

Occurrence, Serious Incident and Accident reporting in the Isle of Man

CP7

FLIGHT DATA
RECORDER

6 February 2023



Isle of Man
CIVIL AVIATION ADMINISTRATION

Isle of Man Civil Aviation Administration

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2. Revision history

Issue	Date	Details
1	January 2018	Initial issue
2	October 2019	Updated reporting of wildlife strikes
3	December 2019	Updated to allow: <ul style="list-style-type: none">• Reports to be made on other than CAA Form 1 subject to IOMCAA approval• Submission of investigation report to be extended to beyond 30 days subject to IOMCAA approval
4	01 December 2020	Complete update to reflect the requirements of the Civil Aviation (Occurrence Reporting) Order 2020 ¹ and the Civil Aviation (Investigation of Air Accidents and Incidents) Order 2019 ²
5	6 February 2023	Section 1, sub-section 2.3 updated to clarify investigation requirements.

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¹ SD 2020/0137

² SD 2019/0267

3. Foreword

- 3.1 This Isle of Man CAA (IOMCAA) Publication (CP) provides guidance on the processes and procedures for the reporting of occurrences, serious incidents and accidents that occur within the Isle of Man. If followed, this will ensure compliance with the Civil Aviation (Occurrence Reporting) Order 2020³ (referred to as ‘the Occurrence Reporting Order’) and the Civil Aviation (Investigation of Air Accidents and Incidents) Order 2019⁴ (referred to as ‘the Air Accidents Order’).
- 3.2 **This document is intended for use by personnel operating in the Isle of Man; operators of Isle of Man registered aircraft should refer directly to [Registry Publication 5](#).**
- 3.3 This document is presented in two sections:
- Section 1 deals with occurrence reporting; and
 - Section 2 deals with accident and serious incident reporting.
- 3.4 The Isle of Man is not bound by EU regulations pertaining to occurrence reporting and **does not** use the European Central Repositories for occurrences (ECR-ECCAIRS).
- 3.5 The IOMCAA promotes a **just culture** in the interests of the ongoing development of flight safety. Just culture is a culture in which front-line operators and others are not punished for actions, omissions or decisions taken by them which are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated.
- 3.6 It is fundamental to the purpose of the reporting of incidents and accidents that the knowledge gained from the investigation of these occurrences is disseminated so that we may all learn from them. Without prejudice to the proper discharge of its responsibilities, the IOMCAA will not disclose the name of the person submitting the report or of a person to whom it relates unless required to do so by law, or the person concerned authorises disclosure.
- 3.7 If any safety follow-up action arising from a report is necessary, the IOMCAA will take all reasonable steps to avoid disclosing the identity of the reporter or of those individuals involved in any reportable occurrence. However, personal details may need to be shared with the licensing authority of the individual e.g. UK CAA for the holder of a UK issued flight crew or air traffic controller licence.

³ SD 2020/0137

⁴ SD 2019/0267

4. Interpretation

Term	Interpretation ⁵
AAIB	The United Kingdom's Air Accidents Investigation Branch which is part of the United Kingdom's Department for Transport;
Accident	<p>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 an 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:</p> <p>(1) a person is fatally or seriously injured as a result of:</p> <ul style="list-style-type: none">(a) being in the aircraft, or(b) direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or(c) direct exposure to jet blast, <p>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</p> <p>(2) 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, tyres, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damage to main rotor blade, tail rotor blades, landing gear, and those resulting from hail or bird strike (including the radome); or</p> <p>(3) the aircraft is missing or completely inaccessible.</p>
AIRPROX	A situation which, in the opinion of a pilot or controller, the distance between aircraft as well as their relative positions and speeds have been such that the safety of the aircraft involved was or may have been compromised.
Occurrence	Any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person and includes in particular an accident or serious incident.
Safety data	A defined set of facts or set of safety values collected from various aviation-related sources, which is used to maintain or improve safety.

⁵ Definitions taken from the Occurrence Reporting Order, Air Accidents Order or the Civil Aviation (Miscellaneous Provisions) Order 2020 (SD 2020/0134)

Term	Interpretation ⁵
Safety information	Safety data processed, organized or analysed in a given context so as to make it useful for safety management purposes.
Serious incident	An incident involving circumstances indicating that there was a high probability of an accident and is 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 it comes to rest at the end of the flight and the primary propulsion system is shut down.
Wildlife or bird strike	An occurrence wither witnessed by ATC or advised by a pilot where an aircraft has come into contact with one or more birds or other wildlife.

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Section 1

Occurrence Reporting

1. Objective of occurrence reporting

- 1.1 The sole objective of occurrence reporting which is undertaken pursuant to the Occurrence Reporting Order is the prevention of accidents and incidents, without the apportionment of blame or liability.
- 1.2 Effective reporting of hazards by operational personnel is an important element in the management of safety. An operational environment in which personnel are trained and encouraged to submit reports is a prerequisite of effective safety reporting.
- 1.3 A person must not make a report under the Occurrence Reporting Order if the person knows or has reason to believe is false in any material particular.

2. Mandatory Occurrence Reports

2.1 Requirement to report

- 2.1.1 The following persons must report occurrences which may represent a significant risk to aviation safety and which fall into the categories listed in paragraph 2.1.2 **within 72 hours** of that person becoming aware of the occurrence:
 - (a) a person who performs a function the Isle of Man as a staff member of an air traffic services provider entrusted with responsibilities related to air traffic services;
 - (b) a person who performs a function connected with the safety management of Isle of Man Airport;
 - (c) a person employed by or at Isle of Man Airport who performs a function relating to the operation of the aerodrome;
 - (d) a person who performs a function connected with the installation, modification, maintenance, repair, overhaul, flight-checking or inspection of air traffic service equipment⁶ approved by the department;
 - (e) the remote pilot of a small unmanned aircraft having mass of not less than 250 grams;
 - (f) a person who is involved with the transport of dangerous goods by air.
- 2.1.2 The categories referred to in paragraph 2.1.1 are:
 - (a) Occurrences related to the operation of aircraft, including:
 - (i) collision-related occurrences;
 - (ii) take-off and landing related occurrences;
 - (iii) fuel-related occurrences;
 - (iv) in-flight occurrences;

⁶ See the Civil Aviation (Air Traffic Services) Order 2020 (SD 2020/0136)

