

## ภาคผนวก ก

### รายการของเหตุการณ์ด้านความปลอดภัยภาคบังคับ

#### (List of Mandatory Occurrences)

รายการของเหตุการณ์ด้านความปลอดภัยภาคบังคับที่องค์กรด้านการบินพลเรือนและผู้ทำการบินต้องรายงานเข้ามายังสำนักงานการบินพลเรือนแห่งประเทศไทย แบ่งเป็นประเภทต่าง ๆ ได้ ดังต่อไปนี้

- ก. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินการเดินอากาศทุกประเภท และผู้ทำการบินทั่วไปด้วยเครื่องบินที่มีใบสมควรเดินอากาศแบบมาตรฐานที่มีมวลรวมวิ่งขึ้นสูงสุดเกินกว่า 5,700 กิโลกรัม หรือมีความจุที่นั่งเกินกว่า 9 ที่นั่ง หรือเครื่องบินที่ติดตั้งเครื่องยนต์แบบกังหันไอพ่น (Turbojet Engine) อย่างน้อยหนึ่งเครื่องยนต์

#### 1. AIR OPERATIONS

##### 1.1 Flight preparation

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.

##### 1.2 Aircraft preparation and handling on ground

- (1) Loading and use of contaminated or incorrect type of fuel or other essential fluids (including oxygen, nitrogen, oil, and portable water).
- (2) Missing, incorrect or inadequate de-icing/anti-icing treatment.
- (3) 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 loadsheets calculations).
- (4) Boarding equipment removed leading to endangerment of aircraft occupants.
- (5) 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.
- (6) Non-compliance with required aircraft ground handling and servicing procedures, especially in de-icing, refueling or loading procedures, including incorrect positioning or removal of equipment.
- (7) Significant spillage during fueling operations.

- (8) Loading of incorrect fuel quantities likely to have a significant effect on aircraft endurance, performance, balance or structural strength.
- (9) 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)).
- (10) Damage to aircraft by ground handling equipment or vehicles including previously unreported damage.
- (11) Under fueling.

### **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) Take-off and landing or attempted take-off and landing on a closed or engaged runway.
- (5) Any rejected take-off.
- (6) Inability to achieve required or expected performance during take-off, initial climb, go-around or landing.
- (7) Actual or attempted take-off, approach or landing with incorrect configuration setting.
- (8) Tail, blade/wingtip or nacelle strike during take-off or landing.
- (9) Approach continued against air operators stabilized approach criteria.
- (10) Continuation of an instrument approach below published minimums with adequate visual references.
- (11) Precautionary or forced landing.
- (12) Undershoot or overshoot.
- (13) Hard landing.

### **1.4 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 envelop protection, including stall warning, stick shaker, stick pusher and automatic protections.

- (5) Unintentional deviation of airspeed, intended or assigned track or altitude that result in the activation of a deviation notification.
- (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.
- (10) Dangerous goods accident, incident, undeclared or misdeclared dangerous goods, or dangerous goods occurrence as defined in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air.
- (11) Evacuation of crew and/or passengers.
- (12) Operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.

### **1.5 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.
- (4) Inadvertent slide deployment.

## **2. TECHNICAL OCCURRENCES**

### **2.1 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 or spillage of oil, fuel or other fluid which resulted or could 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 (flap/slat), drag (spoilers), attitude control (ailerons, elevators, rudder) devices).
- (8) Failure of or significant damage to aircraft primary structure.
- (9) Blown tire or wheel failure.
- (10) An aircraft component that causes fires, accumulation or circulation of smoke, vapour, or toxic or noxious fumes in the crew compartment or passenger cabin during flight, whether the related fire-warning system properly operated.
- (11) An unintended landing gear extension or retraction, or opening or closing of landing gear doors during flight.
- (12) Aircraft components or systems malfunctions that result in taking emergency actions during flight except action to shut down an engine.
- (13) Any abnormal vibration or buffeting caused by a structural or system malfunction, defect, or failure.

