Schedule 23

Safety Management System

Contents

SUBPART A: GENERAL

23.001 PURPOSE & APPLICABILITY

(a) SMS regulations shall be promulgated under the statutory authority of the Bahamas Civil Aviation Authority.

(b) The regulation specifies the requirement for service providers to implement a safety management system (SMS) operating in accordance with Annex 1 — *Personnel Licensing*; Annex 6 — *Operation of Aircraft;* Annex 8 —*Airworthiness of Aircraft;* Annex 11 — *Air Traffic Services;* and Annex 14 — *Aerodromes,* Volume I — *Aerodrome Design and Operations.*

(c) Within the context of this regulation the term "service provider" would normally refer to approved/ certificated organisations providing aviation services. The term refers to approved training organisations that are exposed to operational safety risks during the provision of their services, aircraft operators, approved maintenance organisations, organisations responsible for type design and/or manufacture of aircraft, air traffic service providers and certified aerodromes, as applicable.

(d) The regulation addresses aviation safety-related processes, procedures and activities of the service provider, rather than occupational safety, environmental protection or other non-aviation-related activities.

(e) The regulation establishes the minimum SMS framework requirements. The service provider may establish more stringent internal requirements.

(f) Effective December 31, 2021, aircraft operators, approved maintenance organisations, air traffic service providers and certified aerodromes, shall have in place a safety management system (SMS) acceptable to the Bahamas Civil Aviation Authority and which addresses four high-level safety objectives as follows:
   (i) identifies safety hazards;
   (ii) ensures the implementation of the remedial action necessary to maintain agreed safety performance;
   (iii) provides for continuous monitoring and regular assessment of safety performance; and
   (iv) aims at a continuous improvement of the overall performance of the safety management system.

23.003 DEFINITIONS

(a) When the following terms are used in this Schedule for Safety Management, the terms have the following meanings:

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

a) 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

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 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

c) the aircraft is missing or is completely inaccessible.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Aircraft. 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.

Hazard. A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power driven rotors on substantially vertical axes.

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

Industry codes of practice. Guidance material developed by an industry body, for a particular sector of the aviation industry to comply with the requirements of the Authority's specific regulations, other aviation safety requirements and the best practices deemed appropriate.

Operational personnel. Personnel involved in aviation activities who are in a position to report safety information.

Note.— Such personnel include, but are not limited to: flight crews; air traffic controllers; aeronautical station operators; maintenance technicians; personnel of aircraft design and manufacturing organisations; cabin crews; flight dispatchers, apron personnel and ground handling personnel.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

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.

Note.— Such safety data is collected from proactive or reactive safety-related activities, including but not limited to:
a) accident or incident investigations;
b) safety reporting;
c) continuing airworthiness reporting;
d) operational performance monitoring;
e) inspections, audits, surveys; or
f) safety studies and reviews.

Safety information. Safety data processed, organised or analysed in a given context so as to make it useful for safety management purposes.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organisational structures, accountability, responsibilities, policies and procedures.

Safety oversight. A function performed by a State to ensure that individuals and organisations performing an aviation activity comply with safety-related national laws and regulations.

Safety performance. A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.

Safety performance indicator. A data-based parameter used for monitoring and assessing safety performance.

Safety performance target. The State or service provider's planned or intended target for a safety performance indicator over a given period that aligns with the safety objectives.

Safety risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Serious injury. An injury which is sustained by a person in an accident and which:
a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
c) involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage; or
d) involves injury to any internal organ; or
e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
f) involves verified exposure to infectious substances or injurious radiation.

State of Design. The State having jurisdiction over the organisation responsible for the type design.

State of Manufacture. The State having jurisdiction over the organisation responsible for the final assembly of the aircraft.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.

***Surveillance*.** The State activities through which the State proactively verifies through inspections and audits that aviation licence, certificate, authorisation or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State.

23.005 ABREVIATIONS

ADREP	Accident/Incident Data Reporting
ATS	Air Traffic Services
BCAA	Bahamas Civil Aviation Authority
CVR	Cockpit Voice Recorder
RAIO	Regional Accident and Incident Investigation Organisation
RSOO	Regional Safety Oversight Organisation
SARPS	Standards and Recommended Practices
SDCPS	Safety Data Collection And Processing Systems
SMM	Safety Management Manual
SMP	Safety Management Panel
SMS	Safety Management System
SSO	State Safety Oversight
SSP	State Safety Programme

SUBPART B: SAFETY MANAGEMENT SYSTEM (SMS)

23.007 General

(a) The SMS of a service provider shall:
   1) be established in accordance with the framework elements contained in Subpart C of this Schedule; and
   2) be commensurate with the size of the service provider and the complexity of its aviation products or services.

