REPUBLIC OF MAURITIUS

DEPARTMENT OF CIVIL AVIATION

Sir Seewoosagur Ramgoolam International Airport, Plaine Magnien

MAURITIUS CIVIL AVIATION REQUIREMENTS

MCAR PART– MOR

MANDATORY OCCURRENCE REPORTING

ISSUE 1 | REV 0

27 June 2025

FOREWORD

The Director of Civil Aviation (hereinafter referred to as the 'Authority') is the competent Authority responsible for the regulation of Civil Aviation in the Republic of Mauritius.

This MCAR-Part-MOR is issued by the Authority pursuant to the provisions of Regulations 135 of the Civil Aviation Regulations.

The primary objective of this MCAR-Part-MOR is to identify potential hazards, learn from past incidents, and implement preventative measures to reduce the risk of accidents and improve overall safety performance in aviation operations.

This MCAR-Part-MOR is applicable to all organisations and licensed personnel regulated under the Authority and the general public. It prescribes the requirements on the reporting of occurrences which may have an adverse impact and represent a significant risk to aviation safety. It also provides details on occurrences, which if not corrected or addressed in a timely manner, would endanger an aircraft, its occupants, any other person, equipment or installation affecting aircraft operations.

All concerned organisations and persons are required to comply with the reporting provisions of this MCAR and to submit any reportable occurrences within 96 hours.

Any suggestion on these requirements should be sent to the Director of Civil Aviation via email on civil-aviation@govmu.org for review and consideration.

This MCAR-Part-MOR Issue 1 Rev 0 will be effective as from 27 June 2025 and the existing process of reporting will continue to be in force up to 31 October 2025 when all reporting shall be done in accordance with this MCAR.

I POKHUN
Director of Civil Aviation

RECORD OF REVISIONS

Revision Number.	Date of issue	Entered by
Issue 1 Rev 0	27 June 2025	DDCA

NOTE

The content of this document is arranged as follows:

(1) the implementing requirements, and

(2) Appendices.

All implementing requirements are colour-coded as follows:

Requirement

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SUBPART A - INTRODUCTION

The Mauritius Department of Civil Aviation is committed to ensure a high level of aviation safety and to protect Mauritian citizens and passengers travelling to and from Mauritius by better preventing aircraft accidents.

While air transport remains one of the safest forms of travel, the expected air traffic growth foreseen for the next decades presents significant challenge to the Mauritius Department of Civil Aviation if it wants to prevent air accidents from increasing.

However, the current aviation safety system is mainly a reactive and prescriptive safety system, in which safety improvements are essentially resulting from technological progresses, compliance with prescriptive regulations and lessons learned from aircraft accidents. Therefore, additional actions should be taken to avoid an increased number of fatalities and accidents.

In that perspective, the Mauritius Department of Civil Aviation has started the transition towards a more proactive, evidence-based, risk and performance oriented safety system. Such system requires a systematic and continuous collection of safety information in view for safety hazards to be identified, assessed and addressed. It should work continuously to ensure that any new hazards or risks are rapidly identified and that mitigation actions are implemented and where found ineffective are revised. In addition, in a safety system where the Mauritius Department of Civil Aviation is aiming to focus available resources on higher risks to ensure a better safety efficiency of measures taken, safety information supports a risk-based oversight of regulated entities.

The collection, analysis and follow-up of occurrences are a central element of such proactive and evidence-based safety system. This is also reflected at international level, where the International Civil Aviation Organisation (ICAO) rules put data reporting and analysis systems at the heart of safety management.

Therefore, in order to complement Regulation 128 of the Civil Aviation Act of the Civil Aviation Regulations and Section 14 of the Seventh Schedule of the Civil Aviation Regulations, this MCAR-Part-MOR is developed for reporting, analysis and follow up of occurrences in civil aviation. This MCAR-Part-MOR also lays down a list classifying the occurrences to be reported in the context of mandatory reporting schemes.

This MCAR-Part-MOR aims to ensure that the necessary safety intelligence is available to support the safety management efforts of the whole Mauritian Aviation Community. The information provided through the collection and analysis of occurrence reports under this MCAR should allow the industry and the regulators to be informed about the risks they are facing and to take decisions supported with relevant knowledge and information.

Subpart B of this MCAR establishes a framework, across aviation domains and at each level (industry and national), to ensure the collection of as complete as possible safety occurrence data and its analysis with a view to support the full spectrum of safety management activities, including the adoption and implementation of mitigation actions where relevant.

The information and safety intelligence needed to support safety improvement in the aviation industry, in Mauritius, relies also on individuals reporting occurrences when they happen. Without this information, the realities of aviation safety issues cannot be properly understood and addressed.

Therefore, the reporting of safety occurrences by aviation professionals contributes to the prevention of accidents. Their role is fundamental in ensuring the safety of aviation activities within the organisation that employs them or uses their services, but also more generally in the overall Mauritian aviation system.

Whereas the reporting of any safety relevant occurrence should be encouraged, for the sake of clarifying legal obligations, this MCAR-Part-MOR differentiates between occurrences that should always be reported (mandatorily reportable occurrences) and those that may be reported if judged relevant by potential reporters (voluntarily reportable occurrences).

Occurrences to be reported in the context of mandatory reporting systems are those which may represent a significant risk to aviation safety and which fall into categories as defined at paragraph (a) of MCAR-MOR.B.04. To facilitate the identification of those occurrences, appendices 2 to 6 provide a list of occurrences that should always be reported, because they have been considered as potentially posing a significant risk for aviation safety.

The division in categories of occurrences to be reported provided for in paragraph (a) of MCAR-MOR.B.04 is established to allow the identification of the occurrences to be reported by the persons designated under paragraph (f) of MCAR-MOR.B.04. Furthermore, appendices 2 to 6 intend to support the identification by reporters of the occurrences they are required to report.

Reporting obligations in the context of mandatory schemes are therefore a combination of persons, subject to mandatory reporting obligations and occurrences to be mandatorily reported in a specific area of activity, which are as follows:

Type of reporter	Occurrences to be reported
Pilot in command — paragraph (f)(i) of MCAR-MOR.B.04 — when flying on complex motor-powered aircraft	Occurrences related to the operation of the aircraft — Appendix 2 to this MCAR
Manufacturing staff members — paragraph (f)(ii) of MCAR-MOR.B.04	Occurrences related to manufacturing — Paragraph 1 of Appendix 3 to this MCAR
Design staff members — paragraph (f)(ii) of MCAR-MOR.B.04	Occurrences related to design — Paragraph 2 of Appendix 3 to this MCAR
Maintenance staff members — paragraph (f)(ii) of MCAR-MOR.B.04	Occurrences related to maintenance and continuing airworthiness management — Paragraph 3 of Appendix 3 to this MCAR

Airworthiness certificate reviewers — paragraph (f)(iii) of MCAR-MOR.B.04	Occurrences related to maintenance and continuing airworthiness management — Paragraph 3 of Appendix 3 to this MCAR
Air traffic controllers and flight information service officer — paragraph (f)(iv) of MCAR-MOR.B.04	Occurrences related to related to air navigation services and facilities — Appendix 4 to this MCAR
Safety manager of an aerodrome — paragraph (f)(v) of MCAR-MOR.B.04	Occurrences related to aerodromes and ground services — Appendix 5 to this MCAR
Air navigation facilities personnel — paragraph (f)(vi) of MCAR-MOR.B.04	Occurrences related to related to air navigation services and facilities — Appendix 4 to this MCAR
Ground handling personnel — paragraph (f)(vii) of MCAR-MOR.B.04	Occurrences related to related to aerodromes and ground services — Paragraph 2 of Appendix 5 to this MCAR
Pilot in command — paragraph (f)(i) of MCAR-MOR.B.04	Occurrences related to related to operation of the aircraft — Appendix 6 to this MCAR

There is no requirement under this MCAR-Part-MOR for reporting occurrences outside the situations as detailed above. It is nevertheless understood that reporting of any safety relevant occurrence by anyone aware of it should be encouraged.

To allow an efficient and effective reporting, this MCAR-Part-MOR makes provisions for organisations and the Authority to establish a voluntary occurrence reporting system (see MCAR-MOR.B.05). This voluntary occurrence reporting system will notably enable the reporting of any occurrence or safety related information, which can be used for the improvement of safety.

