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Maldivian Civil Aviation Regulations
MCAR-13B Occurrence Reporting

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Maldives Civil Aviation Authority
Republic of Maldives

Maldivian Civil Aviation Regulations

MCAR-13B Occurrence Reporting

Issue 1.00, 30 September 2020

Foreword

Maldives Civil Aviation Authority, in exercise of the powers conferred on it under Articles 5 and 6 of the Maldives Civil Aviation Authority Act 2/2012 has adopted this Regulation.

This Regulation shall be cited as 'MCAR-13B Occurrence Reporting' and shall come in to force on 30 September 2020.

Definitions of the terms and abbreviations used in this regulation, unless the context requires otherwise, are in MCAR-1 Definitions and Abbreviations.

Existing requirements as listed in Chapter 8 and Section 2 of MCAR-12 Aircraft Accidents, Incidents and Statistics, Version 1, Amendment 1 dated 26 May 2009 will be repealed as from 30 September 2020.

'Acceptable Means of Compliance' (AMC) illustrate a means, or several alternative means, but not necessarily the only possible means by which a requirement can be met.

'Guidance Material' (GM) helps to illustrate the meaning of a requirement.

List of Amendments

Rev #	Date	Remarks
Issue 1.00	2020-09-30	Initial issue

List of Effective Pages

Section	Part	Page	Issue	Date
	Foreword	ii	Issue 1.00	30 Sep 20
	List of Amendments	iii	Issue 1.00	30 Sep 20
	List of Effective Pages	iv-v	Issue 1.00	30 Sep 20
	Table of Contents	vi	Issue 1.00	30 Sep 20
A	Technical Requirements	1-11	Issue 1.00	30 Sep 20
	Appendix 1	12-14	Issue 1.00	30 Sep 20
	Appendix 2	15-20	Issue 1.00	30 Sep 20
	Appendix 3	21-22	Issue 1.00	30 Sep 20
	Appendix 4	23-25	Issue 1.00	30 Sep 20
	Appendix 5	26-29	Issue 1.00	30 Sep 20
	Appendix 6	30-34	Issue 1.00	30 Sep 20
B	Procedure for CAA	35-36	Issue 1.00	30 Sep 20

Section	Part	Page	Issue	Date

Table of Contents

Section A — TECHNICAL REQUIREMENTS

MCAR-13B.A.01 Objectives

(a) This Regulation aims to improve aviation safety by ensuring that relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated and analysed.

This Regulation ensures:

1. that, where appropriate, safety action is taken in a timely manner based on analysis of the information collected;

2. the continued availability of safety information by introducing rules on confidentiality and on the appropriate use of information and through the harmonised and enhanced protection of reporters and persons mentioned in occurrence reports; and

3. that aviation safety risks are considered and dealt with at both organisation level and national level.

(b) The sole objective of occurrence reporting is the prevention of accidents and incidents and not to attribute blame or liability.

MCAR-13B.A.02 Definitions

For the purposes of this Regulation, the following definitions shall apply:

(a) 'reporter' means a natural person who reports an occurrence or other safety-related information pursuant to this Regulation;

(b) 'disidentified information' means information arising from occurrence reports from which all personal data such as names or addresses of natural persons have been removed;

(c) 'occurrence' means any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident;

(d) 'organisation' means any organisation providing aviation products and/or which employs, contracts or uses the services of persons required to report occurrences in accordance with 13B.A.04(f);

(e) 'anonymisation' means the removal from occurrence reports of all personal details relating to the reporter and to the persons mentioned in occurrence reports and any details, including the name of the organisation(s) involved in the occurrence, which may reveal the identity of the reporter or of a third party or lead to that information being inferred from the occurrence report;

(f) 'hazard' means a situation or an object with the potential to cause death or injury to a person, damage to equipment or a structure, loss of material, or a reduction of ability to perform a prescribed function;

(g) (reserved);

(h) 'just culture' means a culture in which front-line operators or other persons are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but in which gross negligence, wilful violations and destructive acts are not tolerated;

(i) (reserved);

(j) 'interested party' means any natural or legal person or any official body, whether or not having its own legal personality, that is in a position to participate in the improvement of aviation safety by having access to information on occurrences;

(k) 'State Safety Programme' means an integrated set of legal acts and activities aimed at managing civil aviation safety in a State;

(l) (reserved);

(m) (reserved);

(n) 'safety management system' means a systematic approach to managing aviation safety including the necessary organisational structures, accountabilities, policies and procedures, and includes any management system that, independently or integrated with other management systems of the organisation, addresses the management of safety.

MCAR-13B.A.03 Subject matter and scope

(a) This Regulation lays down rules on:

1. the reporting of occurrences which endanger or which, if not corrected or addressed, would endanger an aircraft, its occupants, any other person, equipment or installation affecting aircraft operations; and the reporting of other relevant safety-related information in that context;

2. analysis and follow-up action in respect of reported occurrences and other safety-related information;

3. the protection of aviation professionals;

4. appropriate use of collected safety information;

5. the integration of information into a Central Repository; and

6. the dissemination of anonymised information to interested parties for the purpose of providing such parties with the information they need in order to improve aviation safety.

(b) This Regulation applies to occurrences and other safety-related information involving civil aircraft.