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

- (1) Failure or significant malfunction of or damage to any part including disintegration of any internal or external part of the engine not classified as an accident.
- (2) Failure or significant malfunction of controlling of a propeller, rotor or powerplant.
- (3) Damage to or failure of main/tail rotor or transmission and/or equivalent systems.
- (4) Flameout, in-flight shutdown of any engine or APU when required (for example: ETOP (Extended range Twin engine aircraft Operations), MEL (Minimum Equipment List)).
- (5) 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).
- (6) Failure or malfunction of any part of an engine, powerplant, APU or transmission resulting in any one or more of the following:
  - (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;
- (d) Abnormal aircraft or engine vibration.

### **2.3 Other technical occurrences**

- (1) Each interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route, caused by known or suspected technical difficulties or malfunctions.
- (2) Propeller featuring in flight.

## **3. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT**

**(applicable for the organizations that scope of their SMS include these activities)**

- 3.1 Serious structural damage (for example: cracks, permanent deformation, delamination, debonding, burning, excessive war, or corrosion) found during maintenance of the aircraft or component.
- 3.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other fluids).
- 3.3 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;
  - (2) failure of the engine mount structure.
- 3.4 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.
- 3.5 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.
- 3.6 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.
- 3.7 Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
- 3.8 Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.
- 3.9 Serious damage to Electrical Wiring Interconnection System (EWIS).
- 3.10 Any defect in a life-controlled critical part or engine causing retirement before completion of its full life.

- 3.11 Use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.
- 3.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.
- 3.13 Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.
- 3.14 Releasing an aircraft to service from maintenance in case of any non-compliance which endangers the flight safety.
- 3.15 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.
- 3.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.
- 3.17 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.
- 3.18 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 record system) or lack of information needed to ensure the serviceability of a flight record system.

#### **4. INTERACTION WITH AIR NAVIGATION SERVICES AND AIR TRAFFIC MANAGEMENT**

- 4.1 Unsafe ATC (Air Traffic Control) clearance.
- 4.2 Prolonged loss of communication with ATS (Air Traffic Service) or ATM Unit.
- 4.3 Conflicting instructions from different ATS Units potentially leading to a loss of separation.
- 4.4 Misinterpretation of radio-communication which has or could have endangered the aircraft, its occupants or any other person.
- 4.5 Intentional deviation from ATC instruction which has or could have endangered the aircraft, its occupants or any other person.
- 4.6 Airspace infringement including unauthorized penetration of airspace.

#### **5. EMERGENCIES AND OTHER CRITICAL SITUATIONS**

- 5.1 Any event leading to the declaration of an emergency ('Mayday' or 'PAN call').
- 5.2 Any burning, melting, smoke, fumes, arcing, overheating, fire or explosion.
- 5.3 Contaminated air in the cockpit or in the passenger compartment which has or could have endangered the aircraft, its occupants or any other person.

- 5.4 Failure to apply the correct non-normal or emergency procedure by the flight or cabin crew to deal with an emergency.
- 5.5 Use of any emergency equipment or non-normal procedure affecting in-flight or landing performance.
- 5.6 Failure of any emergency or rescue system or equipment which has or could have endangered the aircraft, its occupants or any other person.
- 5.7 Uncontrollable cabin pressure.
- 5.8 Critically low fuel quantity or fuel quantity at destination below required final reserve fuel.
- 5.9 Any event requiring the emergency use of oxygen including the use of crew oxygen system by the crew.
- 5.10 Incapacitation of any member of the flight or cabin crew that results in the reduction below the minimum certified crew complement.
- 5.11 Crew fatigue impacting or potentially impacting their ability to perform safely their flight duties.

## **6. EXTERNAL ENVIRONMENT AND METEOROLOGY**

- 6.1 A collision or a near collision on the ground or in the air, with another aircraft, terrain or obstacle including vehicle.
- 6.2 ACAS/TCAS RAs (Airborne/Traffic Collision Avoidance System, Resolution Advisory).
- 6.3 Activation of ground collision system such as EGPWS or GPWS (Enhanced / Ground Proximity Warning System) / TAWS (Terrain Awareness and Warning System).
- 6.4 Wildlife strike including bird strike.
- 6.5 Foreign object damage/debris (FOD).
- 6.6 Unexpected encounter of poor runway surface conditions.
- 6.7 Wake-turbulence encounters.
- 6.8 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.
- 6.9 A lightning strike which resulted in damage to the aircraft or loss or malfunction of any aircraft system.
- 6.10 A hail encounter which resulted in damage to the aircraft or loss or malfunction of any aircraft system.