The reporting, analysis and follow-up of occurrences is supported by a broader safety risk management process that helps to identify the main safety issues and risks. Organisations are required to provide a risk classification for each reportable occurrence, as detailed in Subpart C. It is expected that, where analysis and follow up is needed, such risk assessment may be preliminary, based on information available at the time of the initial report. Organisations have the possibility to use the risk methodology of their choice or adopt the Risk Classification Scheme described in Subpart C. The Authority will then review and classify the risk of submitted occurrences. The use of this scheme by industry organisations would support a better harmonisation of risk classification.

This MCAR-Part-MOR aims to ensure that the industry is aware of the risks it is facing and takes relevant measures to mitigate those risks. It should also allow the State to be informed about the risks it is facing at national level and to identify national measures that may be necessary to ensure aviation safety from a broader national perspective.

The mandatory and voluntary reporting systems as well as the analysis and follow-up tasks established in Subpart B of this MCAR shall be understood as part of existing Safety Management System processes of the organisations and the Authority subject to such processes under other MCAR's.

SUBPART B - REPORTING, ANALYSIS AND FOLLOW-UP OF OCCURRENCES IN CIVIL AVIATION,

MCAR-MOR.B.01 Objectives

(a) This subpart of MCAR-Part-MOR 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 subpart ensures:

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

(ii) the continued availability of safety information by introducing requirements 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

(iii) 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/serious incidents and not to attribute blame or liability.

MCAR-MOR.B.02 Definitions

For the purposes of this subpart of MCAR-Part-MOR, the following definitions shall apply:

(a) '***accident***' means 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:

(i) 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

(ii) 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, wheels, fairings, panels, landing gear doors, windscreens, 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

(iii) the aircraft is missing or is completely inaccessible.

Note 1 — For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.

Note 2 — An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Note 3 — The type of unmanned aircraft system to be investigated is addressed in 5.1 of Annex 13 – Aircraft Accident and Incident Investigation

Note 4 — Guidance for the determination of aircraft damage can be found in Attachment E of Annex 13.

(b) '**Acts of unlawful interference**' means acts or attempted acts such as to jeopardize the safety of civil aviation and air transport, i.e.:

— unlawful seizure of aircraft in flight,

— unlawful seizure of aircraft on the ground,

— hostage-taking on board an aircraft or on aerodromes,

— forcible intrusion on board an aircraft, at an airport or on the premises of an aeronautical facility,

— introduction on board an aircraft or at an airport of a weapon or hazardous device or material intended for criminal purposes,

— communication of false information as to jeopardize the safety of an aircraft in flight or on the ground, of passengers, crew, ground personnel

or the general public, at an airport or on the premises of a civil aviation facility.

(c) '***aircraft***' means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

(d) '***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.

(e) '**Approved training organisation (ATO)**' means an organisation approved by and operating under the supervision of a Contracting State in accordance with the requirements of Annex 1 to perform approved training.

(f) '**Aviation Safety Plan**' means safety issues assessment and related action plan at National level.

(g) '**Dangerous Goods**' means articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those instructions.

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

(i) '***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.

(j) '***incident***' means an occurrence, other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operation.

(k) '***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.

(l) '***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.

(m) '***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 incident/serious incident.

(n) '***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 MCAR-MOR.B.04(f).

(o) '**point of contact**' means, where a request for information is made by an interested party established in a Contracting State, the Civil Aviation Authority.

(p) '***reporter***' means a natural person who reports an occurrence or other safety-related information pursuant to this MCAR.

(q) '***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.

(r) '***serious incident***' means an incident involving circumstances indicating that there was a high probability of an accident and 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.

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

MCAR-MOR.B.03 Subject matter and scope

(a) This subpart of MCAR-Part-MOR lays down requirements on:

(i) 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;

(ii) analysis and follow-up action in respect of reported occurrences and other safety related information;

(iii) the protection of aviation professionals;

(iv) appropriate use of collected safety information;

(v) the integration of information into a Central Repository; and

(vi) 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 subpart applies to occurrences and other safety-related information involving civil aircraft.

(c) If an occurrence occurred during non-civil operations (e.g. military operations) and reveals an unsafe condition in the civil Type Certificate of the aircraft, this occurrence should be considered within the scope of this MCAR and should, therefore, be reportable under the mandatory reporting scheme.

(d) The same criteria apply in other fields for cases where there is potential impact on safety of civil aviation, though no civil aircraft was directly involved in the occurrence.

MCAR-MOR.B.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 MCAR-MOR.B.04:

(i) occurrences related to the operation of the aircraft, such as:

A. collision-related occurrences;

B. take-off and landing-related occurrences;

C. fuel-related occurrences;

D. in-flight occurrences;

E. communication-related occurrences;

F. occurrences related to injury, emergencies and other critical situations;

G. crew incapacitation and other crew-related occurrences;

H. meteorological conditions or security-related occurrences;

(ii) occurrences related to technical conditions, maintenance and repair of aircraft, such as:

A. structural defects;

B. system malfunctions;

C. maintenance and repair problems;

D. propulsion problems (including engines, propellers and rotor systems) and auxiliary power unit problems;

(iii) occurrences related to air navigation services and facilities, such as:

A. collisions, near collisions or potential for collisions;

B. specific occurrences of air traffic management and air navigation services (ATM/ANS);

C. ATM/ANS operational occurrences;

(iv) occurrences related to aerodromes and ground services, such as:

A. occurrences related to aerodrome activities and facilities;

B. occurrences related to handling of passengers, baggage, mail and cargo;

C. occurrences related to aircraft ground handling and related services.

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

(c) The Authority shall establish a mandatory reporting system to facilitate the collection of details of occurrences, including the collection of details of occurrences collected by organisations pursuant to paragraph (b).

(d) Lists of occurrence classifications are:

(i) Accident

(ii) Serious Incident

(iii) Incident

(iv) Dangerous Goods:

(v) Act of Unlawful interferences (AUIs):

(vi) Unapproved Parts.

(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 MCAR.

(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 Authority:

(i) 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 Mauritius or an aircraft registered outside Mauritius but used by an operator established in Mauritius;

(ii) 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 Authority;

(iii) 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 Authority;

(iv) a person who performs a function which requires him or her to be authorised by the Authority 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;

(v) a person who performs a function connected with the safety management of an airport;

(vi) 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 Authority ensures the oversight;

(vii) a person who performs a function connected with the ground handling of aircraft, including fueling, load sheet preparation, loading, de-icing and towing at an airport.

(g) The persons listed in paragraph (f) shall report occurrences within 96 hours of becoming aware of the occurrence, unless exceptional circumstances prevent this.

(h) It should be understood that, while persons listed in paragraph (f) are those who have to report, anyone may report, should they consider it necessary. Persons should report any reportable occurrence of which they have positive knowledge, even if they have good reason to believe that appropriate details of the occurrence have already been, or will be, reported by someone else.

(i) A report should also be submitted on any occurrence that involves an unsatisfactory condition, behavior or procedure, which did not immediately endanger the aircraft but if allowed to continue uncorrected, or if repeated in other foreseeable circumstances, would create a hazard to aircraft or individuals or property.

(j) Following notification of an occurrence, any organisation established in Mauritius which is not covered by paragraph (k), shall report to the Authority, the details of occurrences collected in accordance with paragraph (b) as soon as possible, and in any event no later than 96 hours after becoming aware of the occurrence.

(k) Following notification of an occurrence, each organisation which is certified or approved by the Authority shall report to the Authority the details of occurrences

collected in accordance with paragraph (b) as soon as possible, and in any event no later than 96 hours after becoming aware of the occurrence.

MCAR-MOR.B.05 Voluntary reporting

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

(i) details of occurrences that may not be captured by the mandatory reporting system;

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

(b) The Authority shall establish a voluntary reporting system to facilitate the collection of:

(i) details of occurrences that may not be captured by the mandatory reporting system;

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

That system shall also include, but shall not be limited to, the collection of information transferred by organisations pursuant to paragraph (d).

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

(i) not subject to mandatory reporting pursuant to paragraph (a) of MCAR-MOR.B.04;

(ii) reported by persons who are not listed in paragraph (f) of MCAR-MOR.B.04.

(d) Each organisation certified or approved by the Authority shall report to the Authority, 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.

(e) 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 paragraph (a) of MCAR-MOR.B.04. Those systems may include reporting to entities other than the Authority and may involve the active participation of:

(i) the aviation industry;

(ii) professional organisations of aviation staff.