MCAR-13B.A.04 Mandatory reporting

(a) Occurrences which may represent a significant risk to aviation safety and which fall into the following categories shall be reported by the persons listed in paragraph (f) through the mandatory occurrence reporting systems pursuant to this point:

1. occurrences related to the operation of the aircraft, such as:
   i. collision-related occurrences;
   ii. take-off and landing-related occurrences;
   iii. fuel-related occurrences;
   iv. in-flight occurrences;
   v. communication-related occurrences;
   vi. occurrences related to injury, emergencies and other critical situations;
   vii. crew incapacitation and other crew-related occurrences;
   viii. meteorological conditions or security-related occurrences;

2. occurrences related to technical conditions, maintenance and repair of aircraft, such as:
   i. structural defects;
   ii. system malfunctions;
   iii. maintenance and repair problems;
   iv. propulsion problems (including engines, propellers and rotor systems) and auxiliary power unit problems;

3. occurrences related to air navigation services and facilities, such as:
   i. collisions, near collisions or potential for collisions;
   ii. specific occurrences of air traffic management and air navigation services (ATM/ANS);
   iii. ATM/ANS operational occurrences;

4. occurrences related to aerodromes and ground services, such as:
   i. occurrences related to aerodrome activities and facilities;
   ii. occurrences related to handling of passengers, baggage, mail and cargo;
   iii. occurrences related to aircraft ground handling and related services.

(b) Each organisation which is certified or approved by the CAA shall establish a mandatory reporting system to facilitate the collection of details of occurrences referred to in paragraph (a).

(c) (reserved).

(d) (reserved).

(e) The detailed list of the occurrences to be referred to when reporting occurrences pursuant to paragraph (a) is set out in Appendices 2 to 6 to this Regulation.

(f) The following natural persons shall report the occurrences referred to in paragraph (a) through the system established in accordance with paragraph (b) by the organisation which employs, contracts or uses the services of the reporter or, failing that, through the mandatory reporting system established by the CAA:

1. the pilot in command, or, in cases where the pilot in command is unable to report the occurrence, any other crew member next in the chain of command of an aircraft registered in the Maldives or an aircraft registered outside the Maldives but used by an operator established in the Maldives;

2. a person engaged in designing, manufacturing, continuous airworthiness monitoring, maintaining or modifying an aircraft, or any equipment or part thereof, under the oversight of the CAA;

3. a person who signs an airworthiness review certificate, or a release to service in respect of an aircraft or any equipment or part thereof, under the oversight of the CAA;

4. a person who performs a function which requires him or her to be authorised by the CAA as a staff member of an air traffic service provider entrusted with responsibilities related to air navigation services or as a flight information service officer;

5. a person who performs a function connected with the safety management of an airport;

6. a person who performs a function connected with the installation, modification, maintenance, repair, overhaul, flight-checking or inspection of air navigation facilities for which the CAA ensures the oversight;

7. a person who performs a function connected with the ground handling of aircraft, including fuelling, loadsheet preparation, loading, de-icing and towing at an airport.

(g) The persons listed in paragraph (f) shall report occurrences within 72 hours of becoming aware of the occurrence, unless exceptional circumstances prevent this.

(h) Following notification of an occurrence, any organisation established in the Maldives which is not covered by paragraph (i), shall report to the CAA, the details of occurrences

collected in accordance with paragraph (b) of this point as soon as possible, and in any event no later than 72 hours after becoming aware of the occurrence.

(i) Following notification of an occurrence, each organisation which is certified or approved by the CAA shall report to the CAA the details of occurrences collected in accordance with paragraph (b) as soon as possible, and in any event no later than 72 hours after becoming aware of the occurrence.

MCAR-13B.A.05 Voluntary reporting

(a) Each organisation which is certified or approved by the CAA shall establish a voluntary reporting system to facilitate the collection of:

1. details of occurrences that may not be captured by the mandatory reporting system;

2. other safety-related information which is perceived by the reporter as an actual or potential hazard to aviation safety.

(b) (reserved):

(c) (reserved):

(d) The voluntary reporting systems shall be used to facilitate the collection of details of occurrences and safety-related information:

1. not subject to mandatory reporting pursuant to 13B.A.04(a);

2. reported by persons who are not listed in 13B.A.04(f).

(e) Each organisation certified or approved by the CAA shall report to the CAA, in a timely manner, details of occurrences and safety-related information which have been collected pursuant to paragraph (a) and which may involve an actual or potential aviation safety risk.

(f) (reserved).

(g) Organisations may establish other safety information collection and processing systems to collect details of occurrences that might not be captured by the reporting systems referred to in 13B.A.04 and in paragraphs (a) of this point. Those systems may include reporting to entities other than the CAA and may involve the active participation of:

1. the aviation industry;

2. professional organisations of aviation staff.

(h) Information received from voluntary and mandatory reporting may be integrated into a single system.

MCAR-13B.A.06 Collection and storage of information

(a) Each organisation shall designate one or more persons to handle independently the collection, evaluation, processing, analysis and storage of details of occurrences reported pursuant to 13B.A.04 and 13B.A.05.

The handling of the reports shall be done with a view to preventing the use of information for purposes other than safety, and shall appropriately safeguard the confidentiality of the identity of the reporter and of the persons mentioned in occurrence reports, with a view to promoting a 'just culture'.

(b) By agreement with the CAA, small organisations may put in place a simplified mechanism for the collection, evaluation, processing, analysis and storage of details of occurrences. They may share those tasks with organisations of the same nature, while complying with the rules on confidentiality and protection pursuant to this Regulation.