- (v) communication-related occurrences;
 - (vi) occurrences related to injury, emergencies and other critical situations;
 - (vii) crew incapacitation and other crew related occurrences;
 - (viii) meteorological conditions or security-related occurrences;
 - (ix) actual or potential wildlife strikes.
- (b) Occurrences related to technical conditions, maintenance and repair of aircraft, including:
- (i) structural defects;
 - (ii) system malfunctions;
 - (iii) maintenance and repair problems;
 - (iv) propulsion problems (including engines, propellers and rotor systems) and auxiliary power unit problems.
- (c) Occurrences related to air traffic services and facilities, including:
- (i) collisions, near collisions or potential for collisions;
 - (ii) operational occurrences.
- (d) Occurrences related to aerodromes and ground services, including:
- (i) occurrences related to aerodrome activities and facilities;
 - (ii) occurrences related to handling of passengers, baggage, mail and cargo;
 - (iii) occurrences related to aircraft ground handling and related services;
 - (iv) wildlife/habitat management.
- (e) Dangerous goods incidents, including:
- (i) the discovery of undeclared or misdirected dangerous goods in mail or cargo;
 - (ii) dangerous goods having been carried when not loaded, segregated, separated or secured in accordance with the Civil Aviation (Safe Transport of Dangerous Goods by Air) Order 2020⁷;
 - (iii) dangerous goods having been carried without information being provided to the pilot in command in accordance with the Civil Aviation (Safe Transport of Dangerous Goods by Air) Order 2020;

⁷ SD 2020/0138 which applies ICAO Doc 9284 as the law of the Island

- (iv) the discovery of dangerous goods not permitted by the Civil Aviation (Safe Transport of Dangerous Goods by Air) Order 2020 either in the baggage or on the person of passengers or crew members.

2.1.3 Examples of occurrences to be reported can be found at [Annex A](#).

2.2 Initial reporting

2.2.1 Mandatory Occurrence Reports must be submitted to the IOMCAA on CAA Form 1 or other format approved by the IOMCAA. The IOMCAA will acknowledge receipt of the report and will issue a unique occurrence reference number⁸ (multiple reports relating to the same occurrence will be allocated the same reference number).

2.2.2 Persons submitting reports should also comply with the requirements of their organisation's safety management system.

2.2.3 For AIRPROX events which have occurred in the UK FIRs, an AIRPROX report should be sent directly to the UK AIRPROX Board (UKAB). An occurrence report should also be submitted to the IOMCAA making clear reference to the status as an AIRPROX.

2.2.4 It is important for the narrative of the report to clearly describe what happened or was found and any immediate actions taken to address the situation. Follow the time sequence of the occurrence and include all the relevant facts. Do not assume or make anything up but do provide suggestions or recommendations which might assist the subsequent assessment and investigation. It helps to be concise; keep sentences and paragraphs as short as possible. Accepted aeronautical abbreviations may be used. It may help to include diagrams or photographs. If possible, ask someone to check your report before submission to ensure that it makes sense, contains the relevant information and can be interpreted as intended.

2.3 Investigation by the reporter/organisation

2.3.1 An employer of a person listed in paragraph [2.1.1](#) must establish procedures for the investigation of reports made under paragraph [2.1.2](#).

2.3.2 A report must be investigated and the results submitted to the IOMCAA **within 30 days** from the date of the occurrence being reported or such longer period that has been agreed by the Department.

2.3.3 Where technical requirements or other complexities preclude an organisation from completing the full investigation within the timescale at section 2.3.2, the organisation must submit its preliminary findings to IOMCAA on or before day 30. The preliminary findings must include, as far as possible:

- (a) the root cause, or if this is yet to be determined an indication of the likely root cause;
- (b) any corrective actions identified thus far in the investigation;
- (c) what further actions are required to complete the investigation; and
- (d) the date when the organisation will be able to complete the investigation.

⁸ Agreement may be reached to use the reporting organisation's own reference number if required.

- 2.3.4 The investigation should be conducted in accordance with any requirements specified in the organisation's safety management system (if applicable). The investigator should be a person who was not directly involved in the occurrence but who has sufficient technical knowledge of the subject to make the investigation meaningful. The investigation should establish:
- (a) the root causes that led to the occurrence (see paragraph 2.3.5);
 - (b) corrective measures that will be put in place to avoid similar events in future.
- 2.3.5 Organisations should focus their investigatory efforts on their involvement in the occurrence and should not seek to establish a true root cause where this lies outside their own purview. For example an airport receiving a diversion due to smoke in the cabin should not attempt to establish the cause of the smoke, which is for the aircraft operator, but should instead focus on their own emergency/abnormal situation procedures and handling of the situation which was presented to them.
- 2.3.6 Further guidance on the conduct of an occurrence investigation can be found at [Annex B](#).

2.4 Isle of Man CAA actions

- 2.4.1 The IOMCAA will review the completed Part 1 and Part 2 of the CAA Form 1 (or alternative approved form) to:
- (a) ensure that the root causes have been identified;
 - (b) confirm that appropriate corrective measures have been put in place;
 - (c) establish any common themes and trends; and
 - (d) identify any wider safety promotion or follow on activity that the IOMCAA needs to undertake.
- 2.4.2 The IOMCAA will subsequently provide feedback to the reporter/organisation submitting the report if considered appropriate and will confirm when the occurrence is considered to be 'closed'.
- 2.4.3 In situations where paragraph 2.3.4 applies, IOM CAA will make a determination as to the acceptability of the information provided and may choose to 'close' the report or agree an extension to the 30-day period as appropriate.

3. Voluntary Occurrence Reports

- 3.1 A voluntary safety reporting system has been established by IOMCAA to collect safety data and safety information not captured by the mandatory safety reporting system. These reports go beyond typical incident reporting and tend to illuminate latent conditions, such as inappropriate safety procedures or regulations, human error, etc.
- 3.2 Any person not listed in paragraph [2.1.1](#) who is directly engaged in Isle of Man aviation activities is encouraged to report occurrences voluntarily. Likewise, any person may voluntarily report any occurrence not meeting the requirements of paragraph [2.1.2](#).

- 3.3 Voluntary reports of any actual or potential hazard may be submitted to the IOMCAA by following the same process as for the submission of Mandatory Occurrence Reports.

4. Confidential reporting

- 4.1 If any reporter considers that it is essential that their identity not be revealed, the report itself should be clearly annotated '**CONFIDENTIAL**' and submitted directly to the '**Director of Civil Aviation**' with the envelope marked '**PERSONAL**'.
- 4.2 Except where an occurrence is reported in respect of gross negligence, wilful violations or destructive acts, reports submitted confidentially will not be shared outside the IOMCAA without the express consent of the reporter. Distribution of the report within the IOMCAA will be limited to those officers necessary to process and investigate the occurrence.
- 4.3 Reporters submitting a Confidential Report must also accept that effective investigation may be inhibited, but it is worth noting that the IOMCAA would rather have a confidential report than no report at all.