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

MCAR-MOR.B.06 Collection and storage of information

(a) Each organisation which is certified or approved by the Authority shall designate one or more persons to handle independently the collection, evaluation, processing, analysis and storage of details of occurrences reported pursuant to MCAR-MOR.B.04 and MCAR-MOR.B.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 Authority, 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 requirements on confidentiality and protection pursuant to this MCAR.

(c) The Authority shall establish a mechanism to collect, evaluate, process, analyse and store details of occurrences reported pursuant to MCAR-MOR.B.04 and MCAR-MOR.B.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'.

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

(e) The Authority shall store occurrence reports drawn up on the basis of details of occurrences collected in accordance with MCAR-MOR.B.04 and MCAR-MOR.B.05 in a national database.

MCAR-MOR.B.07 Quality and content of occurrence reports

(a) Occurrence reports referred to in MCAR-MOR.B.06 shall contain at least the information listed in Appendix 1 to this MCAR.

(b) Occurrence reports referred to in paragraph (d) of MCAR-MOR.B.06 shall include a safety risk classification for the occurrence concerned. That classification may be reviewed and if necessary amended by the Authority 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 (d) of MCAR-MOR.B.06 shall use formats which are standardised to facilitate information exchange.

MCAR-MOR.B.08 Central Repository

The Central Repository is a database managed by the Authority to store all occurrence reports collected in accordance with MCAR-MOR.B.04 and MCAR-MOR.B.05.

MCAR-MOR.B.09 Exchange of information

(a) The Authority shall participate in regional and global aviation safety information and exchange and facilitate the participation of their respective service providers as well as other relevant national authorities. All information relating to safety stored in the respective reporting databases must be available to other Contracting States, as appropriate. Occurrence reports shall be updated whenever necessary with additional information relating to safety.

(b) Information related to accidents and incidents/serious incidents shall also be updated and promulgated as in mentioned in MCAR-13.

MCAR-MOR.B.10 Dissemination of information stored in the safety-data repository

(a) The Authority shall have secure, full access to information on occurrences contained in the central repository. The information shall be used in accordance with MCAR-MOR.B.14 and MCAR-MOR.B.15.

(b) Interested parties listed in Appendix 7 to this MCAR may request access to certain information contained in the central repository. Interested parties shall address requests for information to the Authority.

(c) Information contained in the central repository relating to ongoing safety investigations shall not be disclosed to interested parties pursuant to MCAR-MOR.B.10.

MCAR-MOR.B.11 Processing of requests and decisions

(a) Requests for information contained in the central repository shall be submitted using a formal application accepted by the Authority.

(b) The application shall contain at least the items set out in Appendix 8 to this MCAR.

(c) On receipt of an application, the Authority shall verify that the request is made by an interested party.

(d) The Authority shall evaluate on a case-by-case basis whether the request is justified and practicable. Information may be supplied to interested parties on paper or by using secure electronic means of communication.

(e) Where the request is accepted, the Authority shall determine the amount and the level of information to be supplied. Without prejudice to MCAR-MOR.B.14 and MCAR-MOR.B.15, the information shall be limited to what is strictly required for the purpose of the request. Information unrelated to the interested party's own equipment, operations or field of activity shall be supplied only in aggregated or anonymised documents. Information in non-aggregated documents may be provided to the interested party if it provides a detailed written justification. That information shall be used in accordance with MCAR-MOR.B.14 and MCAR-MOR.B.15.

(f) The Authority shall supply interested parties listed in paragraph (a)(ii) of Appendix 7 to this MCAR only with information relating to the interested party's own equipment, operations or field of activity.

(g) On receiving a request from an interested party listed in paragraph (a)(i) of Appendix 7 to this MCAR, the Authority may take a general decision to supply information on a regular basis to that interested party, provided that:

(i) the information requested is related to the interested party's own equipment, operations or field of activity;

(ii) the general decision does not grant access to the entire content of the database;

(iii) the general decision relates only to anonymised information.

(h) The interested party shall use the information received pursuant to MCAR-MOR.B.11 subject to the following conditions:

(i) the interested party shall use the information only for the purpose specified in the request application, which should be compatible with the objective of this MCAR as stated in MCAR-MOR.B.01; and

(ii) the interested party shall not disclose the information received without the written consent of the information provider and shall take the necessary measures to ensure appropriate confidentiality of the information received.

(i) The decision to disseminate information pursuant to MCAR-MOR.B.11 shall be limited to what is strictly required for the purpose of its user.

MCAR-MOR.B.12 Record of requests and exchange of information

The Authority shall record each request received and the action taken pursuant to that request.

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

(a) Each organisation established in Mauritius shall develop a process to analyse occurrences collected in accordance with paragraph (b) of MCAR-MOR.B.04 and paragraph (a) of MCAR-MOR.B.05 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:

(i) implement that action in a timely manner; and

(ii) 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 Mauritius 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 paragraph (j) of MCAR-MOR.B.04, it shall transmit to the Authority, within 30 days from the date of notification of the occurrence by the reporter:

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

(ii) 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 Authority 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 Authority identifies an actual or potential aviation safety risk as a result of its analysis of occurrences or group of occurrences reported pursuant to paragraph (k) of MCAR-MOR.B.04 and

paragraph (d) of MCAR-MOR.B.05, it shall transmit to the Authority, within 30 days from the date of notification of the occurrence by the reporter:

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

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

The organisation certified or approved by the Authority shall transmit to the Authority 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 Authority 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) The Authority shall develop a process to analyse the information relating to occurrences which are directly reported to them in accordance with paragraph (f) of MCAR-MOR.B.04 and paragraph (b) of MCAR-MOR.B.05, in order to identify the safety hazards associated with those occurrences. Based on that analysis, they shall determine any appropriate corrective or preventive action required to improve aviation safety.

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

(i) implement that action in a timely manner; and

(ii) establish a process to monitor the implementation and effectiveness of the action.

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

If the Authority 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 MCAR-MOR.B.13 shall be stored in the Central Repository.

(j) The Authority 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 Authority may publish a safety review at least once a year. The safety review may:

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

(ii) identify trends;

(iii) identify the action it has taken.

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

MCAR-MOR.B.14 Confidentiality and appropriate use of information

(a) The Authority 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 MCAR-MOR.B.04 and MCAR-MOR.B.05.

Each organisation, or the Authority shall process personal data only to the extent necessary for the purposes of this MCAR 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 Authority and organisations shall not make available or use the information on occurrences:

(i) in order to attribute blame or liability; or

(ii) for any purpose other than the maintenance or improvement of aviation safety.

MCAR-MOR.B.15 Protection of the information source

(a) For the purposes of this MCAR-MOR.B.15, ‘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 paragraph (a) of MCAR-MOR.B.06 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 Authority shall ensure that no personal details are ever recorded in the Central Repository referred to in MCAR-MOR.B.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) The Authority shall not be prevented from taking any action necessary for maintaining or improving aviation safety.

(e) Without prejudice to applicable national criminal law, the Authority 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 MCAR-MOR.B.04 and MCAR-MOR.B.05.

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

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

(i) the reporters; or

(ii) the persons mentioned in occurrence reports.

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

(g) Except where paragraph (h) applies, employees and contracted personnel who report or are mentioned in occurrence reports collected in accordance with MCAR-MOR.B.04 and MCAR-MOR.B.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.

(h) The protection under paragraphs (e), (f) and (g) of this MCAR-MOR.B.15 shall not apply to any of the following situations:

(i) in cases of willful misconduct;

(ii) 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.

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

(j) Employees and contracted personnel may report to the Authority alleged infringements of the requirements established by this MCAR-MOR.B.15. Employees and contracted personnel shall not be penalised for reporting alleged infringements.

MCAR-MOR.B.16. Penalties

The Authority may take appropriate enforcement measures in accordance with the Civil Aviation Regulations and MCAR Enforcement Manual, such as the imposition of limitations, the suspension or revocation of certificates, licenses, approvals, authorisations, the imposition of financial penalties for those who infringe the principles of protection of the reporter and of other persons mentioned in the occurrence reports.

MCAR-MOR.B.17. Investigation of Incidents/Serious Incidents

(a) The Authority shall review occurrence reports received from an organisation and assess which amongst them involve circumstances of a high probability of an accident and are likely to be classified as incidents/serious incidents.