(c) (reserved).

(d) (reserved).

(e) Organisations shall store occurrence reports drawn up on the basis of details of occurrences collected in accordance with 13B.A.04 and 13B.A.05 in one or more databases.

MCAR-13B.A.07 Quality and content of occurrence reports

(a) Occurrence reports referred to in 13B.A.06 shall contain at least the information listed in Appendix 1.

(b) Occurrence reports referred to in 13B.A.06(e) shall include a safety risk classification for the occurrence concerned. That classification may be reviewed and if necessary amended by the CAA in accordance with the Aviation Risk Management Solutions (ARMS) event risk classification (ERC) scheme.

(c) Organisations shall establish data quality checking processes to improve data consistency, notably between the information collected initially and the report stored in the database.

(d) The databases referred to in paragraph 13B.A.06(e) shall use formats which are:

1. standardised to facilitate information exchange; and

2. compatible with the ECCAIRS software and the ADREP taxonomy.

MCAR-13B.A.08 Central Repository

The Central Repository is a database managed by the CAA to store all occurrence reports collected in accordance with 13B.A.04 and 13B.A.05.

MCAR-13B.A.13 Occurrence analysis and follow-up

(a) Each organisation established in the Maldives shall develop a process to analyse occurrences collected in accordance with 13B.A.04(b) and 13B.A.05(a) in order to identify the safety hazards associated with identified occurrences or groups of occurrences.

Based on that analysis, each organisation shall determine any appropriate corrective or preventive action, required to improve aviation safety.

(b) When, following the analysis referred to in paragraph (a), an organisation identifies any appropriate corrective or preventive action required to address actual or potential aviation safety deficiencies, it shall:

1. implement that action in a timely manner; and

2. establish a process to monitor the implementation and effectiveness of the action.

(c) Each organisation shall regularly provide its employees and contracted personnel with information concerning the analysis of, and follow-up on, occurrences for which preventive or corrective action is taken.

(d) Where an organisation established in the Maldives which is not covered by paragraph (e) identifies an actual or potential aviation safety risk as a result of its analysis of occurrences or group of occurrences reported pursuant to 13B.A.04(h), it shall transmit to the CAA, within 30 days from the date of notification of the occurrence by the reporter:

1. the preliminary results of the analysis performed pursuant to paragraph (a), if any; and

2. any action to be taken pursuant to paragraph (b).

The organisation shall report the final results of the analysis, where required, as soon as they are available and, in principle, no later than three months from the date of notification of the occurrence.

The CAA may request organisations to transmit to it the preliminary or final results of the analysis of any occurrence of which it has been notified but in relation to which it has received no follow-up or only the preliminary results.

(e) Where an organisation certified or approved by the CAA identifies an actual or potential aviation safety risk as a result of its analysis of occurrences or group of occurrences

reported pursuant to 13B.A.04(i) and 13B.A.05(e), it shall transmit to the CAA, within 30 days from the date of notification of the occurrence by the reporter:

1. the preliminary results of the analysis performed pursuant to paragraph (a), if any; and

2. any action to be taken pursuant to paragraph (b).

The organisation certified or approved by the CAA shall transmit to the CAA the final results of the analysis, where required, as soon as they are available and, in principle, no later than three months from the date of notification of the occurrence.

The CAA may request organisations to transmit to it the preliminary or final results of the analysis of any occurrence of which it has been notified but in relation to which it has received no follow-up or only the preliminary results.

(f) (reserved).

(g) (reserved).

(h) For each occurrence or group of occurrences monitored in accordance with paragraph (d) or (e), the CAA shall have access to the analysis made and may monitor action taken by the organisations.

If the CAA concludes that the implementation and the effectiveness of the reported action is inappropriate to address actual or potential safety deficiencies, it may require that additional appropriate action is taken and implemented by the relevant organisation.

(i) Where available, information relating to the analysis and the follow-up of individual occurrences or groups of occurrences obtained pursuant to this point shall be stored in the Central Repository.

(j) The CAA may use information obtained from the analysis of occurrence reports to identify remedial action to be taken, if any, within the State Safety Programme.

(k) In order to inform the public of the level of safety in civil aviation, the CAA may publish a safety review at least once a year. The safety review may:

1. contain aggregated and anonymised information on the type of occurrences and safety-related information reported through its national mandatory and voluntary reporting systems;

2. identify trends;

3. identify the action it has taken.

(l) The CAA may also publish anonymised occurrence reports and risk analysis outcomes.

MCAR-13B.A.14 (Reserved)

MCAR-13B.A.15 Confidentiality and appropriate use of information

(a) The CAA and organisations, in accordance with national law, shall take the necessary measures to ensure the appropriate confidentiality of the details of occurrences received by them pursuant to 13B.A.04 and 13B.A.05.

Each organisation, or the CAA shall process personal data only to the extent necessary for the purposes of this Regulation and without prejudice to national law.

(b) Without prejudice to the provisions relating to the protection of safety information under national law, information derived from occurrence reports shall be used only for the purpose for which it has been collected.

The CAA and organisations shall not make available or use the information on occurrences:

1. in order to attribute blame or liability; or

2. for any purpose other than the maintenance or improvement of aviation safety.

MCAR-13B.A.16. Protection of the information source

(a) For the purposes of this point, 'personal details' includes in particular names or addresses of natural persons.