- 6.11 Severe turbulence encounter or any encounter resulting in injury to occupants or deemed to require a 'turbulence check' of the aircraft.
- 6.12 A significant wind shear or thunderstorm encounter which has or could have endangered the aircraft, its occupants or any other person.
- 6.13 Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any aircraft system.
- 6.14 Volcanic ash encounter.
- 6.15 A collision in airside area between a vehicle and another vehicle, equipment, building, person or an object resulting in injury or damage to the property.

**ข. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยสถาบันฝึกอบรมด้านการบินที่มีการปฏิบัติการบิน**

**1. AIR OPERATIONS**

- 1.1 Unintentional loss of control.
- 1.2 Landing outside of intended landing area.
- 1.3 Inability or failure to achieve required aircraft performance expected in normal conditions during take-off, climb or landing.
- 1.4 Runway incursion.
- 1.5 Runway excursion.
- 1.6 Any flight which has been performed with an aircraft which was not airworthy, or for which flight preparation was not completed, which has or could have endangered the aircraft, its occupants or any other person.
- 1.7 Unintended flight into IMC (Instrument meteorological Conditions) conditions of aircraft not IFR (Instrument flight rules) certified, or a pilot not qualified for IFR, which has or could have endangered the aircraft, its occupants or any other person.
- 1.8 Operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.

**2. TECHNICAL OCCURRENCES**

- 2.1 Abnormal severe vibration (for example: aileron or elevator 'flutter', or of propeller).
- 2.2 Any flight control not function correctly or disconnected.
- 2.3 A failure or substantial deterioration of the aircraft structure.
- 2.4 A loss of any part of the aircraft structure or installation in flight.
- 2.5 A failure of an engine, rotor, propeller, fuel system or other essential system.



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

### 3. MAINTENANCE AND CONTINUING AIRWORTHINESS MANAGEMENT

**(applicable for the organizations that scope of their SMS include these activities)**

- 3.1 Serious structural damage (for example: cracks, permanent deformation, delamination, debonding, burning, excessive war, or corrosion) found during maintenance of the aircraft or component.
- 3.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other fluids).
- 3.3 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;
  - (2) failure of the engine mount structure.
- 3.4 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.
- 3.5 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.
- 3.6 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.
- 3.7 Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
- 3.8 Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.
- 3.9 Serious damage to Electrical Wiring Interconnection System (EWIS).
- 3.10 Any defect in a life-controlled critical part causing retirement before completion of its full life.
- 3.11 The use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.
- 3.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.
- 3.13 Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.

- 3.14 Releasing an aircraft to service form maintenance in case of any non-compliance which endangers the flight safety.
  - 3.15 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.
  - 3.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.
  - 3.17 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.
  - 3.18 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 record system) or lack of information needed to ensure the serviceability of a flight record system.
- 4. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**
- 4.1 Interaction with air navigation services (for example: incorrect service provided, conflicting communications or deviation from clearance) which has or could have endangered the aircraft, its occupants or any other person.
  - 4.2 Airspace infringement including unauthorized penetration of airspace.
- 5. EMERGENCIES AND OTHER CRITICAL SITUATIONS**
- 5.1 Any occurrence leading to an emergency call.
  - 5.2 Fire, explosion, smoke, toxic gases or toxic fumes in the aircraft.
  - 5.3 Incapacitation of the pilot leading to inability to perform any duty.
- 6. EXTERNAL ENVIRONMENT AND METEOROLOGY**
- 6.1 A collision on the ground or in the air, with another aircraft, terrain or obstacle including vehicle.
  - 6.2 A near collision, on the ground or in the air, with another aircraft, terrain or obstacle including vehicle requiring an emergency avoidance maneuver to avoid a collision.
  - 6.3 Wildlife strike including bird strike.
  - 6.4 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.
  - 6.5 A lightning strike resulting in damage to or loss of functions of the aircraft.
  - 6.6 Severe turbulence encounter which resulted in injury to aircraft occupants or in the need for a post-flight turbulence damage check of the aircraft.

- 6.7 Icing including carburetor icing which has or could have endangered the aircraft, its occupants or any other person.