(b) The Authority shall ensure that the service provider develops a plan to facilitate SMS implementation.

(c) The SMS of an approved training organisation, in accordance with Schedule 9, that is exposed to safety risks related to aircraft operations during the provision of its services shall be made acceptable to the Authority responsible for the organisation's approval.

(d) The SMS of a certified operator of aeroplanes or helicopters authorised to conduct international commercial air transport, in accordance with Schedule 12, shall be made acceptable to the Authority.

Note.— When maintenance activities are not conducted by an approved maintenance organisation accordance with Schedule 6, but under an equivalent system as in Schedule 12 they are included in the scope of the operator's SMS.

(e) The SMS of an approved maintenance organisation providing services to operators of aeroplanes or helicopters engaged in international commercial air transport, in accordance with Schedule 6, shall be made acceptable to the Authority responsible for the organisation's approval.

(f) The SMS of an ATS provider, in accordance with Schedule 22 Part A, shall be made acceptable to the Authority responsible for the provider's designation.

(g) The SMS of an operator of a certified aerodrome, in accordance with Schedule 21, shall be made acceptable to the Authority responsible for the aerodrome's certification.

23.009 International general aviation — Aeroplanes

(a) The SMS of an international general aviation operator, conducting operations of large or turbojet aeroplanes in accordance with Schedule 28, shall be commensurate with the size and complexity of the operation and meet the criteria established by the State of Registry.

SUBPART C: FRAMEWORK FOR A SAFETY MANAGEMENT SYSTEM (SMS)

(a) This Subpart specifies the framework for the implementation and maintenance of an SMS.

(b) The framework comprises four components and twelve elements as the minimum requirements for SMS implementation:

1. Safety policy and objectives
   1.1 Management commitment
   1.2 Safety accountability and responsibilities
   1.3 Appointment of key safety personnel
   1.4 Coordination of emergency response planning
   1.5 SMS documentation

2. Safety risk management
   2.1 Hazard identification
   2.2 Safety risk assessment and mitigation

3. Safety assurance
   3.1 Safety performance monitoring and measurement
   3.2 The management of change
   3.3 Continuous improvement of the SMS

4. Safety promotion
   4.1 Training and education

4.2 Safety communication

23.011 Safety policy and objectives

Management Commitments

(a) The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:
  (i) reflect organisational commitment regarding safety, including the promotion of a positive safety culture;
  (ii) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;
  (iii) include safety reporting procedures;
  (iv) clearly indicate which types of behaviours are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply;
  (v) be signed by the accountable executive of the organisation;
  (vi) be communicated, with visible endorsement, throughout the organisation; and
  (vii) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.

(b) Taking due account of its safety policy, the service provider shall define safety objectives. The safety objectives shall:
  (i) form the basis for safety performance monitoring and measurement as required by subpart 23.035 Safety Performance Monitoring and Measurements;
  (ii) reflect the service provider's commitment to maintain or continuously improve the overall effectiveness of the SMS;
  (iii) be communicated throughout the organisation; and
  (iv) be periodically reviewed to ensure they remain relevant and appropriate to the service provider.

Safety accountability and responsibilities

(a) The service provider shall:
  (i) identify the accountable executive who, irrespective of other functions, is accountable on behalf of the organisation for the implementation and maintenance of an effective SMS;
  (ii) clearly define lines of safety accountability throughout the organisation, including a direct accountability for safety on the part of senior management;
  (iii) identify the responsibilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the organisation;
  (iv) document and communicate safety accountability, responsibilities and authorities throughout the organisation; and
  (v) define the levels of management with authority to make decisions regarding safety risk tolerability.

Appointment of key safety personnel

(a) The service provider shall appoint a safety manager who is responsible for the implementation and maintenance of the SMS.

(b) Depending on the size of the service provider and the complexity of its aviation products or services, the responsibilities for the implementation and maintenance of the SMS may be assigned to one or more persons, fulfilling the role of safety manager, as their sole function or combined with other duties, provided these do not result in any conflicts of interest.

Coordination of emergency response planning

(a) The service provider required to establish and maintain an emergency response plan for accidents and incidents in aircraft operations and other aviation emergencies shall ensure that the emergency response plan is properly coordinated with the emergency response plans of those organisations it must interface with during the provision of its products and services.