(b) Each organisation shall ensure that all personal details are made available to staff of that organisation other than persons designated in accordance with 13B.A.06(a) only where absolutely necessary in order to investigate occurrences with a view to enhancing aviation safety.

Disidentified information shall be disseminated within the organisation as appropriate.

(c) The CAA shall ensure that no personal details are ever recorded in the Central Repository referred to in 13B.A.08. Such disidentified information may be made available to all relevant parties, for example to allow them to discharge their obligations in relation to aviation safety improvement.

(d) (reserved).

(e) The CAA shall not be prevented from taking any action necessary for maintaining or improving aviation safety.

(f) Without prejudice to applicable national criminal law, the CAA shall refrain from instituting criminal proceedings in respect of unpremeditated or inadvertent infringements of the law which come to their attention only because they have been reported pursuant to 13B.A.04 and 13B.A.05.

The first subparagraph shall not apply in the cases referred to in paragraph (j).

(g) If disciplinary or administrative proceedings are instituted, information contained in occurrence reports shall not be used against:

1. the reporters; or
2. the persons mentioned in occurrence reports.

The first subparagraph shall not apply in the cases referred to in paragraph (j).

(h) (reserved).

(i) Except where paragraph (j) applies, employees and contracted personnel who report or are mentioned in occurrence reports collected in accordance with 13B.A.04 and 13B.A.05 shall not be subject to any prejudice by their employer or by the organisation for which the services are provided on the basis of the information supplied by the reporter.

(j) The protection under paragraphs (f), (g) and (i) of this point shall not apply to any of the following situations:

1. in cases of wilful misconduct;

2. where there has been a manifest, severe and serious disregard of an obvious risk and profound failure of professional responsibility to take such care as is evidently required in the circumstances, causing foreseeable damage to a person or property, or which seriously compromises the level of aviation safety.

(k) Each organisation shall, after consulting its staff representatives, adopt internal rules describing how 'just culture' principles, in particular the principle referred to in paragraph (i), are guaranteed and implemented within that organisation.

(l) Employees and contracted personnel may report to the CAA alleged infringements of the rules established by this point. Employees and contracted personnel shall not be penalised for reporting alleged infringements.

Appendix 1 – LIST OF REQUIREMENTS APPLICABLE TO THE MANDATORY AND VOLUNTARY OCCURRENCE REPORTING SCHEMES

Note: The data fields must be completed with the information requested. If it is not possible for the CAA to include that information because it has not been provided by the organisation or the reporter, the data field may be completed with the value 'unknown'. However, with a view to ensuring that the appropriate information is transmitted, use of that 'unknown' value should, to the best extent possible, be avoided, and the report should, where possible, be completed with the information later.

When entering, in their databases, information on every occurrence mandatorily reported and, to the best extent possible, every occurrence voluntarily reported, organisations must ensure that occurrence reports recorded in their databases contain at least the following information:

A. COMMON MANDATORY DATA FIELDS

1. Headline

2. Filing Information
   — Responsible Entity
   — File Number
   — Occurrence Status

3. When
   — UTC Date

4. Where
   — State/Area of Occurrence
   — Location of Occurrence

5. Classification
   — Occurrence Class
   — Occurrence Category

6. Narrative

7. Events
   — Event Type

8. Risk classification

B. SPECIFIC MANDATORY DATA FIELDS

1.1 Aircraft-related data fields

1. Aircraft Identification
   — State of Registry

- Make/Model/Series
- Aircraft serial number
- Aircraft Registration
- Call sign

2. Aircraft Operation
   - Operator
   - Type of operation

3. Aircraft Description
   - Aircraft Category
   - Propulsion Type
   - Mass Group

4. History of Flight
   - Last Departure Point
   - Planned Destination
   - Flight Phase

5. Weather
   - Weather relevant

1.2 Data fields relating to air navigation services

1. ATM relation
   - ATM contribution
   - Service affected (effect on ATM service)

2. ATS Unit Name

1.2.1 Separation Minima Infringement/Loss of Separation and Airspace Infringement-related data fields

1. Airspace
   - Airspace type
   - Airspace class
   - FIR/UIR name

1.3 Aerodrome-related data fields

1. Location Indicator (ICAO indicator of the airport)

2. Location on the aerodrome

1.4 Aircraft damage or personal injury-related data fields

1. Severity
   - Highest Damage
   - Injury Level

2. Injuries to persons
   - Number of injuries on ground (fatal, serious, minor)
   - Number of injuries on aircraft (fatal, serious, minor)

Appendix 2 – OCCURRENCES RELATED TO THE OPERATION OF THE AIRCRAFT

Remark: This Appendix is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

1. Air Operations

1.1 Flight preparation

(a) Use of incorrect data or erroneous entries into equipment used for navigation or performance calculations which has or could have endangered the aircraft, its occupants or any other person.

(b) Carriage or attempted carriage of dangerous goods in contravention of applicable legislations including incorrect labelling, packaging and handling of dangerous goods.

1.2. Aircraft preparation

(a) Incorrect fuel type or contaminated fuel.

(b) Missing, incorrect or inadequate De-icing/Anti-icing treatment.

1.3. Take-off and landing

(a) Taxiway or runway excursion.

(b) Actual or potential taxiway or runway incursion.

(c) Final Approach and Take-off Area (FATO) incursion.

(d) Any rejected take-off.