(b) The Authority shall establish a risk-based methodology, taking into consideration the global high-risk categories of occurrences (G-HRCs) identified in the 2023-2025 edition of the GASP (ICAO Doc 10004) and shall assess the opportunity to investigate these occurrences including:

(i) controlled flight into terrain (CFIT);

(ii) loss of control in-flight (LOC-I);

(iii) mid-air collision (MAC);

(iv) runway excursion (RE); and

(v) runway incursion (RI).

(c) The Authority may, if required, delegate an investigation to another State or a Regional Accident and Incident Investigation Organisation (RAIO) by mutual arrangement and consent in case there is conflict of interest.

(d) The Authority shall notify serious incidents to the other concerned States and, when required, to ICAO, in accordance with MCAR-13.

(e) The Authority shall complete investigations into serious incidents within a reasonable timeframe, and publish an interim report within 3 months' time. The Final Report shall be made publicly available, if possible within 12 months.

(f) The Authority shall send a copy of the Final Report and the Incident Data Report (ADREP) to ICAO, as soon as practicable after the investigation.

SUBPART C – RISK CLASSIFICATION SCHEME

MCAR-MOR.C.01. Subject matter

This subpart of MCAR-Part-MOR sets out the Risk Classification Scheme (RCS) for the determination of the safety risk of an occurrence.

MCAR-MOR.C.02. Definitions

For the purposes of this subpart of MCAR-Part-MOR, the following definitions shall apply:

(a) 'Risk Classification Scheme' or 'RCS' means the methodology applied for the assessment of the risk posed by an occurrence to civil aviation in the form of a safety risk score;

(b) 'RCS matrix' means a grid made up of the variables described in paragraph (c) of MCAR-MOR.C.03 which serves for the illustrative representation of the safety risk score;

(c) 'safety risk score' means the result of the risk classification of an occurrence by combining the values of the variables described in paragraph (c) of MCAR-MOR.C.03;

(d) 'high-risk area' means an area where an aircraft impact would cause numerous injuries, result in a high number of fatalities, or both because of the nature of the activities in that area, such as nuclear or chemical plants;

(e) 'populated area' means an area with clustered or scattered buildings and a permanent human population, such as city, settlement, town, or village;

(f) 'life changing injury' means an injury reducing the person's quality of life in regard to reduced mobility or reduced cognitive or physical ability in daily life.

MCAR-MOR.C.03 – Common risk classification scheme

(a) The RCS is set out in MCAR-MOR.C.04.

(b) The RCS shall address the safety risk of an occurrence and not its actual outcome. The assessment of each occurrence shall determine the worst likely accident outcome that the occurrence might have led to, and how close to that accident outcome the occurrence was.

(c) The RCS shall be based on the RCS matrix composed of the following two variables:

(i) severity: identification of the worst likely accident outcome that would have resulted if the occurrence under assessment had escalated into an accident;

(ii) probability: identification of the likelihood of the occurrence under assessment to escalate into the worst likely accident outcome referred to in point (a).

MCAR-MOR.C.04 Risk classification scheme

The RCS shall consist of the following two steps:

STEP 1: Determination of the values of the two variables: severity and probability.

STEP 2: Scoring of the safety risk within the RCS matrix based on the two determined values of variables.

STEP 1: DETERMINATION OF THE VALUES OF THE VARIABLES

1. Severity of the potential accident outcome

1.1. Identification

The identification of the severity of the potential accident outcome shall follow the following two steps:

(a) a determination of the most likely type of accident that the occurrence under assessment could have escalated to (the so called key risk area);

(b) a determination of the potential loss of life category based on aircraft size and proximity to populated or high-risk areas.

There are following key risk areas:

(a) airborne collision: a collision between aircraft while both aircraft are airborne; or between aircraft and other airborne objects (excluding birds and wildlife);

(b) aircraft upset: an undesired aircraft state characterised by unintentional divergences from parameters normally experienced during operations, which might ultimately lead to an uncontrolled impact with terrain;

(c) collision on runway: a collision between an aircraft and another object (other aircraft, vehicles, etc.) or person that occurs on a runway of an aerodrome or other predesignated landing area. It does not include collisions with birds or wildlife;

(d) excursion: an occurrence when an aircraft leaves the runway or movement area of an aerodrome or landing surface of any other

predesignated landing area, without getting airborne. It includes high-impact vertical landings for rotorcraft or vertical take-off and landing aircraft and balloons or airships;

(e) fire, smoke and pressurisation: an occurrence involving cases of fire, smoke, fumes or pressurisation situations that may become incompatible with human life. This includes occurrences involving fire, smoke or fumes affecting any part of an aircraft, in flight or on the ground, which is not the result of impact or malicious acts;

(f) ground damage: damage to aircraft induced by operation of aircraft on ground on any other ground area than a runway or predesignated landing area, as well as damage during maintenance;

(g) obstacle collision in flight: collision between an airborne aircraft and obstacles rising from the surface of the earth. Obstacles include tall buildings, trees, power cables, telegraph wires and antennae as well as tethered objects;

(h) terrain collision: an occurrence where an airborne aircraft collides with terrain, without indication that the flight crew was unable to control the aircraft. It includes instances when the flight crew is affected by visual illusions or degraded visual environment;

(i) other injuries: an occurrence where fatal or non-fatal injuries have been inflicted, which cannot be attributed to any other key risk area;

(j) security: an act of unlawful interference against civil aviation. It includes all incidents and breaches related to surveillance and protection, access control, screening, implementation of security controls and any other acts intended to cause malicious or wanton destruction of aircraft and property, endangering or resulting in unlawful interference with civil aviation and its facilities. Includes both physical and cyber security events.

The potential loss of life shall be categorised in the following way:

(a) more than 100 possible fatalities – where the occurrence under assessment involves at least any of the following:

— one large certified aircraft with more than 100 potential passengers on board;

— an equivalent size aircraft for cargo;

— one aircraft of any type in a heavily populated area or in a high-risk area or both;

— any situation involving any type of aircraft where more than 100 fatalities may be possible;

(b) between 20 to 100 possible fatalities – where the occurrence under assessment involves at least any of the following:

— one medium certified aircraft with 20 to100 potential passengers on board or equivalent size for cargo aircraft;

— any situation where 20 to 100 fatalities may be possible;

(c) between 2 to 19 possible fatalities where the occurrence under assessment involves at least any of the following:

— one small certified aircraft with up to 19 potential passengers on board;

— an equivalent size for cargo aircraft;

— any situation where 2 to 19 fatalities may be possible;

(d) 1 possible fatality – where the occurrence under assessment involves at least any of the following:

— one uncertified aircraft, that is aircraft not subject to the Authority's certification requirements;

— any situation where a single fatality may be possible;

(e) 0 possible fatalities – where the occurrence under assessment involves personal injuries only, regardless of the number of minor and serious injuries as long as there are no fatalities.

1.2 Determination

The severity of the accident shall result in one of the following severity scores:

— 'A' which stands for no likelihood of an accident;

— 'E' which stands for an accident involving minor and serious injury (not life changing) or minor aircraft damage;

— 'I' which stands for an accident involving a single fatality, life changing injury or substantial damage accident;

— 'M' which stands for a major accident with limited amount of fatalities, life changing injuries or destruction of the aircraft;

— 'S' which stands for a significant accident with potential for fatalities and injuries;

— 'X' which stands for an extreme catastrophic accident with the potential for significant number of fatalities.

The severity score shall be calculated by combining the key risk area and the potential loss of life as laid down in the following table:**KEY RISK AREA**	**CATEGORY**	**SEVERITY SCORE**
Airborne collision	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
Aircraft upset	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
Collision on runway	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
	0 possible fatalities	E
Excursions	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
	0 possible fatalities	E

The severity score shall be calculated by combining the key risk area and the potential loss of life as laid down in the following table:**KEY RISK AREA**	**CATEGORY**	**SEVERITY SCORE**
Fire, smoke and pressurisation	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
Ground damage	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
	0 possible fatalities	E
Obstacle collision in flight	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
Terrain collision	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
Other injuries	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
	0 possible fatalities	E

The severity score shall be calculated by combining the key risk area and the potential loss of life as laid down in the following table:**KEY RISK AREA**	**CATEGORY**	**SEVERITY SCORE**
Security	More than 100 possible fatalities	X
	Between 20 to 100 possible fatalities	S
	Between 2 to 19 possible fatalities	M
	1 possible fatality	I
	0 possible fatalities	E

2. Probability of the potential accident outcome

The probability of the worst likely accident outcome shall be obtained by using the RCS barrier model defined in Section 2.1.