5. Reporting of wildlife strikes

- 5.1 Actual or potential wildlife strikes that occur whilst the aircraft is in or over the Isle of Man must be reported to the IOMCAA. Such reporting should be through the Mandatory Occurrence Reporting process detailed in [paragraph 2](#).
- 5.2 Isle of Man Airport should utilise the Mandatory Occurrence Reporting process to report actual or potential wildlife strikes that cause damage to an aircraft or that cause an operational impact and which falls within the definition of an 'occurrence'.
- 5.3 Isle of Man Airport should establish an internal wildlife strike reporting system to capture all reports of actual or suspected wildlife strikes that occur on and in the vicinity of the aerodrome. Knowing the time, location, numbers and species can assist greatly in tackling any local habitat issues or activities that may increase the wild life strike risks. Reasonable efforts should also be made to identify the species involved in any strike as this greatly increases the value of the report by allowing the aerodrome to investigate, or trend reports to identify any attractants and habits.

6. Reporting of Foreign Object Debris (FOD)

- 6.1 Foreign object debris (FOD) which may present a significant risk to aviation safety must be reported to the Isle of Man CAA by Mandatory Occurrence Report (MOR). Other FOD found on the movement areas of the airport must be reported and monitored internally to Isle of Man Airport.
- 6.2 Whilst there is necessarily some judgement required in determining what may constitute a significant risk to aviation safety, consideration must be given to the location the item was found, its size and the material from which it is manufactured. The following table gives guidance on the types of FOD reportable to IOMCAA:

Location found	Type	MOR?
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On/in contact with aircraft wherever the aircraft may be located (e.g. in engine nacelle, landing gear)	Any	Yes
Runway (including runway strips)	Any	Yes
Taxiway	Significant	Yes
Apron	Not significant	No
Maintenance area		

6.3 The judgement of what is considered 'significant' or 'not significant' may be assisted by the following table:

Term	Interpretation
Significant	<p>High concentration of small domestic litter (baggage tags, crisp packets, drink bottles: 5 items or more together)</p> <p>Large domestic litter (larger bottles, plastic sheeting, tarpaulins)</p> <p>Larger items of hardware (screws, bolts, nuts: 10mm or larger)</p> <p>Tools (screwdrivers, wrenches, spades, power tools: any size)</p> <p>Suspected aircraft or vehicle parts (cables, hoses, plates, tyre fragments)</p> <p>Ground handling items (chocks, engine blanks, locking pins, Pitot tube covers)</p>
Not significant	<p>Low concentration of small domestic litter (baggage tags, crisp packets, drink bottles: fewer than 5 items together)</p> <p>Small items of hardware (screws, bolts, nuts: smaller than 10mm)</p>

7. Safety information protection

7.1 Overview

- 7.1.1 The Occurrence Reporting Order provides legal protection about the use and sharing of safety data and information. The objective of protecting safety data, safety information and their related sources in legislation is to ensure their continued availability, with a view to using it for maintaining or improving aviation safety, while encouraging individuals and organizations to report safety data and safety information. In this context, the importance of implementing protections cannot be overstated. The legal protections are not intended to relieve sources of their safety related obligations or interfere with the proper administration of justice.
- 7.1.2 Aviation safety is not the sole responsibility of the IOMCAA or service providers. It is a shared responsibility to which all stakeholders should contribute by, among other things, providing relevant data and information through safety reports.
- 7.1.3 While data and information can come from various sources, reporting of safety data and safety information by individuals and organizations in the aviation system is fundamental to safety management. Effective safety reporting systems help to ensure that people are and remain willing to report their errors and experiences, so that the IOMCAA and service providers have access to the relevant data and information necessary to address existing and potential safety deficiencies and hazards. This assurance is provided by creating an environment in which people can be confident that safety data and safety information will be used exclusively for maintaining and improving safety, unless one of the principles of exception applies (see [paragraph 7.4](#)).

- 7.1.4 Preventive, corrective or remedial action, based on reported safety data and safety information, may necessarily be taken by IOMCAA and service providers for the purposes of maintaining or improving safety:
- a) guarding against the potential for immediate harm or injury as a result of a safety risk until that risk can be identified and mitigated;
 - b) ensuring that appropriate action is taken to minimize the likelihood that such a risk might occur again in the future;
 - c) preventing exposure to an unmitigated safety risk; or
 - d) ensuring the integrity of the reporting system itself and the larger system of which the reporting system is a part.
- 7.1.5 Because such actions are fundamental to the objectives and efficacy of any safety management system, the Occurrence Reporting Order expressly provides that preventive, corrective or remedial action to maintain or improve aviation safety shall not be prevented. Such actions may be taken as a function of applicable safety management processes and are therefore not subject to the principles of exception set out in [paragraph 7.4](#).
- 7.1.6 Preventive, corrective or remedial action may entail restricting, limiting or preventing the exercise of certain privileges (which may include the suspension or revocation of licence privileges), the performance of services or the operation of aircraft, until the safety risks identified have been effectively addressed. When taken for these purposes, under established protocols, protective or precautionary actions are not to be regarded as punitive or disciplinary. The purpose of such actions is to prevent or minimize the exposure to an unmitigated safety risk.
- 7.1.7 Preventive action may be understood to involve action taken to prevent the occurrence or recurrence of an event or a hazard that poses a risk to safety
- 7.1.8 Corrective action may be understood to involve action taken to address particular safety-related shortcomings or deficiencies, such as an authorisation holder who is unable to demonstrate compliance with applicable safety or competency standards. Corrective action may be necessary to bring an authorisation holder back into compliance.
- 7.1.9 Remedial action may be understood to involve action taken to address the underlying causes of particular safety-related shortcomings or deficiencies, such as training. Remedial action might also involve restricting, limiting, suspending or revoking the privileges of an authorization, certificate or licence holder who fails to continue to meet the necessary qualifications to exercise those privileges.

7.2 Isle of Man CAA

- 7.2.1 The IOMCAA must take such measures as are reasonably necessary to protect all safety data and safety information obtained by it through occurrence reports and investigations from misuse.
- 7.2.2 The IOMCAA must not use safety data or safety information obtained under the Occurrence Reporting Order for purposes other than maintaining or improving safety and taking any

preventative, corrective or remedial action necessary. This may include the revocation, suspension or variation of certificates, licences or other documents.