(e) Inability to achieve required or expected performance during take-off, go-around or landing.

(f) Actual or attempted take-off, approach or landing with incorrect configuration setting.

(g) Tail, blade/wingtip or nacelle strike during take-off or landing.

(h) Approach continued against air operator stabilised approach criteria.

(i) Continuation of an instrument approach below published minimums with inadequate visual references.

(j) Precautionary or forced landing.

(k) Short and long landing.

(l) Hard landing.

1.4 Any phase of flight

(a) Loss of control.

(b) Aircraft upset, exceeding normal pitch attitude, bank angle or airspeed inappropriate for the conditions.

(c) Level bust.

(d) Activation of any flight envelope protection, including stall warning, stick shaker, stick pusher and automatic protections.

(e) Unintentional deviation from intended or assigned track of the lowest of twice the required navigation performance or 10 nautical miles.

(f) Exceedance of aircraft flight manual limitation.

(g) Operation with incorrect altimeter setting.

(h) Jet blast or rotor and prop wash occurrences which have or could have endangered the aircraft, its occupants or any other person.

(i) Misinterpretation of automation mode or of any flight deck information provided to the flight crew which has or could have endangered the aircraft, its occupants or any other person.

1.5. Other types of occurrences

(a) Unintentional release of cargo or other externally carried equipment.

(b) Loss of situational awareness (including environmental, mode and system awareness, spatial disorientation, and time horizon).

(c) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

2. Technical Occurrences

2.1 Structure and systems

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

(b) Loss of a system.

(c) Loss of redundancy of a system.

(d) Leakage of any fluid which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or which has or could have endangered the aircraft, its occupants or any other person.

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

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

(g) Abnormal functioning of flight controls such as asymmetric or stuck/jammed flight controls (for example: lift (flaps/slats), drag (spoilers), attitude control (ailerons, elevators, rudder) devices).

2.2 Propulsion (including engines, propellers and rotor systems) and auxiliary power units (APUs)

(a) Failure or significant malfunction of any part or controlling of a propeller, rotor or powerplant.

(b) Damage to or failure of main/tail rotor or transmission and/or equivalent systems.

(c) Flameout, in-flight shutdown of any engine or APU when required (for example: ETOPS (Extended range Twin engine aircraft Operations), MEL (Minimum Equipment List)).

(d) Engine operating limitation exceedance, including overspeed or inability to control the speed of any high-speed rotating component (for example: APU, air starter, air cycle machine, air turbine motor, propeller or rotor).

(e) Failure or malfunction of any part of an engine, powerplant, APU or transmission resulting in any one or more of the following:

i. thrust-reversing system failing to operate as commanded;
ii. inability to control power, thrust or rpm (revolutions per minute);
iii. non-containment of components/debris.

3. Interaction with Air Navigation Services (ANS) & Air Traffic Management (ATM)

(a) Unsafe ATC (Air Traffic Control) clearance.

(b) Prolonged loss of communication with ATS (Air Traffic Service) or ATM Unit.

(c) Conflicting instructions from different ATS Units potentially leading to a loss of separation.

(d) Misinterpretation of radio-communication which has or could have endangered the aircraft, its occupants or any other person.

(e) Intentional deviation from ATC instruction which has or could have endangered the aircraft, its occupants or any other person.

4. Emergencies and Other Critical Situations

(a) Any event leading to the declaration of an emergency ('Mayday' or 'PAN call').

(b) Any burning, melting, smoke, fumes, arcing, overheating, fire or explosion.

(c) Contaminated air in the cockpit or in the passenger compartment which has or could have endangered the aircraft, its occupants or any other person.

(d) Failure to apply the correct non-normal or emergency procedure by the flight or cabin crew to deal with an emergency.

(e) Use of any emergency equipment or non-normal procedure affecting in-flight or landing performance.

(f) Failure of any emergency or rescue system or equipment which has or could have endangered the aircraft, its occupants or any other person.

(g) Uncontrollable cabin pressure.

(h) Critically low fuel quantity or fuel quantity at destination below required final reserve fuel.

(i) Any use of crew oxygen system by the crew.

(j) Incapacitation of any member of the flight or cabin crew that results in the reduction below the minimum certified crew complement.

(k) Crew fatigue impacting or potentially impacting their ability to perform safely their flight duties.

5. External Environment and Meteorology

(a) A collision or a near collision on the ground or in the air, with another aircraft, terrain or obstacle[1].

(b) ACAS RA (Airborne Collision Avoidance System, Resolution Advisory).

(c) Activation of genuine ground collision system such as GPWS (Ground Proximity Warning System)/TAWS (Terrain Awareness and Warning System) 'warning'.

(d) Wildlife strike including bird strike.

(e) Foreign object damage/debris (FOD).

(f) Unexpected encounter of poor runway surface conditions.

(g) Wake-turbulence encounters.

(h) Interference with the aircraft by firearms, fireworks, flying kites, laser illumination, high powered lights, lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(i) A lightning strike which resulted in damage to the aircraft or loss or malfunction of any aircraft system.

(j) A hail encounter which resulted in damage to the aircraft or loss or malfunction of any aircraft system.

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

(l) A significant wind shear or thunderstorm encounter which has or could have endangered the aircraft, its occupants or any other person.

(m) Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any aircraft system.

(n) Volcanic ash encounter.

6. Security

(a) Bomb threat or hijack.

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

[1] Obstacle includes vehicle.