2.1. RCS barrier model

The purpose of the RCS barrier model is to assess the effectiveness (that is the number and the strength) of the barriers in the safety system laid down in the Table in Section 2.1.1 which were remaining between the actual occurrence and the worst likely accident outcome. Ultimately, the RCS barrier model shall determine how close the occurrence under assessment has been to the potential accident.

2.1.1. Barriers

The RCS barrier model consists of 8 barriers, ordered in a logical sequence and weighted as per the following table:

Barrier number	Barrier	Barrier weight
1	'Aircraft, equipment and infrastructure design', includes maintenance and correction, operation support, the prevention of problems related to technical factors that could lead to an accident.	5
2	'Tactical planning', includes organisational and individual planning prior to the flight or other operational activity that supports the	2

Barrier number	Barrier	Barrier weight
	reduction of the causes and contributors to accidents.	
3	'Regulations, procedures, processes', includes effective, understandable and available regulations, procedures and processes that are complied with (with the exclusion of the use of procedures for recovery barriers).	3
4	'Situational awareness and action', includes human vigilance for operational threats which ensures identification of operational hazards and effective action to prevent an accident.	2
5	'Warning systems operation and action' that could prevent an accident and which are fit for purpose, functioning, operational and are complied with.	3
6	'Late recovery from a potential accident situation'	1
7	'Protections', when an event has occurred, the level of the outcome is mitigated or prevents the escalation of the occurrence by intangible barriers or providence	1
8	'Low energy occurrence' scores the same as 'Protections', but for low-energy key risk areas only (ground damage, excursions, injuries). 'Not applicable' for all other key risk areas.	1

2.1.2. Barrier effectiveness

The effectiveness of each barrier shall be classified as follows:

— '**Stopped**' if the barrier prevented the accident from occurring;

— '**Remaining Known**': if it is known whether the barrier remained between the occurrence under assessment and the potential accident outcome;

— '**Remaining Assumed**': if it is assumed that the barrier remained between the occurrence under assessment and the potential accident outcome;

— '**Failed Known**': if it is known that the barrier has failed;

— '**Failed Assumed**': if it is assumed that the barrier have failed even if insufficient or no information is available to determine this;

— '**Not Applicable**': if the barrier is not relevant to the occurrence under assessment.

2.1.3. Barrier assessment

The barriers shall be assessed in two steps:

Step 1: To identify which of the barriers defined in the table in section 2.1.1. (1-8) stopped the occurrence from escalating into the potential accident outcome (referred to as the 'stopping barrier').

Step 2: To identify in accordance with section 2.1.2 the effectiveness of the remaining barriers. The remaining barriers are those barriers listed in the table in section 2.1.1 which are placed between the stopping barrier and the potential accident outcome. The barriers listed in the table in section 2.1.1 which are placed before the stopping barrier shall not be considered to have contributed to the prevention of the accident outcome and consequently those barriers shall not be scored as 'Stopped' or 'Remaining'.

2.2. Calculation

The probability of the potential accident outcome is the numerical value resulting of the following steps:

Step 1: A sum of all the barrier weights (1 to 5) laid down in the table in section 2.1.1 of all the assessed barriers that were scored either 'Stopped', 'Remaining known' or 'Remaining assumed'. The 'Failed' and 'Not Applicable' barriers shall not be counted for the final score, as those barriers could not have prevented the accident. The resulting barrier weight sum is a numerical value between 0 and 18.

Step 2: The barrier weight sum corresponds to a barrier score between 0 and 9 as per the following table, covering the full range between strong and weak remaining barriers.

Barrier weight sum	Corresponding barrier score
0 No barriers left. Worst likely accident outcome realised.	0
1-2	1
3-4	2
5-6	3
7-8	4
9-10	5
11-12	6
13-14	7
15-16	8
17-18	9

STEP 2: SCORING OF THE SAFETY RISK WITHIN THE RCS MATRIX

The safety risk score is a two-digit value where the first digit corresponds to the alphabetic value resulting from the calculation of the severity of the occurrence (severity score A to X) and the second digit represents the numerical value from the calculation of the corresponding score of the occurrence (0 to 9).

The safety risk score shall be put into the RCS matrix.

For each given safety risk score there is also a numerical equivalent score for aggregation and analysis purposes which is explained below under '**Numerical equivalent score**'.

The RCS matrix reflects the safety risk score and the numerical associated figures of an occurrence as follows:

SEVERITY			CLASSIFICATION (RCS Score)										
Potential Accident Outcome	**Score**												
Extreme catastrophic accident with the potential for significant number of fatalities (100+)	X	*Pending Risk Assessment*	X9	X8	X7	X6	X5	X4	X3	X2	X1		X0
Significant accident with potential for fatalities and injuries (20-100)	S		S9	S8	S7	S6	S5	S4	S3	S2	S1		S0
Major accident with limited amount of fatalities (2-19), life changing injuries or destruction of the aircraft	M		M9	M8	M7	M6	M5	M4	M3	M2	M1		M0
An accident involving single individual fatality, life changing injury or substantial aircraft damage	I		I9	I8	I7	I6	I5	I4	I3	I2	I1		I0
An accident involving minor and serious injury (not life changing) or minor aircraft damage	E		E9	E8	E7	E6	E5	E4	E3	E2	E1		E0
No likelihood of an accident	A		***No Implication to Safety***										
	Corresponding Barrier Score		**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**		**0**
	Barrier Weight Sum		17-18	15-16	13-14	11-12	9-10	7-8	5-6	3-4	1-2		0
			PROBABILITY OF THE POTENTIAL ACCIDENT OUTCOME										

In addition to the safety risk score and to facilitate the determination of the urgency of the recommended action to be taken about the occurrence, the following three colours could be used in the RCS matrix:

Colour	RCS score	Meaning
RED	X0, X1, X2, S0, S1, S2, M0, M1, I0	High risk. Occurrences with the highest risk.
YELLOW	X3, X4, S3, S4, M2, M3, I1, I2, E0, E1	Elevated risk. Occurrences with intermediate risk
GREEN	X5 to X9, S5 to S9, M4 to M9, I3 to I9, E2 to E9.	Low risk occurrences

The green area of the matrix contains lower risk values. They provide data for in-depth analysis on safety related occurrences that could, either in isolation or in conjunction with other events, increase the risk values of such occurrences.

Numerical equivalent score

Each RCS score is assigned a corresponding numerical value of risk magnitude to facilitate the aggregation and numerical analysis of multiple occurrences with an RCS score:

RCS Score	X9	X8	X7	X6	X5	X4	X3	X2	X1	X0
Corresponding numerical value	0,001	0,01	0,1	1	10	100	1000	10000	100000	1000000
RCS Score	S9	S8	S7	S6	S5	S4	S3	S2	S1	S0
Corresponding numerical value	0,0005	0,005	0,05	0,5	5	50	500	5000	50000	500000
RCS Score	M9	M8	M7	M6	M5	M4	M3	M2	M1	M0
Corresponding numerical value	0,0001	0,001	0,01	0,1	1	10	100	1000	10000	100000
RCS Score	I9	I8	I7	I6	I5	I4	I3	I2	I1	I0
Corresponding numerical value	0,00001	0,0001	0,001	0,01	0,1	1	10	100	1000	10000

RCS Score	E9	E8	E7	E6	E5	E4	E3	E2	E1	E0
Corresponding numerical value	0,000001	0,00001	0,0001	0,001	0,01	0,1	1	10	100	1000

Both column 10 and the row A in the matrix bear the value 0 as the corresponding numerical value

SUBPART D - ARRANGEMENTS FOR THE IMPLEMENTATION OF THE RISK CLASSIFICATION SCHEME ('RCS')

MCAR-MOR-D.01 Subject matter

This subpart of MCAR-Part-MOR lays down the arrangements for the implementation of the Risk Classification Scheme ('ERCS') set out in subpart C.

MCAR-MOR-D.02 Definitions

For the purposes of this subpart of MCAR-Part-MOR, the definitions in subpart C apply.