7.2.3 The IOMCAA may share safety data or information with other civil aviation authorities in the interests of safety. Any information shared in this way will be subject to an agreement made with the other civil aviation authority detailing the level of protection required and the conditions on which the data or information will be shared.

7.2.4 The IOMCAA may not share safety data or information to anyone other than another civil aviation authority, except for the purpose of improving aviation safety or where a principle of exception applies (see [paragraph 7.4](#)). Information shared for the purpose of improving safety will not identify any individual.

7.3 Other persons/organisations

7.3.1 A person, other than the Department, must take such measures as are reasonably necessary to protect all safety data and safety information obtained by the person under the provisions of the Occurrence Reporting Order from use for a purpose otherwise than in accordance with the Occurrence Reporting Order.

7.3.2 A person must not use safety data or safety information obtained under the Occurrence Reporting Order for any purpose other than for the purposes of maintaining or improving safety and to take any preventative, corrective or remedial action that is necessary, including restricting or withdrawing any persons under the person's control from an operational duty.

7.3.3 A person must not disclose any safety data or safety information other than for the purpose of promoting or improving aviation safety. Any such disclosure must not identify any individual, whether by the omission of names or otherwise. Persons requiring to disclose safety data or safety information for any other purpose must only do so in accordance with an approval granted by the IOMCAA and subject to any conditions specified in the approval. Approvals will only be granted where a principle of exception ([paragraph 7.4](#)) applies.

7.4 Principles of exception

7.4.1 A principle of exception may only be used when there has been an occurrence and one of the following applies:

- (1) there is evidence that an occurrence reported under the Occurrence Reporting Order was likely to have been caused by gross negligence, wilful misconduct or criminal activity;
- (2) disclosure of safety data or safety information is necessary for the proper administration of justice; or
- (3) release is necessary for the wider purpose of maintaining or improving aviation safety in general beyond any immediate preventative, corrective or remedial action.

7.4.2 In order to apply principles (2) or (3) above, the benefits of releasing the safety data or safety information must outweigh the potential adverse impact (both domestic and international) it would likely have on the future collection and availability of such data and information.

7.5 Freedom of information and court proceedings

- 7.5.1 In order to encourage full and open occurrence reporting without fear of the information being misrepresented, the Occurrence Reporting Order specifies that:
- (1) safety data and safety information is absolutely exempt information for the purposes of the Freedom of Information Act 2015⁹; and
 - (2) except where a principle of exception ([paragraph 7.4](#)) applies, safety data or safety information obtained under the Occurrence Reporting Order must not be disclosed for use in civil¹⁰ or criminal proceedings.
- 7.5.2 The Freedom of Information Act provides a person resident in the Island with the statutory right to make a request for information held by any public authority listed in Schedule 1 to that Act. As the Department of Enterprise and the Department of Infrastructure are captured by this list, information held by the IOMCAA and IOM Airport is subject to the provisions of the Act. However, the Act also specifies that information is “absolutely exempt” from release if its disclosure by the public authority holding it is restricted by law (e.g. the Occurrence Reporting Order).
- 7.5.3 The following elements of the principles of exceptions are expected to be relevant to civil or criminal proceedings:
- (1) evidence that indicates that an occurrence reported under the Occurrence Reporting Order was likely to have been caused by an act or omission considered to be conduct constituting gross negligence, wilful misconduct or criminal activity; or
 - (2) disclosure of safety data or safety information is necessary for the proper administration of justice and the benefits of its release outweigh the adverse domestic and international impact such release would likely have on the future collection and availability of safety data and safety information.
- 7.5.4 It would be expected that all involved in any such civil or criminal proceeding would take account of requirements of the Occurrence Reporting Order; however, the final arbiter as to whether a principle applied would be the court.

⁹ AT 8 of 2015

¹⁰ ‘Civil cases’ are those involving disputes between people or businesses over money or some injury to personal rights.

Section 2

Accident & Serious Incident Reporting

1. Air accident legislation and investigation authority

1.1 Applicable legislation

1.1.1 The Civil Aviation (Investigation of Air Accidents and Incidents) Order 2019¹¹ (hereafter the ‘Air Accidents Order’) replicates the provisions of the UK Civil Aviation (Investigation of Air Accidents and Incidents) Regulations 2018¹² in the Isle of Man and applies EU Regulation 996/2010¹³ as the law of the Island.

1.2 Safety investigation authority and accident investigation authority

1.2.1 The UK Air Accidents Investigation Branch (‘AAIB’) is designated as:

- (a) the safety investigation authority for the Island for the purposes of Article 4 of Regulation 996/2010; and
- (b) the accident investigation authority for the Island for the purposes of Annex 13 to the Convention on International Civil Aviation (‘Chicago Convention’)¹⁴.

1.2.2 The AAIB is subject to the law of the Island in respect of the performance of the powers and obligations of the safety investigation authority in the Island under Regulation 996/2010.

2. Serious incident and accident reporting

2.1 Objective of investigations

2.1.1 The sole objective of a safety investigation which is undertaken pursuant to Regulation 996/2010, Annex 13 or the Air Accident Order is the prevention of accidents and incidents, without the apportionment of blame or liability.

2.2 Interpretation

2.2.1 **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 it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

- (a) a person is fatally or seriously injured as a result of:
 - (i) being in the aircraft;
 - (ii) direct contact with any part of the aircraft, including parts which have become detached from the aircraft; or

¹¹ SD 2019/0267

¹² SI 2018/321

¹³ Regulation (EU) No 996/2010 as amended by Regulation (EU) No 376/2014 and Regulation (EU) No 2018/1139 of the European Parliament and of the Council of 4 July 2018.

¹⁴ ICAO Doc 7300

(iii) 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;

(b) 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 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

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

2.2.2 **Serious incident** means an incident involving circumstances indicating that there was a high probability of an accident and is 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 it comes to rest at the end of the flight and the primary propulsion system is shut down.

3. Accident and serious incident reports

3.1 Requirement to report

3.1.1 Any person involved who has knowledge of the occurrence of an accident or serious incident in or over the Isle of Man must notify the AAIB without delay (telephone: **01252 512 299**).

3.1.2 **Person involved** means the owner, a member of the crew, the operator of the aircraft involved in an accident or serious incident; any person involved in the maintenance, design, manufacture of that aircraft or in the training of its crew; any person involved in the provision of air traffic control, flight information or aerodrome services, who have provided services for the aircraft; staff of the national civil aviation authority.