(c) Discovery of a stowaway.

Appendix 3 – OCCURRENCES RELATED TO TECHNICAL CONDITIONS, MAINTENANCE AND REPAIR OF THE AIRCRAFT

1. Manufacturing

Products, parts or appliances released from the production organisation with deviations from applicable design data that could lead to a potential unsafe condition as identified with the holder of the type-certificate or design approval.

2. Design

Any failure, malfunction, defect or other occurrence related to a product, part, or appliance which has resulted in or may result in an unsafe condition.

Remark: This list is applicable to occurrences occurring on a product, part, or appliance covered by the type-certificate, restricted type-certificate, supplemental type-certificate, ETSO authorisation, major repair design approval or any other relevant approval deemed to have been issued under MCAR-21.

3. Maintenance and Continuing Airworthiness Management

(a) Serious structural damage (for example: cracks, permanent deformation, delamination, debonding, burning, excessive wear, or corrosion) found during maintenance of the aircraft or component.

(b) Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other fluids).

(c) Failure or malfunction of any part of an engine or powerplant and/or transmission resulting in any one or more of the following:
   i. non-containment of components/debris;
   ii. failure of the engine mount structure.

(d) Damage, failure or defect of propeller, which could lead to in-flight separation of the propeller or any major portion of the propeller and/or malfunctions of the propeller control.

(e) Damage, failure 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.

(f) Significant malfunction of a safety-critical system or equipment including emergency system or equipment during maintenance testing or failure to activate these systems after maintenance.

(g) Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.

(h) Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.

(i) Serious damage to Electrical Wiring Interconnection System (EWIS).

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

(k) The use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.

(l) Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.

(m) Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.

(n) Releasing an aircraft to service from maintenance in case of any non-compliance which endangers the flight safety.

(o) Serious damage caused to an aircraft during maintenance activities due to incorrect maintenance or use of inappropriate or unserviceable ground support equipment that requires additional maintenance actions.

(p) Identified burning, melting, smoke, arcing, overheating or fire occurrences.

(q) Any occurrence where the human performance, including fatigue of personnel, has directly contributed to or could have contributed to an accident or a serious incident.

(r) Significant malfunction, reliability issue, or recurrent recording quality issue affecting a flight recorder system (such as a flight data recorder system, a data link recording system or a cockpit voice recorder system) or lack of information needed to ensure the serviceability of a flight recorder system.

Appendix 4 – OCCURRENCES RELATED TO AIR NAVIGATION SERVICES AND FACILITIES

Remark: This Appendix is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences.

However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

1. Aircraft-Related Occurrences

(a) A collision or a near collision on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle[2], including near-controlled flight into terrain (near CFIT).

(b) Separation minima infringement[3].

(c) Inadequate separation[4].

(d) ACAS RAs.

(e) Wildlife strike including bird strike.

(f) Taxiway or runway excursion.

(g) Actual or potential taxiway or runway incursion.

(h) Final Approach and Take-off Area (FATO) incursion.

(i) Aircraft deviation from ATC clearance.

(j) Aircraft deviation from applicable air traffic management (ATM) regulation:
   i. aircraft deviation from applicable published ATM procedures;
   ii. airspace infringement including unauthorised penetration of airspace;
   iii. deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulations.

(k) Call sign confusion related occurrences.

[2] Obstacle includes vehicle.
[3] This refers to a situation in which prescribed separation minima were not maintained between aircraft or between aircraft and airspace to which separation minima is prescribed.
[4] In the absence of prescribed separation minima, a situation in which aircraft were perceived to pass too close to each other for pilots to ensure safe separation.

2. Degradation or Total Loss of Services or Functions

(a) Inability to provide ATM services or to execute ATM functions:
   i. inability to provide air traffic services or to execute air traffic services functions;
   ii. inability to provide airspace management services or to execute airspace management functions;
   iii. inability to provide air traffic flow management and capacity services or to execute air traffic flow management and capacity functions.

(b) Missing or significantly incorrect, corrupted, inadequate or misleading information from any support service[5], including relating to poor runway surface conditions.

(c) Failure of communication service.

(d) Failure of surveillance service.

(e) Failure of data processing and distribution function or service.

(f) Failure of navigation service.

(g) Failure of ATM system security which had or could have a direct negative impact on the safe provision of service.

(h) Significant ATS sector/position overload leading to a potential deterioration in service provision.

(i) Incorrect receipt or interpretation of significant communications, including lack of understanding of the language used, when this had or could have a direct negative impact on the safe provision of service.

(j) Prolonged loss of communication with an aircraft or with other ATS unit.

3. Other Occurrences

(a) Declaration of an emergency ('Mayday' or 'PAN' call).

(b) Significant external interference with Air Navigation Services (for example radio broadcast stations transmitting in the FM band, interfering with ILS (instrument landing system), VOR (VHF Omni Directional Radio Range) and communication).

[5] For example: air traffic service (ATS), automatic terminal information service (ATIS), meteorological services, navigation databases, maps, charts, aeronautical information service (AIS), manuals.

(c) Interference with an aircraft, an ATS unit or a radio communication transmission including by firearms, fireworks, flying kites, laser illumination, high-powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(d) Fuel dumping.

(e) Bomb threat or hijack.

(f) Fatigue impacting or potentially impacting the ability to perform safely the air navigation or air traffic duties.