The following definitions also apply:

(a) 'ARMS-ERC methodology' means the methodology developed by the industry working group 'Airline Risk Management Solutions' (ARMS) for assessing operational risks;

(b) 'Air Traffic Management' (ATM) means the dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management — safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.;

(c) 'ATM airborne severity score' means the part of the RAT methodology that assesses the air operation performance of the occurrence;

(d) 'ATM ground severity score' means the part of the RAT methodology that assesses the system performance (procedures, equipment and human) of the ATM system;

(e) 'ATM overall severity score' means the ATM ground severity score and ATM airborne severity score combined into one single score;

(f) 'RAT methodology' means the Risk Analysis Tool methodology used to classify safety related occurrences in the ATM domain;

MCAR-MOR-D.03 Review, amendment, and endorsement of the safety risk classification

(a) The Authority shall review and, if necessary, amend, and endorse the safety risk classification contained in the occurrence report of the occurrence concerned in accordance with the RCS as set out in subpart C.

(b) Without prejudice to paragraph (a), the Authority shall use the direct conversion procedure set out in MCAR-MOR-D.05 when converting the safety risk classification determined through ARMS/ERC 4x4 or RAT 'ATM Overall'

methodologies. For safety risk classifications determined through other methodologies, the Authority may use the manual conversion procedure set out in paragraph 2 (Manual Conversion) of MCAR-MOR-D.05, or other conversion procedures as deemed appropriate, as long as an equivalent RCS classification is achieved.

MCAR-MOR-D.04 Monitoring and improvement of the RCS

The conversion procedures set out in the MCAR-MOR-D.05 shall be subject to regular review by the Authority to ensure its continuing relevance. The review may take account of the expertise relevant expert groups if established by the Authority.

MCAR-MOR-D.05 Conversion procedures from the Risk Analysis Tool (RAT) and Aviation Risk Management Solutions — Event Risk Classification (ARMS-ERC) scores into the Risk Classification Scheme (RCS) scores

This MCAR-MOR-D.05 lays down conversion procedures from RAT and ARMS ERC scores([1]) to the RCS score defined in Step 2 of MCAR-MOr-C-04.

The following conversion procedures provide either a direct or a manual conversion to obtain an ERCS classification equivalent to the RAT and/or ARMS – ERC scores in accordance with MCAR-MOR-D-03.

1. DIRECT CONVERSION

The mandatory conversion procedure consists of the following two workflows:

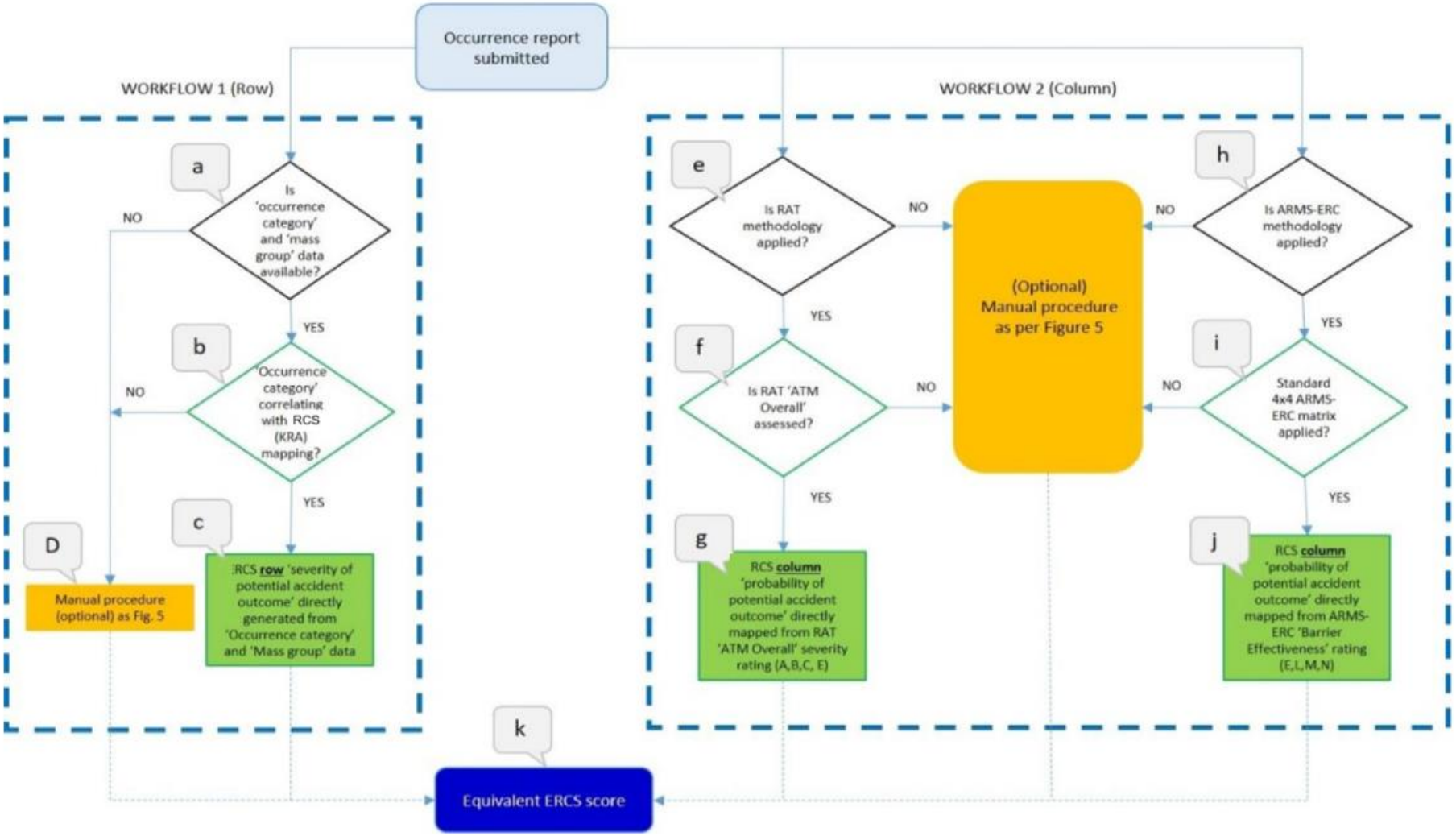
— Workflow 1 - provides a direct conversion to obtain the RCS severity score,

— Workflow 2 - provides direct conversion to obtain the RCS probability score.

Figure 1 shows an overview of the procedures. The starting point of the process is the ‘occurrence report submitted’ box and the output the ‘Equivalent RCS score’ box. The dotted lines in Figure 1 indicate that only one source for each process result is required.

[1] The RCS score is a two-digit value where the first digit corresponds to the alphabetic value resulting from the calculation of the severity of the occurrence (severity score A to X) and the second digit represents the numerical value from the calculation of the corresponding score of the occurrence (probability).

Figure 1 Conversion procedures



1.1. WORKFLOW 1 – ERCS severity score

a. 'Occurrence category' and 'Mass group' information

— If the occurrence report contains information on the 'occurrence category' of the occurrence and the 'mass group', then these can be converted into the 'Severity of potential accident outcome' RCS score. The next step is (b) of Figure 1.

— If the occurrence report contains no information about the 'occurrence category' or the 'mass group', or both, direct conversion is not possible. If the manual conversion described in paragraph 2 (Manual Conversion) of this MCAR-MOR-D.05 is used, then next step is (D) of Figures 1 and 5.

b. 'Occurrence category' and RCS Key Risk Area (KRA) conversion

— If the 'occurrence category' of the occurrence report corresponds directly to the one of the RCS Key Risk Areas defined in paragraph 1.2 (Determination) of MCAR-MOR-C.04, then the next step is (c) of Figure 1.

— For occurrence reports with 'occurrence categories' different from the RCS Key Risk Areas, there is no direct conversion. If the manual conversion described in paragraph 2 (Manual Conversion) of this MCAR-MOR-D.05 is used, then the next step is (D) of Figures 1 and 5.

c. RCS 'Severity of potential accident outcome' score – direct conversion

— If the occurrence report contains information about 'occurrence category' and 'mass group' then the severity score is directly converted into an appropriate RCS 'severity of potential accident outcome' score. The result is (k), which gives the first digit corresponding to the alphabetic value resulting from the calculation of the severity of the occurrence (severity score A to X).