**ค. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินการหน่วยซ่อม**

- 1.1 Serious structural damage (for example: cracks, permanent deformation, delamination, debonding, burning, excessive war, or corrosion) found during maintenance of the aircraft or component.
- 1.2 Serious leakage or contamination of fluids (for example: hydraulic, fuel, oil, gas or other fluids).
- 1.3 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;
  - (2) failure of the engine mount structure.
- 1.4 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.
- 1.5 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.
- 1.6 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.
- 1.7 Incorrect assembly or installation of components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
- 1.8 Wrong assessment of a serious defect, or serious non-compliance with MEL and Technical logbook procedures.
- 1.9 Serious damage to Electrical Wiring Interconnection System (EWIS).
- 1.10 Any defect in a life-controlled critical part causing retirement before completion of its full life.
- 1.11 The use of products, components or materials, from unknown, suspect origin, or unserviceable critical components.
- 1.12 Misleading, incorrect or insufficient applicable maintenance data or procedures that could lead to significant maintenance errors, including language issue.

- 1.13 Incorrect control or application of aircraft maintenance limitations or scheduled maintenance.
- 1.14 Releasing an aircraft to service from maintenance in case of any non-compliance which endangers the flight safety.
- 1.15 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.
- 1.16 Identified burning, melting, smoke, arcing, overheating or fire occurrences.
- 1.17 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.
- 1.18 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 record system) or lack of information needed to ensure the serviceability of a flight record system.

**ง. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ดำเนินงานสนามบินสาธารณะ**

**1. AIRCRAFT- AND OBSTACLE-RELATED OCCURRENCES**

- 1.1 A collision or near collision, on the ground or in the air, between an aircraft and another aircraft, terrain or obstacle including vehicle.
- 1.2 A collision in airside area between a vehicle and another vehicle, equipment, building, person or an object resulting in injury or damage to the property.
- 1.3 Wildlife strike including bird strike.
- 1.4 Taxiway or runway excursion.
- 1.5 Actual or potential taxiway or runway incursion.
- 1.6 Final Approach and Take-off Area (FATO) incursion or excursion.
- 1.7 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).
- 1.8 Undershoots or overshoots.
- 1.9 Landing or take-off on a taxiway.
- 1.10 Foreign object on the aerodrome movement area which has or could have endangered the aircraft, its occupants or any other person.

- 1.11 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 NOTAMN (Notice to Airmen) and/or that are not marked or lighted properly.
- 1.12 Push-back, power-back or taxi interference by vehicle, equipment or person.
- 1.13 Passengers or unauthorized person left unsupervised on apron.
- 1.14 Jet blast, rotor down wash or propeller blast effect.
- 1.15 Declaration of an emergency ('Mayday' or 'PAN' call).

## **2. DEGRADATION OR TOTAL LOSS OF SERVICES OR FUNCTIONS**

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

## **3. OTHER OCCURRENCES**

- 3.1 Fire, smoke, explosions in aerodrome facilities, vicinities and equipment which has or could have endangered the aircraft, its occupants or any other person.
- 3.2 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.
- 3.3 Significant spillage during fueling operations.
- 3.4 Failure to handle poor runway surface conditions.
- 3.5 Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.
- 3.6 Dangerous good accident and incident as defined in the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air which resulted or could have resulted in the safety or led to an unsafe condition in aerodrome operation.

จ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ให้บริการการจัดการจราจรทางอากาศ และผู้ให้บริการระบบสื่อสารระบบช่วยการเดินอากาศ และระบบติดตามอากาศยาน

1. AIRCRAFT-RELATED OCCURRENCES

- 1.1 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).
- 1.2 Separation minima infringement.
- 1.3 Inadequate separation.
- 1.4 ACAS/TCAS RAs. (Airborne/Traffic Collision Avoidance System, Resolution Advisory).
- 1.5 Wildlife strike including bird strike.
- 1.6 Taxiway or runway excursion.
- 1.7 Actual or potential taxiway or runway incursion.
- 1.8 Final Approach and Take-off Area (FATO) incursion.
- 1.9 Aircraft deviation from ATC clearance.
- 1.10 Aircraft deviation from applicable air traffic management (ATM) regulation:
  - (1) aircraft deviation from applicable published ATM procedures;
  - (2) airspace infringement including unauthorized penetration of airspace;
  - (3) operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.
- 1.11 Call sign confusion related occurrences.