SMS documentation

(a) The service provider shall develop and maintain an SMS manual that describes its:
  (i) safety policy and objectives;
  (ii) SMS requirements;
  (iii) SMS processes and procedures; and
  (iv) accountability, responsibilities and authorities for SMS processes and procedures.

(b) The service provider shall develop and maintain SMS operational records as part of its SMS documentation.

(c) Depending on the size of the service provider and the complexity of its aviation products or services, the SMS manual and SMS operational records may be in the form of stand-alone documents or may be integrated with other organisational documents (or documentation) maintained by the service provider.

23.013 Safety risk management

Hazard identification

(a) The service provider shall develop and maintain a process to identify hazards associated with its aviation products or services.

(b) Hazard identification shall be based on a combination of reactive and proactive methods.

Safety risk assessment and mitigation

(a) The service provider shall develop and maintain a process that ensures analysis, assessment and control of the safety risks associated with identified hazards.

(b) The process referred to under paragraph (a) may include predictive methods of safety data analysis.

23.015 Safety assurance

Safety performance monitoring and measurement

(a) The service provider shall develop and maintain the means to verify the safety performance of the organisation and to validate the effectiveness of safety risk controls. An internal audit process is one means to monitor compliance with safety regulations, the foundation upon which SMS is built, and assess the effectiveness of these safety risk controls and the SMS.

(b) The service provider's safety performance shall be verified in reference to the safety performance indicators and safety performance targets of the SMS in support of the organisation's safety objectives.

The management of change

(a) The service provider shall develop and maintain a process to identify changes which may affect the level of safety risk associated with its aviation products or services and to identify and manage the safety risks that may arise from those changes.

Continuous improvement of the SMS

(a) The service provider shall monitor and assess its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.

23.017 Safety promotion

Training and education

(a) The service provider shall develop and maintain a safety training program that ensures that personnel are trained and competent to perform their SMS duties.
(b) The scope of the safety training program shall be appropriate to each individual's involvement in the SMS.

Safety communication

(a) The service provider shall develop and maintain a formal means for safety communication that:
   i. ensures personnel are aware of the SMS to a degree commensurate with their positions;
   ii. conveys safety-critical information;
   iii. explains why particular actions are taken to improve safety; and
   iv. explains why safety procedures are introduced or changed.

SUBPART D: MANDATORY AND VOLUNTARY REPORTING

23.019 Applicability To Persons & Organisations Involved

(a) The mandatory reporting requirements of this Subpart are applicable to persons and organisations involved in the—
   (i) Operations, maintenance and support of Bahamas-registered aircraft worldwide;
   (ii) Operations, maintenance and support of aircraft operating in The Bahamas; and
   (iii) The provision of services to aircraft and crews in the operational airspace controlled by The Bahamas and the aerodromes located in The Bahamas.

(b) Persons and organisations included in this applicability are—

(i) The operator and the flight crew of a turbine-powered aircraft which has a certificate of airworthiness issued by the Authority;

(ii) The operator and the flight crew of an aircraft operated under an AOC granted by the Authority;

(iii) A person who carries on the business of manufacturing a turbine-powered or aircraft that is to be operated in commercial air transport, or any equipment or part thereof, in The Bahamas;

(iv) A person who carries on the business of maintaining or modifying a turbine- powered aircraft, which has a certificate of airworthiness issued by the Authority, and a person who carries on the business of maintaining or modifying any equipment or part of such an aircraft;

(v) A person who carries on the business of maintaining or modifying an aircraft, operated under an AOC granted by the Authority, and a person who carries on the business of maintaining or modifying any equipment or part of such an aircraft;

(vi) A person who signs an airworthiness review certificate, or a certificate of release to service in respect of a turbine-powered aircraft, which has a certificate of airworthiness issued by the Authority, and a person who signs an airworthiness review certificate or a certificate of release to service in respect of any equipment or part of such an aircraft;

(vii) A person who signs an airworthiness review certificate, or a certificate of release to service in respect of an aircraft, operated under an AOC granted by the Authority, and a person who signs an airworthiness review certificate or a certificate of release to service in respect of any equipment or part of such an aircraft;

(viii) A person who performs a function which requires him to be authorised by the Authority as an air traffic controller or as a flight information service officer;

(ix) A licencee and a manager of a licenced aerodrome or a manager of an airport;

(x) A person who performs a function in respect of the installation, modification, maintenance, repair, overhaul, flight-checking or inspection of air navigation facilities which are utilised by a person who provides an air traffic control service under an approval issued by the Authority; and

(xi) A person who performs a function in respect of the ground-handling of aircraft, including fuelling, servicing, load sheet preparation, loading, de-icing and towing at an airport

(c) This list of persons and organisations defines those who have to report, but any person or organisation may file a report should they consider it necessary or pertinent to aviation safety.