1.2. WORKFLOW 2 – ERCS probability score

e. Occurrence report scored using RAT

If the occurrence report has been scored using the RAT methodology([2]):

— Occurrence reports that have a RAT 'ATM overall' severity score classification can be mapped directly to the RCS probability columns as explained in step (g) of Figure 2,

— Occurrence reports that only have a RAT 'ATM ground' severity([3]) score have to be manually converted to provide the ERCS probability score. If the manual conversion described in paragraph 2 (Manual Conversion) of this MCAR-MOR-D.05 is used, then next step is (L) of figure 5,

— In the case of occurrence reports coded as 'ATM-specific occurrence', conversion between the RAT and ERCS scores is not possible.

f. RAT 'ATM overall' severity score

— If an occurrence report contains the 'ATM overall' severity score, then the next step is (g) of Figure 1.

g. ERCS column 'Probability of potential accident outcome' converted from RAT 'ATM Overall' value (relevant only for A, B, C, E values)

For the occurrence reports with an 'ATM Overall' severity score (A, B, C, E) classification, the following direct conversion into RCS probability categories applies:

[2] The RAT methodology classifies Air Traffic Management related occurrences. RAT methodology does not score accidents, as it measures only how close the ATM occurrence was to becoming an accident. The RAT methodology is divided into several main elements (i.e. 'ATM ground', 'ATM airborne'), in which each delivers a part of the input for the final RAT 'ATM overall' severity score. In order to achieve 'ATM Overall' severity score, both 'ATM ground' and 'ATM airborne' severity scores must be available.
[3]The 'severity' under the RAT methodology indicates how bad the actual occurrence was in comparison to other occurrences. The RAT methodology determines 'severity' through an assessment of the defences/barriers.

Figure 2 RAT ATM overall severity score conversion onto the RCS probability score

RCS Probability categories

			E		C		B		A	
Corresponding Barrier Score	9	8	7	6	5	4	3	2	1	0
Barrier Weight Sum	17-18	15-16	13-14	11-12	9-10	7-8	5-6	3-4	1-2	0
Probability	10^{-9}	10^{-8}	10^{-7}	10^{-6}	10^{-5}	10^{-4}	10^{-3}	10^{-2}	10^{-1}	1
Description	Remaining barriers preedicted to fail 1 in 1,000M times	Remaining barriers preedicted to fail 1 in 100M times	Remaining barriers preedicted to fail 1 in 10M times	Remaining barriers preedicted to fail 1 in 1M times	Remaining barriers preedicted to fail 1 in 100,000 times	Remaining barriers preedicted to fail 1 in 10,000 times	Remaining barriers preedicted to fail 1 in 1,000 times	Remaining barriers preedicted to fail 1 in 100 times	Remaining barriers preedicted to fail 1 in 10 times	Realised accidents

h. Occurrence reports classified using the ARMS-ERC methodology

— For the occurrence reports that have been scored according to the ARMS ERC, the next step is (i) of Figure 1.

— For the occurrence reports that have not been scored according to the ARMS-ERC methodology, the next step is (M) of Figure 5.

i. Standard 4x4 ARMS-ERC matrix

If the 4x4 ARMS-ERC matrix depicted in Figure 3 is used to score the occurrence report, then the next step is (j) of Figure 1.

Figure 3 Standard 4x4 ARMS-ERC matrix

Question 2

What was the effectiveness of the remaining barriers between this event and the most probable accident scenario?

Effective	Limited	Minimal	Not effective
50	102	502	2500
10	21	101	500
2	4	20	100
1			

Question 1

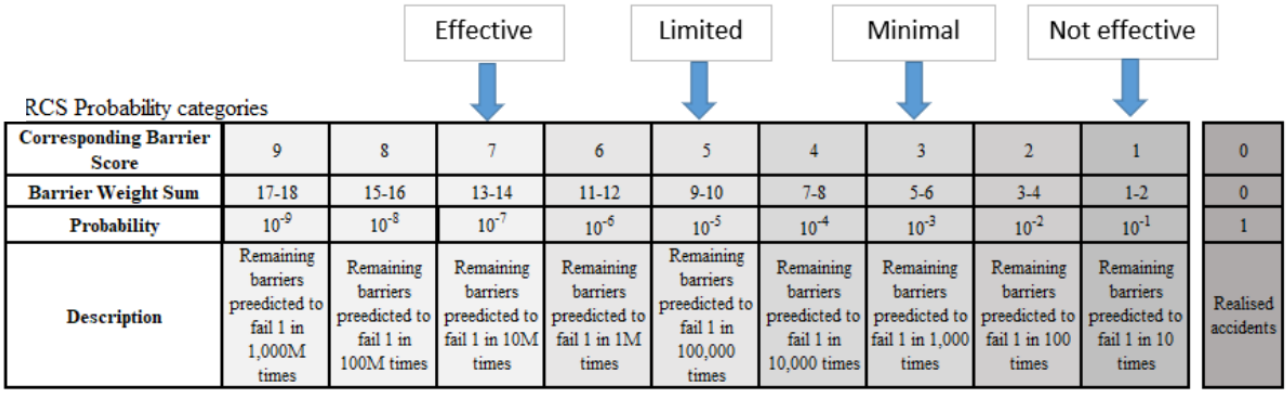
If this event had escalated into an accident, what would have been the most probable outcome?

		Typical accident scenarios
Catastrophic Accident	Loss of aircraft or multiple fatalities (3 or more)	Loss of control, mid air collision, uncontrollable fire on board, explosions, total structural failure of the aircraft, collision with terrain
Major Accident	1 or 2 fatalities, multiple serious injuries, major damage to the aircraft	High speed taxiway collision, major turbulence injuries
Minor Injuries or damage	Minor injuries, minor damage to aircraft	Pushback accident, minor weather damage
No accident outcome	No potential damage or injury could occur	Any event which could not escalate into an accident, even if it may have operational consequences (e.g. diversion, delay, individual sickness)

j. RCS 'Probability of the potential accident outcome' score – direct conversion

If the occurrence report contains an ARMS 'Barrier Effectiveness' rating, then to determine the RCS 'Probability of potential accident outcome' score a following direct conversion to the RCS matrix is used.

Figure 4 Conversion of ARMS-ERC to RCS probability categories.



Corresponding Barrier Score	9	8	7	6	5	4	3	2	1	0
Barrier Weight Sum	17-18	15-16	13-14	11-12	9-10	7-8	5-6	3-4	1-2	0
Probability	10^{-9}	10^{-8}	10^{-7}	10^{-6}	10^{-5}	10^{-4}	10^{-3}	10^{-2}	10^{-1}	1
Description	Remaining barriers preedicted to fail 1 in 1,000M times	Remaining barriers preedicted to fail 1 in 100M times	Remaining barriers preedicted to fail 1 in 10M times	Remaining barriers preedicted to fail 1 in 1M times	Remaining barriers preedicted to fail 1 in 100,000 times	Remaining barriers preedicted to fail 1 in 10,000 times	Remaining barriers preedicted to fail 1 in 1,000 times	Remaining barriers preedicted to fail 1 in 100 times	Remaining barriers preedicted to fail 1 in 10 times	Realised accidents

k. Equivalent RCS Score

The combination of the RCS 'Severity of potential accident outcome' and 'Probability of potential accident outcome' scores are combined in the RCS matrix to generate an equivalent RCS score as laid down in Step 2 of MCAR-MOR.C.04.