3.2 Initial report

3.2.1 The following information shall be provided when informing the AAIB:

- (a) type, model, nationality and registration marks of the aircraft;
- (b) names of the owner, operator and hirer (if any) of the aircraft;
- (c) name of the commander of the aircraft;
- (d) date and time (UTC) of the accident or serious incident;
- (e) last point of departure and the next point of intended landing of the aircraft;
- (f) position of the aircraft in relation to some easily defined geographical location;

- (g) number of:
 - (i) crew on board and the number killed or seriously injured;
 - (ii) passengers on board and the number killed or seriously injured;
 - (iii) other persons killed or seriously injured as a result of the accident;
- (h) nature of the accident or serious incident and the extent of damage as far as is known.

3.2.2 Part 1 of [CAA Form 1](#) must also be completed and submitted to the IOMCAA no later than 72 hours following discovery of the accident or serious incident. It is expected that the Part 2 will be completed and submitted to the IOMCAA following the completion of the independent accident/serious incident investigation by the AAIB.

4. Safety information protection

4.1 Safety sensitive information

4.1.1 The following records shall not be made available or used for purposes other than safety investigation:

- (a) all statements taken from persons by the safety investigation authority in the course of the safety investigation;
- (b) records revealing the identity of persons who have given evidence in the context of the safety investigation;
- (c) information collected by the safety investigation authority which is of a particularly sensitive and personal nature, including information concerning the health of individuals;
- (d) material subsequently produced during the course of the investigation such as notes, drafts, opinions written by the investigators, opinions expressed in the analysis of information, including flight recorder information;
- (e) information and evidence provided by investigators from other Member States or third countries in accordance with the international standards and recommended practices, where so requested by their safety investigation authority;
- (f) drafts of preliminary or final reports or interim statements;
- (g) cockpit voice and image recordings and their transcripts, as well as voice recordings inside air traffic control units, ensuring also that information not relevant to the safety investigation, particularly information with a bearing on personal privacy, shall be appropriately protected, without prejudice to paragraph 4.1.4.

4.1.2 The following records shall not be made available or used for purposes other than safety investigation, or other purposes aiming at the improvement of aviation safety:

- (a) all communications between persons having been involved in the operation of the aircraft;

- (b) written or electronic recordings and transcriptions of recordings from air traffic control units, including reports and results made for internal purposes;
- (c) covering letters for the transmission of safety recommendations from the safety investigation authority to the addressee, where so requested by the safety investigation authority issuing the recommendation.

4.1.3 Flight data recorder recordings shall not be made available or used for purposes other than those of the safety investigation, airworthiness or maintenance purposes, except when such records are de-identified or disclosed under secure procedures.

4.1.4 Notwithstanding paragraphs 4.1.1 and 4.1.2 the administration of justice or the authority competent to decide on the disclosure of records according to national law may decide that the benefits of the disclosure of the records referred to in paragraphs 4.1.1 and 4.1.2, for any other purposes permitted by law outweigh the adverse domestic and international impact that such action may have on that or any future safety investigation. Member States may decide to limit the cases in which such a decision of disclosure may be taken, while respecting the legal acts of the Union.

4.1.5 The communication of records referred to in paragraphs 4.1.1 and 4.1.2 to another Member State for purposes other than safety investigation and, in addition as regards paragraph 4.1.2, for purposes other than those aiming at the improvement of aviation safety may be granted insofar as the national law of the communicating Member State permits. Processing or disclosure of records received through such communication by the authorities of the receiving Member State shall be permitted solely after prior consultation of the communicating Member State and subject to the national law of the receiving Member State.

4.1.6 Only the data strictly necessary for the purposes referred to in paragraph 4.1.4 may be disclosed.

4.2 Isle of Man CAA

4.2.1 The IOMCAA must give the AAIB full access to all safety data and information held by the IOMCAA for the purposes of discharging its responsibilities under the Air Accidents Order.

4.5 Protection of information

4.5.0 A person who has received information from an inspector or the investigator-in-charge must not permit that information or any part of it to be disclosed to any person, body or organisation before it is made publicly available by the Chief Inspector of Air Accidents.

4.5.1 The following records shall not be made available or used for purposes other than safety investigation:

- (a) all statements taken from persons by the safety investigation authority in the course of the safety investigation;
- (b) records revealing the identity of persons who have given evidence in the context of the safety investigation;

- (c) information collected by the safety investigation authority which is of a particularly sensitive and personal nature, including information concerning the health of individuals;
- (d) material subsequently produced during the course of the investigation such as notes, drafts, opinions written by the investigators, opinions expressed in the analysis of information, including flight recorder information;
- (e) information and evidence provided by investigators from other Member States or third countries in accordance with the international standards and recommended practices, where so requested by their safety investigation authority;
- (f) drafts of preliminary or final reports or interim statements;
- (g) cockpit voice and image recordings and their transcripts, as well as voice recordings inside air traffic control units, ensuring also that information not relevant to the safety investigation, particularly information with a bearing on personal privacy, shall be appropriately protected, without prejudice to paragraph 3.

4.5.2 The following records shall not be made available or used for purposes other than safety investigation, or other purposes aiming at the improvement of aviation safety:

- (a) all communications between persons having been involved in the operation of the aircraft;
- (b) written or electronic recordings and transcriptions of recordings from air traffic control units, including reports and results made for internal purposes;
- (c) covering letters for the transmission of safety recommendations from the safety investigation authority to the addressee, where so requested by the safety investigation authority issuing the recommendation;
- (d) flight data recorder recordings shall not be made available or used for purposes other than those of the safety investigation, airworthiness or maintenance purposes, except when such records are de-identified or disclosed under secure procedures.

Annexes

Annex A – Examples of occurrences to be reported

Overview

- 0.1 This annex contains examples of occurrences that shall be reported. The list cannot be completely comprehensive; therefore any other occurrences which may represent a significant risk to aviation safety should also be reported.
- 0.2 The contents of this Annex shall not preclude the reporting of any occurrence, situation or condition which, if repeated in different but likely circumstances or allowed to continue uncorrected, could create a hazard to aviation safety.
- 0.3 If the circumstances of the events listed below are such that it is considered that an accident nearly occurred, the event shall be classified as a ‘serious incident’ and must be reported to the AAIB (see [Section 2, Paragraph 3](#)).