(g) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

Appendix 5 – OCCURRENCES RELATED TO AERODROMES AND GROUND SERVICES

Remark: This Appendix is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

1. Safety Management of an Aerodrome

1.1 Aircraft- and obstacle-related occurrences

(a) A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle[6].

(b) Wildlife strike including bird strike.

(c) Taxiway or runway excursion.

(d) Actual or potential taxiway or runway incursion.

(e) Final Approach and Take-off Area (FATO) incursion or excursion.

(f) Aircraft or vehicle failure to follow clearance, instruction or restriction while operating on the movement area of an aerodrome (for example: wrong runway, taxiway or restricted part of an aerodrome).

(g) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.

(h) Presence of obstacles on the aerodrome or in the vicinity of the aerodrome which are not published in the AIP (Aeronautical Information Publication) or by NOTAM (Notice to Airmen) and/or that are not marked or lighted properly.

(i) Push-back, power-back or taxi interference by vehicle, equipment or person.

(j) Passengers or unauthorised person left unsupervised on apron.

(k) Jet blast, rotor down wash or propeller blast effect.

(l) Declaration of an emergency ('Mayday' or 'PAN' call).

1.2 Degradation or total loss of services or functions

(a) Loss or failure of communication between:

[6] Obstacle includes vehicle.

i. aerodrome, vehicle or other ground personnel and air traffic services unit or apron management service unit;
ii. apron management service unit and aircraft, vehicle or air traffic services unit.

(b) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.

(c) Significant deficiencies in aerodrome lighting, marking or signs.

(d) Failure of the aerodrome emergency alerting system.

(e) Rescue and firefighting services not available according to applicable requirements.

1.3 Other occurrences

(a) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.

(b) Aerodrome security related occurrences (for example: unlawful entry, sabotage, bomb threat).

(c) Absence of reporting of a significant change in aerodrome operating conditions which has or could have endangered the aircraft, its occupants or any other person.

(d) Missing, incorrect or inadequate de-icing/anti-icing treatment.

(e) Significant spillage during fuelling operations.

(f) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).

(g) Failure to handle poor runway surface conditions.

(h) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

2. Ground Handling of an Aircraft

2.1 Aircraft- and aerodrome-related occurrences

(a) A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle[7].

[7] Obstacle includes vehicle.

(b) Runway or taxiway incursion.

(c) Runway or taxiway excursion.

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

(e) Push-back, power-back or taxi interference by vehicle, equipment or person.

(f) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.

(g) Passengers or unauthorised person left unsupervised on apron.

(h) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.

(i) Aerodrome security-related occurrences (for example: unlawful entry, sabotage, bomb threat).

2.2 Degradation or total loss of services or functions

(a) Loss or failure of communication with aircraft, vehicle, air traffic services unit or apron management service unit.

(b) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.

(c) Significant deficiencies in aerodrome lighting, marking or signs.

2.3 Ground handling specific occurrences

(a) Incorrect handling or loading of passengers, baggage, mail or cargo, likely to have a significant effect on aircraft mass and/or balance (including significant errors in loadsheet calculations).

(b) Boarding equipment removed leading to endangerment of aircraft occupants.

(c) Incorrect stowage or securing of baggage, mail or cargo likely in any way to endanger the aircraft, its equipment or occupants or to impede emergency evacuation.

(d) Transport, attempted transport or handling of dangerous goods which resulted or could have resulted in the safety of the operation being endangered or led to

an unsafe condition (for example: dangerous goods incident or accident as defined in the ICAO Technical Instructions[8]).

(e) Non-compliance on baggage or passenger reconciliation.

(f) Non-compliance with required aircraft ground handling and servicing procedures, especially in de-icing, refuelling or loading procedures, including incorrect positioning or removal of equipment.

(g) Significant spillage during fuelling operations.

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

(i) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).

(j) Failure, malfunction or defect of ground equipment used for ground handling, resulting into damage or potential damage to the aircraft (for example: tow bar or GPU (Ground Power Unit)).

(k) Missing, incorrect or inadequate de-icing/anti-icing treatment.

(l) Damage to aircraft by ground handling equipment or vehicles including previously unreported damage.

(m) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

[8] Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO — Doc 9284).

Appendix 6 – OCCURRENCES RELATED TO AIRCRAFT OTHER THAN COMPLEX MOTOR-POWERED AIRCRAFT, INCLUDING SAILPLANES AND LIGHTER-THAN-AIR VEHICLES

Remark: This Appendix is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

1. Aircraft other than Complex Motor-Powered Aircraft excluding Sailplanes and Lighter-Than-Air Vehicles

1.1 Air operations

(a) Unintentional loss of control.

(b) Landing outside of intended landing area.

(c) Inability or failure to achieve required aircraft performance expected in normal conditions during take-off, climb or landing.

(d) Runway incursion

(e) Runway excursion.

(f) Any flight which has been performed with an aircraft which was not airworthy, or for which flight preparation was not completed, which has or could have endangered the aircraft, its occupants or any other person.

(g) Unintended flight into IMC (Instrument Meteorological Conditions) conditions of aircraft not IFR (Instrument flight rules) certified, or a pilot not qualified for IFR, which has or could have endangered the aircraft, its occupants or any other person.

(h) Unintentional release of cargo[9].

1.2 Technical occurrences

(a) Abnormal severe vibration (for example: aileron or elevator 'flutter', or of propeller).

(b) Any flight control not functioning correctly or disconnected.