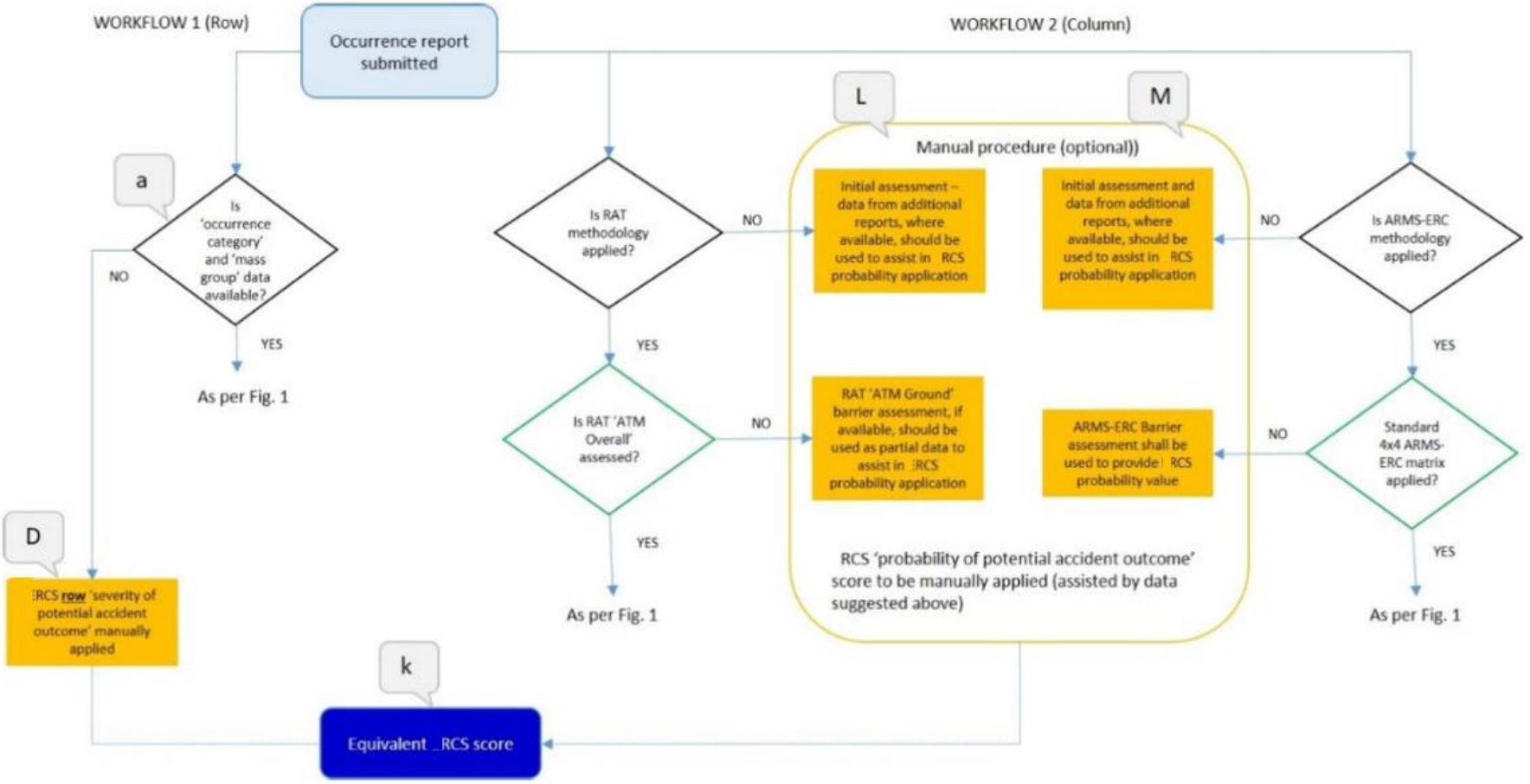
2. MANUAL CONVERSION

This manual conversion consists of the following two workflows:

— Workflow 1 - provides a manual conversion to obtain the RCS severity score,

— Workflow 2 - provides a manual conversion to obtain the RCS probability score.

Figure 5 Manual conversion



2.1. WORKFLOW 1

D. RCS 'Severity of potential accident outcome' score – manual conversion

— If the occurrence report contains no information about the 'occurrence category' or 'mass group', or both, then the RCS methodology defined in MCAR-MOR.C.04 applies to determine the 'Potential Accident Outcome' or Key Risk Area. The final result is (k), which gives the first digit corresponding to the alphabetic value resulting from the calculation of the severity of the occurrence (severity score A to X).

2.2. WORKFLOW 2

L. RCS column 'Probability of potential accident outcome' – manual procedure

— For the occurrence reports containing no 'ATM overall' severity there is no direct conversion to the RCS 'Probability of potential accident outcome' score.

The 'ATM ground' severity can however provide for a partial conversion by mapping the 'ATM ground' barrier assessment and the RCS barrier assessment process defined in paragraph 2.1.3 (Barrier assessment) of MCAR-MOR.C.04.

M. RCS 'Probability of potential accident outcome' score – manual process

If the occurrence reports do not use the 4x4 ARMS-ERC matrix to score the occurrence, to generate an RCS 'Probability of potential accident outcome' score the ARMS-ERC barrier assessment value is converted into the RCS barrier assessment laid down in paragraph 2.1.3 (Barrier assessment) of MCAR-MOR.C.04.

k. Equivalent RCS Score

The combination of the RCS 'Severity of potential accident outcome' and 'Probability of potential accident outcome' scores are combined in the RCS matrix to generate an equivalent RCS score as laid down in Step 2 of MCAR-MOR.C.04.

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 Authority 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 incident/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.

Note: Obstacle includes vehicle.

(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.

(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-Part-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 incident/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, including near-controlled flight into terrain (near CFIT).

Note: Obstacle includes vehicle.

(b) Separation minima infringement

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.

(c) Inadequate separation

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.

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

(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 incident/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) collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle.

Note: Obstacle includes vehicle.

(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:

(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 fueling 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 incident/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

Note: 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 load sheet 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 for the Safe Transport of Dangerous Goods by Air (ICAO — Doc 9284).

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

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

(g) Significant spillage during fueling 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 incident/serious incident.

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.

This applies only to commercial operations.

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.

(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.

Note: Obstacle includes vehicle.

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

Note: Obstacle includes vehicle.

(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 carburetor icing which has or could have endangered the aircraft, its occupants or any other person.

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 aero tow 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.

Note: Obstacle includes vehicle.

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

Note: Obstacle includes vehicle.

(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).

(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 which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

Note: Obstacle includes vehicle.

(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.

APPENDIX 7 – Interested Parties

(a) List of interested parties which may receive information on the basis of a case-by-case decision under paragraph (d) of MCAR-MOR.B.11 or on the basis of a general decision under paragraph (f) of MCAR-MOR.B.11:

(i) Manufacturers: designers and manufacturers of aircraft, engines, propellers and aircraft parts and appliances, and their respective associations; designers and manufacturers of air traffic management (ATM) systems and constituents; designers and manufacturers of systems and constituents for air navigation services (ANS); designers and manufacturers of systems and equipment used on the air side of aerodromes.

(ii) Maintenance: organisations involved in the maintenance or overhaul of aircraft, engines, propellers and aircraft parts and appliances; in the installation, modification, maintenance, repair, overhaul, flight checking or inspection of air navigation facilities; or in the maintenance or overhaul of aerodrome air side systems, constituents and equipment.

(iii) Operators: airlines and operators of aircraft and associations of airlines and operators; aerodrome operators and associations of aerodrome operators.

(iv) Air navigation services providers and providers of ATM-specific functions.

(v) Aerodrome service providers: organisations in charge of ground handling of aircraft, including fueling, load sheet preparation, loading, de-icing and towing at an aerodrome, as well as rescue and firefighting, or other emergency services.

(vi) Aviation training organisations and Approved Maintenance Training Organisation.

(vii) Third-country organisations: governmental aviation authorities and accident investigation authorities from third countries.

(viii) International aviation organisations.

(ix) Research: public or private research laboratories, centres or entities; or universities engaged in aviation safety research or studies.

(b) List of interested parties which may receive information on the basis of a case-by-case decision under paragraphs (d) and (e) of MCAR-MOR.B.11:

(i) Pilots (on a personal basis).

(ii) Air traffic controllers (on a personal basis) and other ATM/ANS staff carrying out safety- related tasks.

(iii) Engineers/technicians/air traffic safety electronic personnel/aviation (or aerodrome) managers (on a personal basis).

(iv) Professional representative bodies of staff carrying out safety-related tasks.

APPENDIX 8 – Request for Information from the Repository Database

When interested parties (Appendix 7) request for information they must ensure, to include:

(a) Name:

(b) Function/position:

(c) Company:

(d) Address:

(e) Tel.:

(f) E-mail:

(g) Date:

(h) Nature of business:

(i) Category of interested party (see Appendix 7 on the reporting, analysis and follow-up of occurrences in civil aviation):

(j) Information requested (please be as specific as possible; include the relevant date/period in which you are interested):

(k) Reason for the request:

(l) Explain the purpose for which the information will be used:

(m) Date by which the information is requested:

(n) The completed form should be sent, via e-mail, to: (point of contact within relevant oversight areas)

(o) Date, place and signature.

Important Note:

(i) Access to information: The Authority is not required/ obliged to supply any requested information. It may do so only if it is confident that the request is compatible with Civil Aviation Regulations. The requestor commits itself and its organisation to restrict the use of the information to the purpose it has described under paragraph (l). It is also recalled that information provided on the basis of this request is made available only for the purposes of flight safety, and not for other purposes such as, in particular, attributing blame or liability or for commercial purposes.

(ii) The requestor is not allowed to disclose information provided to it to anyone without the written consent of the Authority.

(iii) Failure to comply with these conditions may lead to a refusal of access to further information from the Authority and, where applicable, to the imposition of penalties.