1. Occurrences related to the operation of the aircraft

1. Air operations

Ref	Occurrences
1.1	Flight preparation (1) 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. (2) 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 (1) Incorrect fuel type or contaminated fuel. (2) Missing, incorrect or inadequate De-icing/Anti-icing treatment.
1.3	Take-off and landing (1) Taxiway or runway excursion. (2) Actual or potential taxiway or runway incursion. (3) Final Approach and Take-off Area (FATO) incursion. (4) Any rejected take-off. (5) Inability to achieve required or expected performance during take-off, go-around or landing. (6) Actual or attempted take-off, approach or landing with incorrect configuration setting. (7) Tail, blade/wingtip or nacelle strike during take-off or landing. (8) Approach continued against air operator stabilised approach criteria. (9) Continuation of an instrument approach below published minimums with inadequate visual references. (10) Precautionary or forced landing. (11) Short and long landing.

Ref	Occurrences
	(12) Hard landing.
1.4	<p>Any phase of flight</p> <p>(1) Loss of control.</p> <p>(2) Aircraft upset, exceeding normal pitch attitude, bank angle or airspeed inappropriate for the conditions.</p> <p>(3) Level bust.</p> <p>(4) Activation of any flight envelope protection, including stall warning, stick shaker, stick pusher and automatic protections.</p> <p>(5) Unintentional deviation from intended or assigned track of the lowest of twice the required navigation performance or 10 nautical miles.</p> <p>(6) Exceedance of aircraft flight manual limitation.</p> <p>(7) Operation with incorrect altimeter setting.</p> <p>(8) Jet blast or rotor and prop wash occurrences which have or could have endangered the aircraft, its occupants or any other person.</p> <p>(9) 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.</p>
1.5	<p>Other types of occurrences</p> <p>(1) Unintentional release of cargo or other externally carried equipment.</p> <p>(2) Loss of situational awareness (including environmental, mode and system awareness, spatial disorientation, and time horizon).</p> <p>(3) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.</p>

2. Technical occurrences

Ref	Occurrences
2.1	<p>Structure and systems</p> <p>(1) Loss of any part of the aircraft structure in flight.</p> <p>(2) Loss of a system.</p> <p>(3) Loss of redundancy of a system.</p> <p>(4) 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.</p> <p>(5) Fuel system malfunctions or defects, which had an effect on fuel supply and/or distribution.</p> <p>(6) Malfunction or defect of any indication system when this results in misleading indications to the crew.</p> <p>(7) 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).</p>

Ref	Occurrences
2.2	<p>Propulsion (including engines, propellers and rotor systems) and auxiliary power units (APUs)</p> <p>(1) Failure or significant malfunction of any part or controlling of a propeller, rotor or powerplant.</p> <p>(2) Damage to or failure of main/tail rotor or transmission and/or equivalent systems.</p> <p>(3) Flameout, in-flight shutdown of any engine or APU when required (for example: ETOPS (Extended range Twin engine aircraft Operations), MEL (Minimum Equipment List)).</p> <p>(4) 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).</p> <p>(5) Failure or malfunction of any part of an engine, powerplant, APU or transmission resulting in any one or more of the following:</p> <ul style="list-style-type: none"> (a) thrust-reversing system failing to operate as commanded; (b) inability to control power, thrust or rpm (revolutions per minute); (c) non-containment of components/debris.

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

Ref	Occurrences
3.1	<p>(1) Unsafe ATC (Air Traffic Control) clearance.</p> <p>(2) Prolonged loss of communication with ATS (Air Traffic Service) or ATM Unit.</p> <p>(3) Conflicting instructions from different ATS Units potentially leading to a loss of separation.</p> <p>(4) Misinterpretation of radio-communication which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(5) Intentional deviation from ATC instruction which has or could have endangered the aircraft, its occupants or any other person.</p>

4. Emergencies and other critical situations

Ref	Occurrences
4.1	<p>(1) Any event leading to the declaration of an emergency ('Mayday' or 'PAN call').</p> <p>(2) Any burning, melting, smoke, fumes, arcing, overheating, fire or explosion.</p> <p>(3) Contaminated air in the cockpit or in the passenger compartment which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(4) Failure to apply the correct non-normal or emergency procedure by the flight or cabin crew to deal with an emergency.</p> <p>(5) Use of any emergency equipment or non-normal procedure affecting in-flight or landing performance.</p> <p>(6) Failure of any emergency or rescue system or equipment which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(7) Uncontrollable cabin pressure.</p> <p>(8) Critically low fuel quantity or fuel quantity at destination below required final reserve fuel.</p>

- (9) Any use of crew oxygen system by the crew.
- (10) Incapacitation of any member of the flight or cabin crew that results in the reduction below the minimum certified crew complement.
- (11) Crew fatigue impacting or potentially impacting their ability to perform safely their flight duties.

5. External environment and meteorology

Ref	Occurrences
5.1	<ul style="list-style-type: none"> (1) A collision or a near collision on the ground or in the air, with another aircraft, terrain or obstacle (including vehicle). (2) ACAS RA (Airborne Collision Avoidance System, Resolution Advisory). (3) Activation of genuine ground collision system such as GPWS (Ground Proximity Warning System)/TAWS (Terrain Awareness and Warning System) 'warning'. (4) Wildlife strike including bird strike. (5) Foreign object damage/debris (FOD). (6) Unexpected encounter of poor runway surface conditions. (7) Wake-turbulence encounters. (8) 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. (9) A lightning strike which resulted in damage to the aircraft or loss or malfunction of any aircraft system. (10) A hail encounter which resulted in damage to the aircraft or loss or malfunction of any aircraft system. (11) Severe turbulence encounter or any encounter resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft. (12) A significant wind shear or thunderstorm encounter which has or could have endangered the aircraft, its occupants or any other person. (13) Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any aircraft system. (14) Volcanic ash encounter.

6. Security

Ref	Occurrences
6.1	<ul style="list-style-type: none"> (1) Bomb threat or hijack. (2) Difficulty in controlling intoxicated, violent or unruly passengers. (3) Discovery of a stowaway.

Occurrences related to technical conditions, maintenance and repair of the aircraft

1. Manufacturing

Ref	Occurrences
1.1	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

Ref	Occurrences
2.1	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.

