factual information, conditions and circumstances relevant to the accident or serious incident. If the flight crew is not able to prepare such report, the aircraft operator, owner or legal representative shall prepare such report.
- 11.2 The aforementioned report shall be submitted to AACM within 72 hours of the accident or serious incident.
- 11.3 In the case that a member of the flight crew is not physically or mentally fit to prepare the report, the report should be prepared when his/her physical or mental condition allow.

## **12. Formal Accident/Incident File**

- 12.1 A formal accident/incident file is required for all accidents/serious incidents occurred in Macao. The Airport Director is responsible for collecting the information and documentation contained in the formal accident file and forwarding it to the AACM IIC in a manner specified on paragraph 12.3 below. The Heliport Director also has the responsible to provide relevant information when requested by AACM.
- 12.2 A formal accident/incident file shall contain the following documentation:
- Daily record of control tower operation;
  - Personnel logs;
  - Flight progress strips;
  - Weather data;
  - Notice to airmen;
  - Flight plan;
  - Voice recording;
  - Radar data recording;
  - Personnel statements of relevant air traffic controller;
  - Others include any other materials deemed pertinent.
- 12.3 The Airport Director preparing the package shall retain the package with original documentation in the facility files. Original documents (recorded or written) shall not be released from the facility's custody without the permission of the AACM IIC. The



Airport Director shall certify all copies of original records included in the formal accident/incident file submitted to the AACM IIC. The certification may be accomplished by preparing a certified index listing each document or by certifying each document. In both cases, the following format should be used:

"I hereby certify that the following copies of records are true copies of originals which are on file in the Macau International Airport."

Signature  
Name  
Title

- 12.4 The formal accident file shall be submitted to AACM IIC within 7 calendar days of the accident/serious incident. Should corrections to the accident package become necessary, amendments should be submitted to the AACM IIC as soon as possible but within 3 calendar days. A memorandum from the Airport Director shall accompany any change(s) with a complete explanation of the change.

### **13. Disclosure of Information**

- 13.1 Entities involved in the investigation of an accident or incident, wherever it occurred, shall not make the following records available for purposes other than accident or incident investigation:
- (a) all statements taken from persons by the investigation team in the course of their investigation;
  - (b) all communications between persons having been involved in the operation of the aircraft;
  - (c) medical or private information regarding persons involved in the accident or incident;
  - (d) cockpit voice recordings and transcripts from such recordings;
  - (e) recordings and transcriptions of recordings from air traffic control units;
  - (f) cockpit airborne image recordings and any part or transcripts from such recordings; and
  - (g) opinions expressed in the analysis of information, including flight recorder information.
- 13.2 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.

13.3 The final report must not contain any personal information in regard to persons involved in the accident or incident. The Civil Aviation Authority, any person or entity shall not disclose to the public the names of persons involved in the accident or incident under any circumstances.

**14. Cost for Removal and Disposal of Aircraft or its Wreckage**

14.1 The cost for removal and disposal of the aircraft, its content or wreckage shall be borne by the operator or owner of the aircraft.

14.2 If the Government needs to bear the abovementioned cost because the operator or owner refuses to do so, the operator or owner must repay the cost to Government within 90 days upon receipt of relevant notification.

- END -

# Appendix 1

## *List of Examples of Serious Incidents*

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

- Near collisions requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate.
- Controlled flight into terrain only marginally avoided.
- Aborted take-offs on a closed or engaged runway, on a taxiway\* or unassigned runway.
- Take-offs from a closed or engaged runway, from a taxiway\* or unassigned runway.
- Landings or attempted landings on a closed or engaged runway, on a taxiway\* or unassigned runway.

*\*Note : Excluding authorized operations by helicopters.*

- Gross failures to achieve predicted performance during take-off or initial climb.
- 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.
- Events requiring the emergency use of oxygen by the flight crew.
- Aircraft structural failures or engine disintegrations, including uncontained turbine engine failures, not classified as an accident.
- Multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft.
- Flight crew incapacitation in flight.
- Fuel quantity requiring the declaration of an emergency by the pilot.
- Runway incursions classified with severity A. The *Manual on the Prevention of Runway Incursions* (Doc 9870) contains information on the severity classifications.
- Take-off or landing incidents. Incidents such as under-shooting, overrunning or running off the side of runways.
- System failures, weather phenomena, operations outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft.

# Appendix 1

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

- END –

# Appendix 2

## **Guidance for the Determination of Aircraft Damage**

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

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

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

*Note 3.— The cost of repairs, or estimated loss, such as provided by insurance companies may provide an indication of the damage sustained but should not be used as the sole guide as to whether the damage is sufficient to count the occurrence as an accident. Likewise, an aircraft may*

## Appendix 2

*be considered a “hull loss” because it is uneconomic to repair, without it having incurred sufficient damage to be classified as an accident.*

- END -