(c) A failure or substantial deterioration of the aircraft structure.

(d) A loss of any part of the aircraft structure or installation in flight.

[9] This item applies only to commercial operations.

(e) A failure of an engine, rotor, propeller, fuel system or other essential system.

(f) Leakage of any fluid which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.

1.3 Interaction with air navigation services and air traffic management

(a) Interaction with air navigation services (for example: incorrect services provided, conflicting communications or deviation from clearance) which has or could have endangered the aircraft, its occupants or any other person.

(b) Airspace infringement.

1.4 Emergencies and other critical situations

(a) Any occurrence leading to an emergency call.

(b) Fire, explosion, smoke, toxic gases or toxic fumes in the aircraft.

(c) Incapacitation of the pilot leading to inability to perform any duty.

1.5 External environment and meteorology

(a) A collision on the ground or in the air, with another aircraft, terrain or obstacle[10].

(b) A near collision, on the ground or in the air, with another aircraft, terrain or obstacle[10] requiring an emergency avoidance manoeuvre to avoid a collision.

(c) Wildlife strike including bird strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

(d) Interference with the aircraft by firearms, fireworks, flying kites, laser illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(e) A lightning strike resulting in damage to or loss of functions of the aircraft.

(f) Severe turbulence encounter which resulted in injury to aircraft occupants or in the need for a post-flight turbulence damage check of the aircraft.

(g) Icing including carburettor icing which has or could have endangered the aircraft, its occupants or any other person.

[10] Obstacle includes vehicle.

2. Sailplanes (Gliders)

Remark: This Section is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

2.1 Air operations

(a) Unintentional loss of control.

(b) An occurrence where the sailplane pilot was unable to release either the winch cable or the aerotow rope and had to do so using emergency procedures.

(c) Any release of the winch cable or the aerotow rope if the release has or could have endangered the sailplane, its occupants or any other person.

(d) In the case of a powered sailplane, an engine failure during take-off.

(e) Any flight which has been performed with a sailplane which was not airworthy, or for which an incomplete flight preparation has or could have endangered the sailplane, its occupants or any other person.

2.2 Technical occurrences

(a) Abnormal severe vibration (for example: aileron or elevator 'flutter', or of propeller).

(b) Any flight control not functioning correctly or disconnected.

(c) A failure or substantial deterioration of the sailplane structure.

(d) A loss of any part of the sailplane structure or installation in flight.

2.3 Interaction with air navigation services and air traffic management

(a) Interaction with air navigation services (for example: incorrect services provided, conflicting communications or deviation from clearance) which has or could have endangered the sailplane, its occupants or any other person.

(b) Airspace infringements.

2.4 Emergencies and other critical situations

(a) Any occurrence leading to an emergency call.

(b) Any situation where no safe landing area remains available.

(c) Fire, explosion, smoke, or toxic gases or fumes in the sailplane.

(d) Incapacitation of the pilot leading to inability to perform any duty.

2.5 External environment and meteorology

(a) A collision on the ground or in the air, with an aircraft, terrain or obstacle[11].

(b) A near collision, on the ground or in the air, with an aircraft, terrain or obstacle[11] requiring an emergency avoidance manoeuvre to avoid a collision.

(c) Interference with the sailplane by firearms, fireworks, flying kites, laser illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(d) A lightning strike resulting in damage to the sailplane.

3. Lighter-Than-Air Vehicles (Balloons and Airships)

Remark: This Section is structured in such a way that the pertinent occurrences are linked with categories of activities during which they are normally observed, according to experience, in order to facilitate the reporting of those occurrences. However, this presentation must not be understood as meaning that occurrences must not be reported in case they take place outside the category of activities to which they are linked in the list.

3.1 Air operations

(a) Any flight which has been performed with a lighter-than-air vehicle which was not airworthy, or for which an incomplete flight preparation has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

(b) Unintended permanent extinction of the pilot light.

3.2 Technical occurrences

(a) Failure of any of the following parts or controls: dip tube on fuel cylinder, envelope pulley, control line, tether rope, valve seal leak on burner, valve seal leak on fuel cylinder, carabiner, damage to fuel line, lifting gas valve, envelope or ballonet, blower, pressure relief valve (gas balloon), winch (tethered gas balloons).

[11] Obstacle includes vehicle.

(b) Significant leakage or loss of lifting gas (for example: porosity, unseated lifting gas valves).

3.3 Interaction with air navigation services and air traffic management

(a) Interaction with air navigation services (for example: incorrect services provided, conflicting communications or deviation from clearance) which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

(b) Airspace infringement.

3.4 Emergencies and other critical situations

(a) Any occurrence leading to an emergency call.

(b) Fire, explosion, smoke or toxic fumes in the lighter-than-air vehicle (beyond the normal operation of the burner).

(c) Lighter-than-air vehicle's occupants ejected from basket or gondola.

(d) Incapacitation of the pilot leading to inability to perform any duty.

(e) Unintended lift or drag of ground crew, leading to fatality or injury of a person.

3.5 External environment and meteorology

(a) A collision or near collision on the ground or in the air, with an aircraft, terrain or obstacle[12] which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

(b) Interference with the lighter-than-air vehicle by firearms, fireworks, flying kites, laser illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.

(c) Unexpected encounter of adverse weather conditions which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

[12] Obstacle includes vehicle.

Section B — PROCEDURE FOR THE CAA

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