



DSA.COA.PRO.0114
Version 01

TYPE OF DOCUMENT PROCEDURE

NAME OF DOCUMENT NOTIFICATION OF OCCURRENCES TO ORGANISATIONS RESPONSIBLE FOR THE TYPE DESIGN

PROCESS CIVIL AVIATION SAFETY OVERSIGHT

PROCESS PILOT DIRECTOR OF AVIATION SAFETY

CONFIDENTIALITY INTERNAL/EXTERNAL

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**1. EVOLUTION OF THE DOCUMENT**

CREATION OF DOCUMENT	
Date of creation	11/06/2021
Applicable date	From date of signature by DG

RECORD OF AMENDMENTS				
Modif. Index		Date		Reason for amendment
Edition	Revision	Issue	Applicable	
01	00	11/06/2021		Creation of procedure

2. DISTRIBUTION LIST

HOLDER (For action)			
Code	Direction/Department./Service	Mode of distribution *	
		P	D
01	Directeur Sécurité Aérienne	X	X
02	Sous-Directeur des Opérations et de la Navigabilité	X	X
03	Responsable Qualité		X
04	Service de la Navigabilité et de la Maintenance des Aéronefs	X	X
05	Service de l'Exploitation Technique des Aéronefs	X	X
06	Secrétariat DSA	X	X

(*) **P** = paper **D** = Digital

HOLDER (for information)			
Code	Direction/Départ./Service concerné	Mode of distribution *	
		P	D
08	Secrétariat Directeur Général		X
09	Secrétariat Directeur Général Adjoint		X
10	Service Courrier Liaison		X

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4. SUBJECT

Describes the procedure to be followed to report faults, malfunctions, or defects and other occurrences that cause or might cause adverse effect on the continuing airworthiness of the aircraft to the organization responsible for the type design of the concerned aircraft, engine, or propeller, or to the organization responsible for the design of the modification, where applicable.

5. APPLICABILITY

This procedure is applicable to aeroplanes over 5700kg and helicopters over 3175kg maximum certificated take-off mass, registered in the Republic of Cameroon.

6. VALIDITY

- Valid from: From the date of signature by the Director General
- Valid till: Till its next amendment

7. REFERENCES

- ICAO Annex 8, Part II, §4.2.3.1 f)
- Chapter 9.6, Part III of the Airworthiness Manual (ICAO Doc 9760 4ed)
- Instruction N°000017/C/CCAA/DG of 28 November 2019 relating to reports, analysis, and follow-up of civil aviation occurrences.

8. DEFINITIONS / ACRONYMS

8.1. DEFINITIONS

- **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.
- **Organization responsible for the type design**: The organization that holds the type certificate, or equivalent document, for an aircraft, engine, or propeller type, issued by a Contracting State.
- **Type design**: The set of data and information necessary to define an aircraft, engine, or propeller type for the purpose of airworthiness determination.
- **Modification**: A change to the type design of an aircraft, engine, or propeller.

8.2. ACRONYMS

CCAA	Cameroon Civil Aviation Authority
ICAO	International Civil Aviation Organisation
ISTARS	integrated Safety Trend Analysis and Reporting System

**9. ROLES AND RESPONSIBILITIES**

ACTOR	ROLE/RESPONSIBILITY
Aircraft operators and owners, maintenance organisations	Report occurrences to the CCAA in accordance with the regulations in force
CCAA/SNMA/SETA	Implementation of the reporting procedure
DSA	Accepts proposals for notifications to type design organisations and transmits them to the Director General
Director General	Approves proposals for transmission of information to type design organisations

10. SYNOPSIS OF THE PROCEDURE

10.1 Input elements <ul style="list-style-type: none">- Occurrence reports from operators, aircraft owners, maintenance organisations, etc.- Type design organisation addresses from iSTARS	10.2 Output elements <ul style="list-style-type: none">- Notification to organisation(s) responsible for the type design
10.3 Requirements <ul style="list-style-type: none">- Instruction N°000017/C/CCAA/DG of 28 November 2019 relating to reports, analysis, and follow-up of civil aviation occurrences	10.4 Performance Indicators <ul style="list-style-type: none">- Ratio of reported occurrences to reportable occurrences- Time taken to report from the time of reception of occurrence report
10.5 Human Resource <ul style="list-style-type: none">- DG/CCAA- DSA- Aircraft Airworthiness and Maintenance Service Personnel	10.6 Equipment/Material <ul style="list-style-type: none">- Internet connected computers.- Printers- Scanners
10.7 Associated procedures <ul style="list-style-type: none">- Analysis of occurrence reports received by the CCAA	10.8 Archiving <ul style="list-style-type: none">- In a dedicated folder



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11. DESCRIPTION OF THE PROCEDURE

11.1. RECEPTION AND ANALYSIS OF SAFETY OCCURRENCE REPORTS

- The Cameroon Civil Aviation Authority (CCAA) receives occurrence reports from operators, aircraft owners, maintenance organizations, individuals, and air traffic controllers through mechanisms already put in place.
- Upon reception of these reports, they are analysed during the biweekly review of safety occurrences in accordance with §7.5 of Instruction N°000017/C/CCAA/DG of 28 November 2019 relating to reports, analysis, and follow-up of civil aviation occurrences.
- During the analysis, it will be determined if the occurrence belongs to one of the categories described in §12.1.

11.2. REPORTING PROCEDURE

If the occurrence falls in one of the categories described in §12.1, the person designated to follow up the occurrence:

- Determines if the affected aircraft is in the large aircraft category (over 5700kg for aeroplanes and over 3175kg for helicopters).
- If the failure, malfunction, or defect involves an engine or propeller, the organization responsible for the type design of the engine or propeller should be informed in addition to the organization responsible for the type design of the aircraft.
- If the failure, malfunction, or defect impacts a modification which was previously embodied on the aircraft, the organization responsible for the design of the modification should be informed in addition to the organization responsible for the type design of the aircraft.
- Looks up the address of the organisation responsible for the type design of the aircraft, engine, propeller, or modification, as applicable, on the *Online Airworthiness Information Network* accessible via ICAO iSTARS.
- Exports the occurrence report file in a PDF format.
- Transmits the occurrence file via electronic mail or official mail, as applicable, as soon as possible but in any case, not exceeding **seventy-two (72) hours** from when it is decided that the occurrence is a reportable occurrence as per this procedure.
- Archives the correspondence in the dedicated folder in the Aircraft Airworthiness and Maintenance Service.



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12. ANNEXES

12.1. REPORTABLE OCCURRENCES

Reportable occurrences are **failures, malfunctions or defects** where the safety of operation was or could have been endangered or which could have led to an unsafe condition. If an occurrence did not hazard the safety of the operation but if repeated in different but likely circumstances would create a hazard, then a report should be made. What is judged to be reportable on one class of product, part or appliance may not be so on another and the absence or presence of a single factor, human or technical, can transform an occurrence into a serious incident or accident.

12.1.1. AIRCRAFT FLIGHT OPERATIONS

A. Operation of the aircraft

1. Inability to achieve predicted performance during take-off or initial climb.
2. Inability to transfer fuel or use total quantity of usable fuel.
3. Loss of control (including partial or temporary loss of control) from any cause.
4. Occurrences close to or above V_1 resulting from or producing a hazardous or potentially hazardous situation (e.g. rejected take-off, tail strike, engine power loss etc.).
5. Unintentional significant deviation from airspeed, intended track or altitude. (more than 91 m (300 ft)) from any cause.
6. Fuel system malfunctions or defects, which had an effect on fuel supply and/or distribution.
7. Inability to achieve the intended aircraft configuration for any flight phase (e.g. landing gear and doors, flaps, stabilisers, slats etc).
8. A hazard or potential hazard which arises as a consequence of any deliberate simulation of failure conditions for training, system checks or training purposes.
9. Abnormal vibration.
10. Operation of any primary warning system associated with manoeuvring of the aircraft e.g. configuration warning, stall warning (stick shake), over speed warning etc. unless:
 - a. the crew conclusively established that the indication was false. Provided that the false warning did not result in



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difficulty or hazard arising from the crew response to the warning; or

b. operated for training or test purposes.

B. Emergencies

1. Fires, explosion, smoke or toxic or noxious fumes, even though fires were extinguished.
2. Inadequacy of any procedures designed to be used in an emergency, including when being used for maintenance, training or test purposes.
3. An event leading to an emergency evacuation.
4. Depressurisation.
5. Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance, training or test purposes.
6. Events requiring any emergency use of oxygen by any crew member.

C. Injury

Occurrences, which have or could have led to significant injury to passengers or crew, but which are not considered reportable as an accident.

D. Meteorology

1. A lightning strike which resulted in damage to the aircraft or loss or malfunction of any essential service.
2. A hail strike which resulted in damage to the aircraft or loss or malfunction of any essential service.
3. Icing encounter resulting in handling difficulties, damage to the aircraft or loss or malfunction of any essential service.

E. Other occurrences

1. A bird strike which resulted in damage to the aircraft or loss or malfunction of any essential service.

12.1.2. AIRCRAFT TECHNICAL

A. Structural

Not all structural failures need to be reported. Engineering judgement is required to decide whether a failure is serious enough to be reported. The following examples can be taken into consideration:



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1. Damage to a Principal Structural Element that has not been qualified as damage tolerant (life limited element). Principal Structural Elements are those which contribute significantly to carrying flight, ground, and pressurisation loads, and whose failure could result in a catastrophic failure of the aircraft. Typical examples of such elements include: wings and empennage, fuselage, landing gear and their attachment, engine mounts and struts, thrust reverser components, etc.
2. Defect or damage exceeding admissible damages to a Principal Structural Element that has been qualified as damage tolerant.
3. Damage to or defect exceeding allowed tolerances of a structural element which failure could reduce the structural stiffness to such an extent that the required flutter, divergence, or control reversal margins are no longer achieved.
4. Damage to or defect of a structural element, which could result in the liberation of items of mass that may injure occupants of the aircraft.
5. Damage to or defect of a structural element, which could jeopardise proper operation of systems. See paragraph 12.1.2.B below.
6. Loss of any part of the aircraft structure in flight.

B. Systems

The following generic criteria applicable to all systems are proposed:

1. Loss, significant malfunction or defect of any system, subsystem or set of equipment when standard operating procedures, drills etc. could not be satisfactorily accomplished.
2. Inability of the crew to control the system, e.g.:
 - a. uncommanded actions;
 - b. incorrect and or incomplete response, including limitation of movement or stiffness;
 - c. runaway;
 - d. mechanical disconnection or failure.
3. Failure or malfunction of the exclusive function(s) of the system (one system could integrate several functions).
4. Interference within or between systems.



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5. Failure or malfunction of the protection device or emergency system associated with the system.
6. Loss of redundancy of the system.
7. Any occurrence resulting from unforeseen behaviour of a system.
8. For aircraft types with single main systems, subsystems or sets of equipment: Loss, significant malfunction or defect in any main system, subsystem or set of equipment.
9. For aircraft types with multiple independent main systems, subsystems or sets of equipment: The loss, significant malfunction or defect of more than one main system, subsystem or set of equipment.
10. Operation of any primary warning system associated with aircraft systems or equipment unless the crew conclusively established that the indication was false provided that the false warning did not result in difficulty or hazard arising from the crew response to the warning.
11. Leakage of hydraulic fluids, fuel, oil or other fluids which resulted in a fire hazard or possible hazardous contamination of aircraft structure, systems or equipment, or risk to occupants.
12. Malfunction or defect of any indication system when this results in the possibility of misleading indications to the crew.
13. Any failure, malfunction, or defect if it occurs at a critical phase of flight and relevant to the operation of that system.
14. Occurrences of significant shortfall of the actual performances compared to the approved performance which resulted in a hazardous situation (taking into account the accuracy of the performance calculation method) including braking action, fuel consumption etc.
15. Asymmetry of flight controls; e.g. flaps, slats, spoilers etc.

§ 12.2 gives a list of examples of reportable occurrences resulting from the application of these generic criteria to specific systems.

C. Propulsion (including Engines, Propellers and Rotor Systems) and APUs

1. Flameout, shutdown or malfunction of any engine.



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2. Overspeed or inability to control the speed of any high-speed rotating component (for example: Auxiliary power unit, air starter, air cycle machine, air turbine motor, propeller or rotor).
3. Failure or malfunction of any part of an engine or powerplant resulting in any one or more of the following:
 - a. non containment of components/debris;
 - b. uncontrolled internal or external fire, or hot gas breakout;
 - c. thrust in a different direction from that demanded by the pilot;
 - d. thrust reversing system failing to operate or operating inadvertently;
 - e. inability to control power, thrust or rpm;
 - f. failure of the engine mount structure;
 - g. partial or complete loss of a major part of the powerplant;
 - h. Dense visible fumes or concentrations of toxic products sufficient to incapacitate crew or passengers;
 - i. inability, by use of normal procedures, to shutdown an engine;
 - j. inability to restart a serviceable engine.
4. An uncommanded thrust/power loss, change or oscillation which is classified as a loss of thrust or power control (LOTIC):
 - a. for a single engine aircraft; or
 - b. where it is considered excessive for the application, or
 - c. where this could affect more than one engine in a multi-engine aircraft, particularly in the case of a twin engine aircraft; or
 - d. for a multi engine aircraft where the same, or similar, engine type is used in an application where the event would be considered hazardous or critical.
5. Any defect in a life-controlled part causing retirement before completion of its full life.
6. Defects of common origin which could cause an inflight shut down rate so high that there is the possibility of more than one engine being shut down on the same flight.
7. An engine limiter or control device failing to operate when required or operating inadvertently.
8. exceedance of engine parameters.



9. FOD resulting in damage.

Propellers and -transmission

10. Failure or malfunction of any part of a propeller or powerplant resulting in any one or more of the following:
- an overspeed of the propeller;
 - the development of excessive drag;
 - a thrust in the opposite direction to that commanded by the pilot;
 - a release of the propeller or any major portion of the propeller;
 - a failure that results in excessive unbalance;
 - the unintended movement of the propeller blades below the established minimum in-flight low-pitch position;
 - an inability to feather the propeller;
 - inability to command a change in propeller pitch;
 - an uncommanded change in pitch;
 - an uncontrollable torque or speed fluctuation;
 - The release of low energy parts.

Rotors and -transmission

11. Damage 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.
12. Damage to tail rotor, transmission and equivalent systems.

APUs

13. Shut down or failure when the APU is required to be available by operational requirements, e.g. ETOPS, MEL.
14. Inability to shut down the APU.
15. Overspeed.
16. Inability to start the APU when needed for operational reasons.

D. Human Factors

1. Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.



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E. Other Occurrences

1. Any incident where any feature or inadequacy of the aircraft design could have led to an error of use that could contribute to a hazardous or catastrophic effect.
2. An occurrence not normally considered as reportable (for example, furnishing and cabin equipment, water systems), where the circumstances resulted in endangering of the aircraft or its occupants.
3. A fire, explosion, smoke or toxic or noxious fumes.
4. Any other event which could hazard the aircraft or affect the safety of the occupants of the aircraft, or people or property in the vicinity of the aircraft or on the ground.
5. Failure or defect of passenger address system resulting in loss or inaudible passenger address system.
6. Loss of pilot's seat control during flight.

12.1.3. AIRCRAFT MAINTENANCE AND REPAIR

- A. Incorrect assembly of parts or components of the aircraft found during an inspection or test procedure not intended for that specific purpose.
- B. Hot bleed air leak resulting in structural damage.
- C. Any defect in a life-controlled part causing retirement before completion of its full life.
- D. Any damage or deterioration (i.e. fractures, cracks, corrosion, delamination, disbonding etc) resulting from any cause (such as flutter, loss of stiffness or structural failure) to:
 1. primary structure or a principal structural element (as defined in the manufacturers' Repair Manual) where such damage or deterioration exceeds allowable limits specified in the Repair Manual and requires a repair or complete or partial replacement of the element;
 2. secondary structure which consequently has or may have endangered the aircraft;
 3. the engine, propeller, or rotorcraft rotor system.
- E. Any failure, malfunction or defect of any system or equipment, or damage or deterioration found as a result of compliance with an Airworthiness Directive or other mandatory instruction issued by the CCAA, when:



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1. it is detected for the first time by the reporting organisation implementing compliance;
 2. on any subsequent compliance where it exceeds the permissible limits quoted in the instruction and/or published repair/rectification procedures are not available.
- F. Failure of any emergency system or equipment, including all exit doors and lighting, to perform satisfactorily, including when being used for maintenance or test purposes.
- G. Non-compliance or significant errors in compliance with required maintenance procedures.
- H. Products, parts, appliances and materials of unknown or suspect origin.
- I. Misleading, incorrect or insufficient maintenance data or procedures that could lead to maintenance errors.
- J. Failure, malfunction or defect of ground equipment used for test or checking of aircraft systems and equipment when the required routine inspection and test procedures did not clearly identify the problem when this results in a hazardous situation.

12.2. REPORTABLE OCCURRENCES TO SPECIFIC SYSTEMS

The following subparagraphs give examples of reportable occurrences resulting from the application of the generic criteria to specific systems listed in paragraph 12.1.2(B).

1. Air conditioning/ventilation
 - a. complete loss of avionics cooling
 - b. depressurisation
2. Autoflight system
 - a. failure of the autoflight system to achieve the intended operation while engaged.
 - b. significant reported crew difficulty to control the aircraft linked to autoflight system functioning.
 - c. failure of any autoflight system disconnect device.
 - d. Uncommanded autoflight mode change.
3. Communications
 - a. failure or defect of passenger address system resulting in loss or inaudible passenger address
 - b. total loss of communication in flight



4. Electrical system
 - a. loss of one electrical system distribution system (AC or DC)
 - b. total loss or loss or more than one electrical generation system
 - c. failure of the backup (emergency) electrical generating system

5. Cockpit/Cabin/Cargo
 - a. pilot seat control loss during flight
 - b. failure of any emergency system or equipment, including emergency evacuation signalling system, all exit doors, emergency lighting, etc.
 - c. loss of retention capability of the cargo loading system.

6. Fire protection system
 - a. fire warnings, except those immediately confirmed as false.
 - b. undetected failure or defect of fire/smoke detection/protection system, which could lead to loss or reduced fire detection/protection.
 - c. absence of warning in case of actual fire or smoke

7. Flight controls
 - a. Asymmetry of flaps, slats, spoilers etc.
 - b. limitation of movement, stiffness or poor or delayed response in the operation of primary flight control systems or their associated tab and lock systems.
 - c. flight control surface run away.
 - d. flight control surface vibration felt by the crew.
 - e. mechanical flight control disconnection or failure
 - f. significant interference with normal control of the aircraft or degradation of flying qualities

8. Fuel system
 - a. fuel quantity indicating system malfunction resulting in total loss or erroneous indicated fuel quantity on board.
 - b. leakage of fuel which resulted in major loss, fire hazard, significant contamination.
 - c. malfunction or defects of the fuel jettisoning system which resulted in inadvertent loss of significant quantity, fire hazard, hazardous contamination of aircraft equipment or inability to jettison fuel.
 - d. fuel system malfunctions or defects which had a significant effect on fuel supply and/or distribution.
 - e. inability to transfer or use total quantity of usable fuel.



9. Hydraulics
 - a. loss of one hydraulic system (ETOPS only)
 - b. failure of the isolation system to operate.
 - c. loss of more than one hydraulic circuit.
 - d. failure of the back-up hydraulic system.
 - e. inadvertent Ram Air Turbine extension

10. Ice detection/protection system
 - a. undetected loss or reduced performance of the anti-ice/de-ice system.
 - b. loss of more than one of the probe heating systems.
 - c. inability to obtain symmetrical wing de-icing.
 - d. abnormal ice accumulation leading to significant effects on performance or handling qualities.
 - e. crew vision significantly affected.

11. Indicating/warning/recording systems
 - a. malfunction or defect of any indicating system when the possibility of significant misleading indications to the crew could result in an inappropriate crew action on an essential system.
 - b. loss of a red warning function on a system for glass cockpits: loss or malfunction of more than one display unit or computer involved in the display/warning function.

12. Landing gear system /brakes/tyres
 - a. brake fire.
 - b. significant loss of braking action.
 - c. unsymmetrical braking leading to significant path deviation.
 - d. failure of the L/G free fall extension system (including during scheduled tests).
 - e. unwanted gear or gear doors extension/retraction.
 - f. multiple tyres burst.

13. Navigation systems (including precision approaches system) and air data systems.
 - a. total loss or multiple navigation equipment failures
 - b. total failure or multiple air data system equipment failures
 - c. significant misleading indication
 - d. Significant navigation errors attributed to incorrect data or a database coding error.



- e. Unexpected deviations in lateral or vertical path not caused by pilot input.
- f. Problems with ground navigational facilities leading to significant navigation errors not associated with transitions from inertial navigation mode to radio navigation mode.

14. Oxygen

- a. for pressurised aircraft: loss of oxygen supply in the cockpit.
- b. loss of oxygen supply to a significant number of passengers (more than 10%), including when found during maintenance or training or test purposes.

15. Bleed air system

- a. hot bleed air leak resulting in fire warning or structural damage.
- b. loss of all bleed air systems.
- c. failure of bleed air leak detection system.



13. LOGIGRAM