3. Maintenance and continuing airworthiness management

Ref	Occurrences
3.1	<p>(1) Serious structural damage (for example: cracks, permanent deformation, delamination, debonding, burning, excessive wear, or corrosion) found during maintenance of the aircraft or component.</p> <p>(2) Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other fluids).</p> <p>(3) Failure or malfunction of any part of an engine or powerplant and/or transmission resulting in any one or more of the following:</p> <ul style="list-style-type: none">(a) non-containment of components/debris;(b) failure of the engine mount structure. <p>(4) 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. (5) 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.</p> <p>(6) 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.</p> <p>(7) Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.</p> <p>(8) Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.</p> <p>(9) Serious damage to Electrical Wiring Interconnection System (EWIS).</p> <p>(10) Any defect in a life-controlled critical part causing retirement before completion of its full life.</p> <p>(11) The use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.</p> <p>(12) Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.</p>

Ref	Occurrences
	<p>(13) Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.</p> <p>(14) Releasing an aircraft to service from maintenance in case of any non-compliance which endangers the flight safety.</p> <p>(15) 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> <p>(16) Identified burning, melting, smoke, arcing, overheating or fire occurrences.</p> <p>(17) Any occurrence where the human performance, including fatigue of personnel, has directly contributed to or could have contributed to an accident or a serious incident.</p> <p>(18) 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.</p>

Occurrences related to air navigation services and facilities

1. Aircraft-related occurrences

Ref	Occurrences
1.1	<p>(1) A collision or a near collision on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicle), including near-controlled flight into terrain (near CFIT).</p> <p>(2) Separation minima infringement (prescribed minima not maintained).</p> <p>(3) Inadequate separation (in the absence of prescribed minima, a situation in which aircraft were perceived to pass too close to each other for pilots to ensure safe separation).</p> <p>(4) ACAS RAs.</p> <p>(5) Wildlife strike including bird strike.</p> <p>(6) Taxiway or runway excursion.</p> <p>(7) Actual or potential taxiway or runway incursion.</p> <p>(8) Final Approach and Take-off Area (FATO) incursion.</p> <p>(9) Aircraft deviation from ATC clearance.</p> <p>(10) Aircraft deviation from applicable air traffic management (ATM) regulation:</p> <ul style="list-style-type: none">(a) aircraft deviation from applicable published ATM procedures;(b) airspace infringement including unauthorised penetration of airspace;(c) deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulations. <p>(11) Call sign confusion related occurrences.</p>

2. Degradation of total loss of services or functions

Ref	Occurrences
2.1	<p>(1) Inability to provide ATM services or to execute ATM functions:</p> <ul style="list-style-type: none">(a) inability to provide air traffic services or to execute air traffic services functions;(b) inability to provide airspace management services or to execute airspace management functions;(c) inability to provide air traffic flow management and capacity services or to execute air traffic flow management and capacity functions. <p>(2) Missing or significantly incorrect, corrupted, inadequate or misleading information from any support service (e.g. ATIS, maps, charts, AIS, manuals), including relating to poor runway surface conditions.</p> <p>(3) Failure of communication service.</p> <p>(4) Failure of surveillance service.</p> <p>(5) Failure of data processing and distribution function or service.</p> <p>(6) Failure of navigation service.</p>

Ref	Occurrences
	<p>(7) Failure of ATM system security which had or could have a direct negative impact on the safe provision of service.</p> <p>(8) Significant ATS sector/position overload leading to a potential deterioration in service provision.</p> <p>(9) 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.</p> <p>(10) Prolonged loss of communication with an aircraft or with other ATS unit.</p>

3. Other occurrences

Ref	Occurrences
3.1	<p>(1) Declaration of an emergency ('Mayday' or 'PAN' call).</p> <p>(2) 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).</p> <p>(3) 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.</p> <p>(4) Fuel dumping.</p> <p>(5) Bomb threat or hijack.</p> <p>(6) Fatigue impacting or potentially impacting the ability to perform safely the air navigation or air traffic duties.</p> <p>(7) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.</p>

Occurrences related to aerodromes and ground services

1. Safety management of an aerodrome

Ref	Occurrences
1.1	<p>Aircraft- and obstacle-related occurrences</p> <p>(1) A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicle).</p> <p>(2) Wildlife strike including bird strike.</p> <p>(3) Taxiway or runway excursion.</p> <p>(4) Actual or potential taxiway or runway incursion.</p> <p>(5) Final Approach and Take-off Area (FATO) incursion or excursion.</p> <p>(6) 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).</p>

Ref	Occurrences
	<p>(7) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(8) 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.</p> <p>(9) Push-back, power-back or taxi interference by vehicle, equipment or person.</p> <p>(10) Passengers or unauthorised person left unsupervised on apron.</p> <p>(11) Jet blast, rotor down wash or propeller blast effect.</p> <p>(12) Declaration of an emergency ('Mayday' or 'PAN' call).</p>
1.2	<p>Degradation or total loss of services or functions</p> <p>(1) Loss or failure of communication between:</p> <ul style="list-style-type: none"> (a) aerodrome, vehicle or other ground personnel and air traffic services unit or apron management service unit; (b) apron management service unit and aircraft, vehicle or air traffic services unit. <p>(2) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.</p> <p>(3) Significant deficiencies in aerodrome lighting, marking or signs.</p> <p>(4) Failure of the aerodrome emergency alerting system.</p> <p>(5) Rescue and firefighting services not available according to applicable requirements</p>
1.3	<p>Other occurrences</p> <p>(1) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(2) Aerodrome security related occurrences (for example: unlawful entry, sabotage, bomb threat).</p> <p>(3) 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.</p> <p>(4) Missing, incorrect or inadequate de-icing/anti-icing treatment.</p> <p>(5) Significant spillage during fuelling operations.</p> <p>(6) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).</p> <p>(7) Failure to handle poor runway surface conditions.</p> <p>(8) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.</p>

2. Ground handling of an aircraft

Ref	Occurrences
2.1	Aircraft- and aerodrome-related occurrences

Ref	Occurrences
	<p>(1) A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle (including vehicle).</p> <p>(2) Runway or taxiway incursion.</p> <p>(3) Runway or taxiway excursion.</p> <p>(4) Significant contamination of aircraft structure, systems and equipment arising from the carriage of baggage, mail or cargo.</p> <p>(5) Push-back, power-back or taxi interference by vehicle, equipment or person.</p> <p>(6) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(7) Passengers or unauthorised person left unsupervised on apron.</p> <p>(8) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.</p> <p>(9) Aerodrome security-related occurrences (for example: unlawful entry, sabotage, bomb threat).</p>
2.2	<p>Degradation or total loss of services or functions</p> <p>(1) Loss or failure of communication with aircraft, vehicle, air traffic services unit or apron management service unit.</p> <p>(2) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.</p> <p>(3) Significant deficiencies in aerodrome lighting, marking or signs.</p>
2.3	<p>Ground handling specific occurrences</p> <p>(1) 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).</p> <p>(2) Boarding equipment removed leading to endangerment of aircraft occupants.</p> <p>(3) 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.</p> <p>(4) 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 (1)).</p> <p>(5) Non-compliance on baggage or passenger reconciliation.</p> <p>(6) Non-compliance with required aircraft ground handling and servicing procedures, especially in de-icing, refuelling or loading procedures, including incorrect positioning or removal of equipment.</p> <p>(7) Significant spillage during fuelling operations.</p> <p>(8) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.</p> <p>(9) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).</p> <p>(10) 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)).</p> <p>(11) Missing, incorrect or inadequate de-icing/anti-icing treatment.</p>