23.021 Objective Of The Reporting Requirements

(a) The sole objective of occurrence reporting is the prevention of accidents and incidents through the collection and dissemination of relevant safety information and not to attribute blame or liability.

(b) The mandatory reporting requirements contribute to the improvement of air safety by ensuring free and full reporting of relevant information on safety is collected, stored, protected and disseminated.

(c) The voluntary reporting of persons contribute to the improvement of air safety in the interest of flight safety through the same processes and policies applicable to the mandatory reporting requirements.

23.023 Items To Be Reported

(a) The Authority shall prescribe the mandatory occurrences that shall be reported under the provisions of this Subpart.

(b) These reportable occurrences shall be categorized for purposes of assessing trends as—
  (i) Occurrences Related To The Operation Of The Aircraft (Appendix 1 to 23.055);
  (ii) Occurrences Related To Technical Conditions, Maintenance And Repair Of The Aircraft (Appendix 2 to 23.055);
  (iii) Occurrences Related To Air Navigation Services And Facilities (Appendix 3 to 23.055);
  (iv) Occurrences Related To Aerodromes And Ground Services (Appendix 4 to 23.055); and
  (v) A reportable occurrence in relation to an aircraft means any incident which endangers or which, if not corrected, would endanger an aircraft, its occupants or any other person.

(c) A person required to make a mandatory report of an occurrence shall report any occurrence of which he has positive knowledge, even though this may not be first hand, unless he has good reason to believe that appropriate details of the occurrence have already been, or will be, reported by someone else.

(d) A report should also be submitted on any occurrence which involves a defective condition or unsatisfactory behaviour or procedure which did not immediately endanger the aircraft but which, if allowed to continue uncorrected, or if repeated in different, but likely, circumstances, would create a hazard to aircraft safety.

23.025 Voluntary Reporting

(a) The Authority shall encourage and facilitate voluntary reporting to the same criteria across the whole spectrum of civil aviation operations.

(b) The Authority's organisation and procedures for processing and recording reports shall not substantially differentiate between voluntary and mandatory reports.

(c) A voluntary occurrence report is that report made by a person or organisation who are not required to report in accordance with the requirements of this Subpart.

(d) The occurrences reported and trends developed shall be retained in a limited format which removes information and data which is likely to identify the person reporting.

(e) The confidentiality of these voluntary reports shall be protected by the Authority and information disclosed in these reports shall inadmissible for any future proceedings relating to the person reporting.

23.027 Self-Disclosure of Non-Compliance

(a) The Authority shall encourage self-disclosure of non-compliance with regulations whether associated with mandatory or voluntary reporting processes of this Subpart and shall not take legal enforcement action if the reporter is found to be in compliance with the conditions of paragraph (b).

(b) In evaluating whether an apparent non-compliance is covered by this Section, the Authority shall ensure that the following conditions are met—

(i) The regulated entity has notified the Authority of the apparent non-compliance immediately after detecting it and before the Authority has learned of it by other means;

(ii) The notification did not occur during, or in anticipation of, an investigation or inspection by the Authority or in association with an accident or incident;

(iii) The apparent non-compliance with the regulations was inadvertent;

(iv) The apparent non-compliance with regulations does not indicate a lack, or reasonable question, of qualification of the regulated entities;

(v) Immediate action, satisfactory to the Authority was taken upon discovery to terminate the conduct that resulted in the apparent non-compliance;

(vi) The regulated entity has developed or is developing a comprehensive fix and schedule of implementation satisfactory to the Authority;

(vii) The comprehensive fix includes a follow-up self-audit to ensure that the action taken corrects the noncompliance; and

(viii) This self-audit is in addition to any audits conducted by the Authority.

23.029 Confidentiality of Reports

(a) Without prejudice to the proper discharge of its responsibilities in this regard, the Authority shall 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 unless, in either case, the person concerned authorises disclosure.

(b) Should any flight safety follow-up action arising from a report be necessary, the Authority shall take all reasonable steps to avoid disclosing the identity of the reporter or of those individuals involved in the reportable occurrence.

23.031 Assurance Regarding Prosecution

(a) The Authority shall not institute proceedings in respect of unpremeditated or inadvertent breaches of the law which come to its attention only because they have been reported under the mandatory or voluntary provisions of this Subpart, except in cases involving dereliction of duty amounting to gross negligence.

23.033 Action In Respect of Licences & Certificates

(a) The Authority has a duty under international treaties and conventions to vary, revoke or suspend a licence or certificate as appropriate if it ceases to be satisfied that the holder of the licence or certificate is competent, medically fit and a fit person to exercise the privileges of the licence.

(b) If an occurrence report suggests that the licence or certification holder does not continue to meet the standards for issuance of the licence or certificate, the Authority must take appropriate action to reexamine the holder.

(c) The purpose of this review is solely to ensure safety and shall not be conducted to penalize the holder.

23.035 Possible Action By Employers

(a) Where a reported occurrence indicated an unpremeditated or inadvertent lapse by an employee, the employer shall act responsibly and to share its view that free and full reporting is the primary aim, and that every effort should be made to avoid action that may inhibit reporting.

(b) Employers shall refrain from disciplinary or punitive action which might inhibit their staff from duly reporting incidents of which they may have knowledge, that, except to the extent that action is needed in order to ensure safety, and except in such flagrant circumstances.

APPENDICES

Appendix 1 to 23.019: Mandatory Reports – Occurrences Related To The Operation Of The Aircraft

I) AIR OPERATIONS

(a) **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.

(b) **Aircraft preparation**

(1) Incorrect fuel type or contaminated fuel.
(2) Missing, incorrect or inadequate De-icing/Anti-icing treatment.

(c) **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.
(12) Hard landing.

(d) **Any phase of flight**

(1) Loss of control.
(2) Aircraft upset, exceeding normal pitch attitude, bank angle or airspeed inappropriate for the conditions.
(3) Level bust.
(4) Activation of any flight envelope protection, including stall warning, stick shaker, stick pusher and automatic protections.
(5) Unintentional deviation from intended or assigned track of the lowest of twice the required navigation performance or 10 nautical miles.
(6) Exceedance of aircraft flight manual limitation.
(7) Operation with incorrect altimeter setting.
(8) Jet blast or rotor and prop wash occurrences which have or could have endangered the aircraft, its occupants or any other person.
(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.

e) **Other types of occurrences**

(1) Unintentional release of cargo or other externally carried equipment.
(2) Loss of situational awareness (including environmental, mode and system awareness, spatial disorientation, and time horizon).
(3) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

II) TECHNICAL OCCURRENCES

(a) **Structure and systems**

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

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

(1) Failure or significant malfunction of any part or controlling of a propeller, rotor or powerplant.
(2) Damage to or failure of main/tail rotor or transmission and/or equivalent systems.

(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)).
(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).
(5) 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); and
    (iii) non-containment of components/debris.

III) INTERACTION WITH AIR NAVIGATION SERVICES (ANS) AND 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.

IV) 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.

V) EXTERNAL ENVIRONMENT AND METEOROLOGY

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

VI) SECURITY

(a) Bomb threat or hijack.
(b) Difficulty in controlling intoxicated, violent or unruly passengers.
(c) Discovery of a stowaway.

Appendix 2 to 23.019: Mandatory Reports – Occurrences Related To Technical Conditions, Maintenance And Repair Of The Aircraft

I) 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.

II) 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.

III) 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:
    (1) non-containment of components/debris; or
    (2) failure of the engine mount structure.
(d) Damage, failure or defect of propeller, which could lead to in-flight separation of the propeller or any major portion of the propeller and/or malfunctions of the propeller control.

(e) Damage, failure or defect of main rotor gearbox/attachment, which could lead to in-flight separation of the rotor assembly and/or malfunctions of the rotor control.
(f) Significant malfunction of a safety-critical system or equipment including emergency system or equipment during maintenance testing or failure to activate these systems after maintenance.
(g) Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
(h) Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.
(i) Serious damage to Electrical Wiring Interconnection System (EWIS).
(j) Any defect in a life-controlled critical part causing retirement before completion of its full life.
(k) The use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.
(l) Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.
(m) Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.
(n) Releasing an aircraft to service from maintenance in case of any non-compliance which endangers the flight safety.
(o) Serious damage caused to an aircraft during maintenance activities due to incorrect maintenance or use of inappropriate or unserviceable ground support equipment that requires additional maintenance actions.
(p) Identified burning, melting, smoke, arcing, overheating or fire occurrences.
(q) Any occurrence where the human performance, including fatigue of personnel, has directly contributed to or could have contributed to an accident or a serious incident.
(r) Significant malfunction, reliability issue, or recurrent recording quality issue affecting a flight recorder system (such as a flight data recorder system, a data link recording system or a cockpit voice recorder system) or lack of information needed to ensure the serviceability of a flight recorder system.

Appendix 3 to 23.019: Mandatory Reports - Occurrences Related To Air Navigation Services And Facilities

I) 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).
(b) Separation minima infringement.
(c) Inadequate 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:
    (1) aircraft deviation from applicable published ATM procedures;
    (2) airspace infringement including unauthorised penetration of airspace;
    (3) deviation from aircraft ATM-related equipment carriage and operations, as mandated by applicable regulations.
    (4) Call sign confusion related occurrences.

II) DEGRADATION OR TOTAL LOSS OF SERVICES OR FUNCTIONS

(a) Inability to provide ATM services or to execute ATM functions:
    (1) inability to provide air traffic services or to execute air traffic services functions;
    (2) inability to provide airspace management services or to execute airspace management functions;
    (3) 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, 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.

III) 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 a serious incident.

Appendix 4 to 23.019: Mandatory Reports – Occurrences Related To Aerodromes And Ground Services

I) SAFETY MANAGEMENT OF AN AERODROME

(a) **Aircraft- and obstacle-related occurrences**

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

(2) Wildlife strike including bird strike.
(3) Taxiway or runway excursion.
(4) Actual or potential taxiway or runway incursion.
(5) Final Approach and Take-off Area (FATO) incursion or excursion.
(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).
(7) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.
(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.
(9) Push-back, power-back or taxi interference by vehicle, equipment or person.
(10) Passengers or unauthorized person left unsupervised on apron.
(11) Jet blast, rotor down wash or propeller blast effect.
(12) Declaration of an emergency ('Mayday' or 'PAN' call).

(b) **Degradation or total loss of services or functions**

(1) Loss or failure of communication between:
  (i) aerodrome, vehicle or other ground personnel and air traffic services unit or apron management service unit; and
  (ii) apron management service unit and aircraft, vehicle or air traffic services unit.
(2) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.
(3) Significant deficiencies in aerodrome lighting, marking or signs.
(4) Failure of the aerodrome emergency alerting system.
(5) Rescue and firefighting services not available according to applicable requirements.

(c) **Other occurrences**

(1) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.
(2) Aerodrome security related occurrences (for example: unlawful entry, sabotage, bomb threat).
(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.
(4) Missing, incorrect or inadequate de-icing/anti-icing treatment.
(5) Significant spillage during fuelling operations.
(6) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).
(7) Failure to handle poor runway surface conditions.
(8) Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

II) GROUND HANDLING OF AN AIRCRAFT

(a) **Aircraft- and aerodrome-related occurrences**

(1) A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle.
(2) Runway or taxiway incursion.
(3) Runway or taxiway excursion.
(4) Significant contamination of aircraft structure, systems and equipment arising from the carriage of baggage, mail or cargo.
(5) Push-back, power-back or taxi interference by vehicle, equipment or person.
(6) Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.
(7) Passengers or unauthorised person left unsupervised on apron.
(8) Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.
(9) Aerodrome security-related occurrences (for example: unlawful entry, sabotage, bomb threat).

(b) **Degradation or total loss of services or functions**

(1) Loss or failure of communication with aircraft, vehicle, air traffic services unit or apron management service unit.
(2) Significant failure, malfunction or defect of aerodrome equipment or system which has or could have endangered the aircraft or its occupants.
(3) Significant deficiencies in aerodrome lighting, marking or signs.

(c) **Ground handling specific occurrences**

(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 loadsheet calculations).
(2) Boarding equipment removed leading to endangerment of aircraft occupants.
(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.
(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).
(5) Non-compliance on baggage or passenger reconciliation.
(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.
(7) Significant spillage during fuelling operations.
(8) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.
(9) Loading of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil and potable water).
(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)).
(11) Missing, incorrect or inadequate de-icing/anti-icing treatment.
(12) Damage to aircraft by ground handling equipment or vehicles including previously unreported damage.

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

End of Schedule 23