2. DEGRADATION OR TOTAL LOSS OF SERVICE FUNCTIONS

- 2.1 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.
- 2.2 Missing or significantly incorrect, corrupted, inadequate or misleading information from any support service, including relating to poor runway surface conditions.
- 2.3 Failure of communication service.
- 2.4 Failure of surveillance service.
- 2.5 Failure of data processing and distribution function or service.
- 2.6 Failure of navigation service.

- 2.7 Failure of ATM system security which had or could have a direct negative impact on the safe provision of service.
- 2.8 Significant ATS sector/position overload leading to a potential deterioration in service provision.
- 2.9 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.
- 2.10 Prolonged loss of communication with an aircraft or with other ATS unit.

### 3. OTHER OCCURRENCES

- 3.1 Declaration of an emergency ('Mayday' or 'PAN' call).
- 3.2 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).
- 3.3 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.
- 3.4 Fuel dumping.
- 3.5 Fatigue impacting or potentially impacting the ability to perform safely the air navigation or air traffic duties.
- 3.6 Any occurrence where the human performance has directly contributed to or could have contributed to an accident or a serious incident.

#### จ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ได้รับใบอนุญาตผลิตอากาศยาน และส่วนประกอบสำคัญของอากาศยาน

Products, parts or appliances released from the production organization 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.

#### ข. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ได้รับใบรับรองแบบอากาศยาน และส่วนประกอบสำคัญของอากาศยาน

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.

ซ. เหตุการณ์ภาคบังคับที่ต้องรายงานโดยผู้ทำการบินตามประเภทของการใช้อากาศยานในการปฏิบัติการของตน  
- เครื่องบินและเฮลิคอปเตอร์

**1. AIR OPERATIONS**

- 1.1 Unintentional loss of control.
- 1.2 Landing outside of intended landing area.
- 1.3 Inability or failure to achieve required aircraft performance expected in normal conditions during take-off, climb or landing.
- 1.4 Runway incursion.
- 1.5 Runway excursion.
- 1.6 Final Approach and Take-off Area (FATO) incursion or excursion.
- 1.7 Any flight which has been performed with an aircraft which was not airworthy, or for which flight preparation was not completed, which has or could have endangered the aircraft, its occupants or any other person.
- 1.8 Unintended flight into IMC (Instrument meteorological Conditions) conditions of aircraft not IFR (Instrument flight rules) certified, or a pilot not qualified for IFR, which has or could have endangered the aircraft, its occupants or any other person.
- 1.9 Operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.
- 1.10 Unintentional release of cargo or other externally carried equipment.

**2. TECHNICAL OCCURRENCES**

- 2.1 Abnormal severe vibration (for example: aileron or elevator 'flutter', or of propeller).
- 2.2 Any flight control not function correctly or disconnected.
- 2.3 A failure or substantial deterioration of the aircraft structure.
- 2.4 A loss of any part of the aircraft structure or installation in flight.
- 2.5 A failure of an engine, rotor, propeller, fuel system or other essential system.
- 2.6 Leakage of any fluid which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.

**3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**

- 3.1 Interaction with air navigation services ( for example: incorrect service provided, conflicting communications or deviation from clearance) which has or could have endangered the aircraft, its occupants or any other person.
- 3.2 Airspace infringement including unauthorized penetration of airspace.



#### **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**

- 4.1 Any occurrence leading to an emergency call.
- 4.2 Fire, explosion, smoke, toxic gases or toxic fumes in the aircraft.
- 4.3 Incapacitation of the pilot leading to inability to perform any duty.

#### **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**

- 5.1 A collision on the ground or in the air, with another aircraft, terrain or obstacle including vehicle.
- 5.2 A near collision, on the ground or in the air, with another aircraft, terrain or obstacle including vehicle requiring an emergency avoidance maneuver to avoid a collision.
- 5.3 Wildlife strike including bird strike.
- 5.4 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.
- 5.5 A lightning strike resulting in damage to or loss of functions of the aircraft.
- 5.6 Severe turbulence encounter which resulted in injury to aircraft occupants or in the need for a post-flight turbulence damage check of the aircraft.
- 5.7 Icing including carburetor icing which has or could have endangered the aircraft, its occupants or any other person.

#### **- เครื่องร่อน (Sailplanes/Gliders)**

##### **1. AIR OPERATIONS**

- 1.1 Unintentional loss of control.
- 1.2 An occurrence where the sailplane pilot was unable to release either the winch cable or the aerotow rope and had to do so using emergency procedures.
- 1.3 Any release of the winch cable or the aerotow rope if the release has or could have endangered the sailplane, its occupants or any other person.
- 1.4 In the case of a powered sailplane, an engine failure during take-off.
- 1.5 Operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.
- 1.6 Any flight which has been performed with a sailplane which was not airworthy, or for which an incomplete flight preparation has or could have endangered the sailplane, its occupants or any other person.

## **2. TECHNICAL OCCURRENCES**

- 2.1 Abnormal severe vibration (for example: aileron or elevator 'flutter', or of propeller).
- 2.2 Any flight control not functioning correctly or disconnected.
- 2.3 A failure or substantial deterioration of the sailplane structure.
- 2.4 A loss of any part of the sailplane structure or installation in flight.
- 2.5 Blown tire or wheel failure.

## **3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**

- 3.1 Interaction with air navigation services ( for example: incorrect services provided, conflicting communications or deviation from clearance) which has or could have endangered the sailplane, its occupants or any other person.
- 3.2 Airspace infringements including unauthorized penetration of airspace.

## **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**

- 4.1 Any occurrence leading to an emergency call.
- 4.2 Any situation where no safe landing area remains available.
- 4.3 Fire, explosion, smoke, or toxic gases or fumes in the sailplane.
- 4.4 Incapacitation of the pilot leading to inability to perform any duty.

## **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**

- 5.1 A collision on the ground or in the air, with an aircraft, terrain or obstacle including vehicle.
- 5.2 A near collision, on the ground or in the air, with an aircraft, terrain or obstacle including vehicle requiring an emergency avoidance maneuver to avoid a collision.
- 5.3 Interference with the sailplane by firearms, fireworks, flying kites, laser illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.
- 5.4 A lightning strike resulting in damage to the sailplane.

## **- อากาศยานเบากว่าอากาศประเภทบอลลูนและนาวาอากาศ (Lighter-than-air vehicles : Balloon and Airship)**

### **1. AIR OPERATIONS**

- 1.1 Any flight which has been performed with a lighter-than-air vehicle which was not airworthy, or for which an incomplete flight preparation has or could have endangered the lighter-than-air vehicle, its occupants or any other person.
- 1.2 Unintended permanent extinction of the pilot light.

- 1.3 Operation of aircraft that deviate from aircraft equipage or operations approval required by applicable regulations.

## **2. TECHNICAL OCCURRENCES**

- 2.1 Failure of any of the following parts or controls: dip tube on fuel cylinder, envelope pulley, control line, tether rope, valve seal leak on burner, valve seal leak on fuel cylinder, carabiner, damage to fuel line, lifting gas valve, envelope or ballonnet, blower, pressure relief valve (gas balloon), winch (tethered gas balloons).
- 2.2 Significant leakage or loss of lifting gas (for example: porosity, unseated lifting gas valves).

## **3. INTERACTION WITH AIR NAVIGATION SERVICE AND AIR TRAFFIC MANAGEMENT**

- 3.1 Interaction with air navigation services ( for example: incorrect services provided, conflicting communications or deviation from clearance) which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.
- 3.2 Airspace infringement including unauthorized penetration of airspace.

## **4. EMERGENCIES AND OTHER CRITICAL SITUATIONS**

- 4.1 Any occurrence leading to an emergency call.
- 4.2 Fire, explosion, smoke or toxic fumes in the lighter-than-air vehicle (beyond the normal operation of the burner).
- 4.3 Lighter-than-air vehicle's occupants ejected from basket or gondola.
- 4.4 Incapacitation of the pilot leading to inability to perform any duty.
- 4.5 Unintended lift or drag of ground crew, leading to fatality or injury of a person.

## **5. EXTERNAL ENVIRONMENT AND METEOROLOGY**

- 5.1 A collision or near collision on the ground or in the air, with an aircraft, terrain or obstacle including vehicle which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.
- 5.2 Interference with the lighter-than-air vehicle by firearms, fireworks, flying kites, laser illumination, high powered lights lasers, Remotely Piloted Aircraft Systems, model aircraft or by similar means.
- 5.3 Unexpected encounter of adverse weather conditions which has or could have endangered the lighter-than-air vehicle, its occupants or any other person.

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