Ref	Occurrences
	<p>(12) Damage to aircraft by ground handling equipment or vehicles including previously unreported damage.</p> <p>(13) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.</p>

Occurrences related to small unmanned aircraft including multi-rotor drones and radio-controlled model aircraft

Ref	Occurrences
4.1	<p>Air operations</p> <p>(1) Unintentional loss of control.</p> <p>(2) Landing outside of intended landing area.</p> <p>(3) Inability or failure to achieve required aircraft performance expected.</p> <p>(4) Unintended flight beyond visual line of sight.</p> <p>(5) Unintentional release of payload or article attached to small unmanned aircraft.</p>
4.2	<p>Technical occurrences</p> <p>(1) Any flight control, including telemetry and first-person view downlink, not functioning correctly or disconnected.</p> <p>(2) A failure or substantial deterioration of the aircraft structure.</p> <p>(3) A loss of any part of the aircraft structure or installation in flight.</p> <p>(4) A failure of an engine, rotor, propeller, battery or other essential system.</p>
4.3	<p>Interaction with ATS</p> <p>(1) Interaction with air navigation services (for example: conflicting communications or deviation from clearance) which has or could have endangered any aircraft, or any person.</p> <p>(2) Airspace infringement.</p>
4.4	<p>Emergencies and other critical situations</p> <p>(1) Any occurrence leading to an emergency call by the remote pilot.</p> <p>(2) Fire, explosion, smoke or fumes.</p> <p>(3) Incapacitation of the remote pilot or observer leading to inability to perform any duty.</p>
4.5	<p>External environment and meteorology</p> <p>(1) A collision on the ground or in the air, with another aircraft, terrain or obstacle (including vehicle).</p> <p>(2) A near collision, on the ground or in the air, with another aircraft, terrain or obstacle (including vehicle) requiring an emergency avoidance manoeuvre to avoid a collision.</p> <p>(3) Wildlife strike including bird strike which resulted in damage to or loss of functions of the small unmanned aircraft.</p> <p>(4) A lightning strike resulting in damage to or loss of functions of the aircraft.</p>

Annex B – Guidance on the conduct of occurrence investigations

1. Introduction

- 1.1 Identifying the lessons to be learned from a safety occurrence requires an understanding of not just what happened, but why it happened. Therefore, the investigation should look beyond the obvious causes and aim to identify the contributory factors, some of which may be related to weaknesses in the system's defences or other organisational issues.
- 1.2 For maximum effectiveness, the outcome of the investigation should focus on determining hazards and risks and not on identifying individuals to blame. The way the investigation is conducted significantly influences the overall safety culture in the aviation organisation.
- 1.3 Investigations into occurrences should be proportionate to the complexity of the event. It is also recognised that investigations may be conducted by lone individuals or by organisations with formal safety management systems. Therefore it is inappropriate to specify exact methodologies or detail to be applied in each case. However, the generic guidance below should be useful to all.

2. Investigation phases

- 2.1 The following phases should apply to all investigations but the level and depth applied to each phase is variable:
 - (a) Set up of the investigation team with the required skills and expertise.
 - (i) The size of the team and the expert profile of its members depend on the nature and severity of the occurrence being investigated as well as the size and capability of the organisation.
 - (ii) The investigating team may require the assistance of other specialists.
 - (iii) Often, a single person is assigned to carry out investigation of an incident considered to have limited potential to cause harm.
 - (b) Gather factual information that is pertinent to the understanding of the circumstances and the events leading to the occurrence.
 - (i) A variety of information sources will be used to collect the necessary data for the reconstruction of the event.
 - (ii) A fundamental part of any investigation is the collation of statements from those involved. It should be recognised that individuals often have varying recollections as a result of their own perspective of the event. The aim is to collate these and to establish the facts.
 - (iii) the views of the various persons who were involved in these events immediately before and after the occurrence.
 - (c) Analysis of the information to provide explanation of why the occurrence happened and enable the drawing of conclusions and identification of safety actions to eliminate or mitigate the risk.

- (i) “5 whys analysis” is a quick, simple and useful method of root cause analysis. It involves starting at your hazardous condition/risk event, and then asking “Why did this happen?” You will then establish the preceding event/reason that lead to the hazardous condition. Next, you will ask, “And why did this preceding event happen?” Once again, you will establish the next event back. You will repeat this process until you arrive at the root cause. Usually you will ask "why?" about 5 times. You know you have arrived at the root cause when there is no real answer to “why?” In other words, when your answer “just because,” you have arrived at the root cause.
- (d) Drawing conclusions on the basis of collected and analysed information, generally presented by the following categories:
 - (i) Main (direct) cause(s) and contributing factors leading to the occurrence;
 - (ii) Findings that identify additional hazards which have risk potential but have not played direct role in the occurrence;
 - (iii) Other findings that have potential to improve the safety of operations or to resolve ambiguity or controversy issues contributed to the circumstances surrounding the occurrence.
- (e) Identification of safety recommendations and actions to be taken in order to eliminate or mitigate the safety deficiencies identified by the investigation.

Annex C – Examples of Serious Incidents

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

- (1) a near collision requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate,
- (2) controlled flight into terrain only marginally avoided,
- (3) aborted take-offs on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- (4) take-offs from a closed or engaged runway, from a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- (5) landings or attempted landings on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- (6) gross failures to achieve predicted performance during take-off or initial climb,
- (7) fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents,
- (8) events requiring the emergency use of oxygen by the flight crew,
- (9) aircraft structural failure or engine disintegration, including uncontained turbine engine failures, not classified as an accident,
- (10) multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft,
- (11) flight crew incapacitation in flight,
- (12) fuel quantity requiring the declaration of an emergency by the pilot,
- (13) runway incursions classified with severity A according to the Manual on the Prevention of Runway Incursions (ICAO Doc 9870) which contains information on the severity classifications,
- (14) take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways,
- (15) system failures, weather phenomena, operation outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft,