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Ref : 2022/46/SUPDT-R/41 الإشارة :

All KCASR Stockholders and Users

Subject.: Notice of Proposed Amendment's (NPA) No. 2022-05 to Kuwait Civil Aviation Safety Regulations KCASR 6 - OPERATION OF AIRCRAFTPART CAT - COMMERCIAL AIR TRANSPORT OPERATIONS Rev 4.

Dear Sir,

Purpose:

The purpose of this NPA is to announce to the KCASR users the intention of the Directorate General of Civil Aviation to amend **KCASR 6 - OPERATION OF AIRCRAFTPART CAT - COMMERCIAL AIR TRANSPORT OPERATIONS** (issue 4), .

Action Required:

All users of KCASR are required to refer to DGCA/ ASD website (<https://kcasr.dgca.gov.kw>) for reviewing the NPA and mail or email (safety@dgca.gov.kw) their comments to DGCA by 30/Jun/2022 using the attached NPA Response Sheet Forms No. 1500 or using NPA comments & feedback form on the website. If we do not receive your response by this date, it will be assumed that you do not have any comments on the proposal.

If required, the DGCA/Aviation Safety Department personnel are available to answer your questions on the interpretation and intended implementation of the proposed amendments.

This is for your information and distribution to the concerned parties.

Yours Sincerely,

President of Civil Aviation

Abdullah Al-Sabah
President of Civil Aviation

CC: Director General of Civil Aviation.
Dy. Dir. Gen. Kuwait. Intel. Airport Affairs.
Dy. Dir. Gen. for Air Navigation Services Affairs.
Safety Management Coordination Center (SMCC).
Head of Technical Office.
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Civil Aviation
دولة الكويت - State of Kuwait

Kuwait Civil Aviation Safety Regulations

KCASR 6 – OPERATION OF AIRCRAFT PART CAT – COMMERCIAL AIR TRANSPORT OPERATIONS

Kuwait Civil Aviation Safety Regulations		KCASR 6 – Operation of Aircraft
		Part CAT – Commercial Air Transport Operations

Amendment Record

Amendment No	Date of Issue	Remarks
1	June 2018	Part Rename
2	December 2018	NPA 2018-27, Up to date with EASA Rev 11 (July 2018)
3	Feb 2020	NPA 2019-26 (EFB)
4	Mar 2021	NPA 2021-03 (Updated to EASA Rev 13 - Oct 2019)
5	May 2022	NPA 2022-05 in compliance with ICAO amendment 24,40,47

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Note. Operational procedures for monitoring and making position information of a flight in distress available to the appropriate organizations in a timely manner are contained in PANS-OPS, Volume III.

CAT.GEN.MPA.210 Location of an aircraft in distress — Aeroplanes

The following aeroplanes shall be equipped with robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight:

- (1) all aeroplanes with an MCTOM of more than 27000 kg, with an MOPSC of more than 19 and first issued with an individual CofA on or after 1 January 2023; and
- (2) all aeroplanes with an MCTOM of more than 45500 kg and first issued with an individual CofA on or after 1 January 2023.

CAT.GEN.MPA.215 Support programme

(a) The operator shall enable, facilitate and ensure access to a proactive and non-punitive support programme that will assist and support flight crew in recognising, coping with, and overcoming any problem which might negatively affect their ability to safely exercise the privileges of their licence. Such access shall be made available to all flight crew.

(b) Without prejudice to applicable national legislation on the protection of individuals with regard to the processing of personal data and on the free movement of such data, the protection of the confidentiality of data shall be a precondition for an effective support programme as it encourages the use of such a programme and ensures its integrity.

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services (ATS), sufficient lighting, communications, weather reporting, navigation aids and emergency services.

CAT.OP.MPA.110 Aerodrome operating minima

- (a) The operator shall establish aerodrome operating minima for each departure, destination or alternate aerodrome planned to be used. These minima shall not be lower than those established for such aerodromes by the State in which the aerodrome is located, except when specifically approved by that State. Any increment specified by the Kuwait DGCA shall be added to the minima.
- (b) The use of a head-up display (HUD), head-up guidance landing system (HUDLS) or enhanced vision system (EVS) may allow operations with lower visibilities than the established aerodrome operating minima if approved in accordance with SPA.LVO.
- (c) When establishing aerodrome operating minima, the operator shall take the following into account:
 - (1) the type, performance and handling characteristics of the aircraft;
 - (2) the composition, competence and experience of the flight crew;
 - (3) the dimensions and characteristics of the runways/final approach and take-off areas (FATOs) that may be selected for use;
 - (4) the adequacy and performance of the available visual and non-visual ground aids;
 - (5) the equipment available on the aircraft for the purpose of navigation and/or control of the flight path during the take-off, the approach, the flare, the landing, rollout and the missed approach;
 - (6) for the determination of obstacle clearance, the obstacles in the approach, missed approach and the climb-out areas necessary for the execution of contingency procedures;
 - (7) the obstacle clearance altitude/height for the instrument approach procedures;
 - (8) the means to determine and report meteorological conditions; and
 - (9) the flight technique to be used during the final approach.
- (d) When issuing a specific approval for the operational credit, the State of the Operator shall ensure that:
 - (1) the aeroplane meets the appropriate airworthiness certification requirements;
 - (2) the information necessary to support effective crew tasks for the operation is appropriately available to both pilots where the number of flight crew members specified in the operations manual is more than one;
 - (3) the operator has carried out a safety risk assessment of the operations supported by the equipment;
 - (4) the operator has established and documented normal and abnormal procedures and MEL;
 - (5) the operator has established a training programme for the flight crew members and relevant personnel involved in the flight preparation;

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(6) the operator has established a system for data collection, evaluation and trend monitoring for low visibility operations for which there is an operational credit; and

(7) the operator has instituted appropriate procedures in respect of continuing airworthiness (maintenance and repair) practices and programmes.

Note 1. Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).

Note 2. Guidance on operational approvals is contained in the Manual Of All-Weather Operations (Doc 9365).

(e) For operations with operational credit with minima above those related to low visibility operations, the State of the Operator shall establish criteria for the safe operation of the aeroplane.

Note. Guidance on operational credit for operations with minima above those related to low visibility operations is contained in the Manual of All-Weather Operations (Doc 9365).

~~(9)~~

~~(d)~~(f) The operator shall specify the method of determining aerodrome operating minima in the operations manual.

~~(e)~~(g) The minima for a specific approach and landing procedure shall only be used if all the following conditions are met:

(1) the ground equipment shown on the chart required for the intended procedure is operative;

(2) the aircraft systems required for the type of approach are operative;

(3) the required aircraft performance criteria are met; and

(4) the crew is appropriately qualified.

~~(4)~~(h) Instructions and training requirements for the use of automatic landing systems, a (HUD) or equivalent displays and EVS, SVS or CVS equipment as applicable.



- (1) trip fuel for the remainder of the flight; and
- (2) reserve fuel consisting of:
 - (i) contingency fuel;
 - (ii) alternate fuel, if a destination alternate aerodrome is required;
 - (iii) final reserve fuel; and
 - (iv) additional fuel, if required by the type of operation;and
- (3) extra fuel if required by the commander.

[Note 1. Guidance on EDTO critical fuel scenarios is contained in the Extended Diversion Time Operations Manual \(Doc 10085\).](#)

[\(3\) Note 2. Guidance on the conditions to be used when converting EDTO significant system time limitations to distances and on the consideration of the EDTO system time limitations at dispatch the Extended Diversion Time Operations Manual \(Doc 10085\).](#)

CAT.OP.MPA.151 Fuel policy - alleviations

- (a) Notwithstanding CAT.OP.MPA.150(b) to (d), for operations of performance class B aeroplanes the operator shall ensure that the pre-flight calculation of usable fuel required for a flight includes:
 - (i) taxi fuel, if significant;
 - (ii) trip fuel;
 - (iii) reserve fuel, consisting of:
 - (A) contingency fuel that is not less than 5 % of the planned trip fuel or, in the event of in-flight replanning, 5 % of the trip fuel for the remainder of the flight; and
 - (B) final reserve fuel to fly for an additional period of 45 minutes for reciprocating engines or 30 minutes for turbine engines;
 - (iv) alternate fuel to reach the destination alternate aerodrome via the destination, if a destination alternate aerodrome is required; and
 - (v) extra fuel, if specified by the commander.
- (a1) Notwithstanding CAT.OP.MPA.150(b) to (d), for operations taking off and landing at the same aerodrome or operating site with ELA2 aeroplanes under VFR by day the operator shall specify the minimum final reserve fuel in the OM. This minimum final reserve fuel shall not be less than the amount needed to fly for a period of 45 minutes.
- (b) Notwithstanding CAT.OP.MPA.150(b) to (d), for helicopters with an MCTOM of 3 175 kg or less, by day and over routes navigated by reference to visual landmarks or local helicopter operations, the fuel policy shall ensure that, on completion of the flight, or series of flights the final reserve fuel is not less than an amount sufficient for:
 - (1) 30 minutes flying time at normal cruising speed; or



- (c) Planning minima for a destination alternate aerodrome, isolated aerodrome, fuel en-route alternate (fuel ERA) aerodrome, en-route alternate (ERA) aerodrome

The operator shall only select an aerodrome for one of these purposes when the appropriate weather reports and/or forecasts indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the planning minima in Table 1.

**Table 1
Planning minima**

Destination alternate aerodrome, isolated destination aerodrome, fuel ERA and ERA aerodrome	
Type of approach	Planning minima
CAT II and III	CAT I RVR
CAT I	NPA RVR/VIS Ceiling shall be at or above MDH
NPA	NPA RVR/VIS + 1 000 m Ceiling shall be at or above MDH + 200 ft
Circling	Circling

CAT.OP.MPA.186 Planning minima for IFR flights - helicopters

- (a) Planning minima for take-off alternate aerodrome(s)

The operator shall only select an aerodrome or landing site as a take-off alternate aerodrome when the appropriate weather reports and/or forecasts indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the take-off alternate aerodrome, the weather conditions will be at or above the applicable landing minima specified in accordance with CAT.OP.MPA.110. The ceiling shall be taken into account when the only approach operations available are NPA operations. Any limitation related to OEI operations shall be taken into account.

- (b) Planning minima for destination aerodrome and destination alternate aerodrome(s)

The operator shall only select the destination and/or destination alternate aerodrome(s) when the appropriate weather reports and/or forecasts indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome or operating site, the weather conditions will be at or above the applicable planning minima as follows:

- (1) except as provided in CAT.OP.MPA.181(d), planning minima for a destination aerodrome shall be:
 - (i) RVR/VIS specified in accordance with CAT.OP.MPA.110; and
 - (ii) for NPA operations, the ceiling at or above MDH;

(2) planning minima for destination alternate aerodrome(s) are as shown in Table 1.



(c) The State of the Operator shall authorize operational credit(s) for operations with advanced aircraft. Where the operational credit relates to low visibility operations, the State of the Operator shall issue a specific approval. Such authorizations shall not affect the classification of the instrument approach procedure.

Note 1. Operational credit includes:

for the purposes of an approach ban or dispatch considerations, a minimum below the heliport or landing location operating minima;

Note 2. Guidance on operational credit and how to express the operational credit in the operations specifications is contained in Attachment G and in the Manual of All-Weather Operations (Doc 9365)

(d) When issuing a specific approval for the operational credit, the State of the Operator shall ensure that:

- (1) the aircraft meets the appropriate airworthiness certification requirements;
- (2) the information necessary to support effective crew tasks for the operation is appropriately available to both pilots where the number of flight crew members specified in the operations manual is more than one;
- (3) the operator has carried out a safety risk assessment of the operations supported by the equipment;
- (4) the operator has established and documented normal and abnormal procedures and MEL;
- (5) the operator has established a training programme for the flight crew members and relevant personnel involved in the flight preparation;
- (6) the operator has established a system for data collection, evaluation and trend monitoring for low visibility operations for which there is an operational credit; and
- (7) the operator has instituted appropriate procedures in respect of continuing airworthiness (maintenance and repair) practices and programmes.

Note 1. Guidance on safety risk assessments is contained in the Safety Management Manual (SMM) (Doc 9859).

~~(2)~~

Note 2. Guidance on operational approvals is contained in the Manual of All-Weather Operations (Doc 9365).



Section 2 - Helicopters

Chapter 1 - General requirements

CAT.POL.H.100 Applicability

- (a) Helicopters shall be operated in accordance with the applicable performance class requirements.
- (b) Helicopters shall be operated in performance class 1:
 - (1) when operated to/from aerodromes or operating sites located in a congested hostile environment, except when operated to/from a public interest site (PIS) in accordance with CAT.POL.H.225; or
 - (2) when having an MOPSC of more than 19, except when operated to/from a helideck in performance class 2 under an approval in accordance with CAT.POL.H.305.
- (c) Unless otherwise prescribed by (b), helicopters that have an MOPSC of 19 or less but more than nine shall be operated in performance class 1 or 2.
- (d) Unless otherwise prescribed by (b), helicopters that have an MOPSC of nine or less shall be operated in performance class 1, 2 or 3.
- (e) Kuwait DGCA/ASD shall authorize operational credit(s) for operations with advanced aircraft. Where the operational credit relates to low visibility operations, the Kuwait DGCA/ASD shall issue a specific approval. Such authorizations shall not affect the classification of the instrument approach procedure.

Note 1. *Operational credit includes:*

for the purposes of an approach ban dispatch considerations, a minima minimum below the heliport or landing location aerodrome operating minima;

Note 2. *Guidance on operational and how to express the operational credit in the specific approvals template is contained in Attachment G and in the ICAO Manual of All-Weather Operations (Doc 9365).*

- (f) When issuing a specific approval for the operational credit, the Kuwait DGCA / ASD shall ensure that:
 - (1) the aircraft meets the appropriate airworthiness certification requirements;
 - (2) the information necessary to support effective crew tasks for the operation is appropriately available to both pilots where the number of flight crew members specified in the operations manual (or other documents associated with the certificate of airworthiness) is more than one;
 - (3) the operator/owner has carried out a safety risk assessment of the operations supported by the equipment;
 - (4) the operator/owner has established and documented normal and abnormal procedures and MEL;



- (5) the operator/owner has established a training programme for the flight crew members and relevant personnel involved in the flight preparation;
- (6) the operator/owner has established a system for data collection, evaluation and trend monitoring for low visibility operations for which there is an operational credit; and
- (7) the operator has instituted appropriate procedures in respect of continuing airworthiness (maintenance and repair) practices and programmes.

Note 1. Guidance on safety risk assessments is contained in the ICAO Safety Management Manual (SMM) (Doc 9859).

Note 2. Guidance on operational approvals is contained in the ICAO Manual of All-Weather Operations (Doc 9365).

- (8) For operations with operational credit with minima above those related to low visibility operations, Kuwait DGCA / ASD shall establish criteria for the safe operation of the aircraft.

Note. Guidance on operational credit for operations with minima above those related to low visibility operations is contained in the ICAO Manual of All-Weather Operations (Doc 9365).

- (9) helicopters are equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS, or any combination of those systems into a hybrid system, criteria for the use of such systems for the safe operation of a helicopter shall be established by the Kuwait DGCA Registry.

Note 1. Information regarding automatic landing systems, a HUD or equivalent displays, EVS, SVS or is contained in the ICAO Manual of All-Weather Operations (Doc 9365).

- ~~(d)~~ **Note 2.** Automatic landing system — helicopter is an automatic approach using airborne systems which provide automatic control of the flight path, to a point aligned with the landing surface, from which the pilot can transition to a safe landing by means of natural vision without the use of automatic control.

CAT.POL.H.105 General

- (a) The mass of the helicopter:
- (1) at the start of the take-off; or
 - (2) in the event of in-flight replanning, at the point from which the revised operational flight plan applies,
- shall not be greater than the mass at which the applicable requirements of this Section can be complied with for the flight to be undertaken, taking into account expected reductions in mass as the flight proceeds and such fuel jettisoning as is provided for in the relevant requirement.
- (b) The approved performance data contained in the AFM shall be used to determine compliance with the requirements of this Section, supplemented as necessary with other data as prescribed in the relevant requirement. The operator shall specify such other



Subpart D - Instruments, Data, Equipment

Section 1 - Aeroplanes

CAT.IDE.A.100 Instruments and equipment - general

- (a) Instruments and equipment required by this Subpart shall be approved in accordance with [KCASR 8 - Part 21](#), except for the following items:
- (1) Spare fuses;
 - (2) Independent portable lights;
 - (3) An accurate time piece;
 - (4) Chart holder;
 - (5) First-aid kits;
 - (6) Emergency medical kit;
 - (7) Megaphones;
 - (8) Survival and signalling equipment;
 - (9) Sea anchors and equipment for mooring; and
 - (10) Child restraint devices.
- (b) Instruments and equipment not required by this Subpart that do not need to be approved in accordance with Part 21, but are carried on a flight, shall comply with the following:
- (1) the information provided by these instruments, equipment or accessories shall not be used by the flight crew to comply with Annex I to the KCASR Basic Regulation or CAT.IDE.A.330, CAT.IDE.A.335, CAT.IDE.A.340 and CAT.IDE.A.345; and
 - (2) the instruments and equipment shall not affect the airworthiness of the aeroplane, even in the case of failures or malfunction.
- (c) If equipment is to be used by one flight crew member at his/her station during flight, it must be readily operable from that station. When a single item of equipment is required to be operated by more than one flight crew member it must be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.
- (d) Those instruments that are used by any flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his/her station, with the minimum practicable deviation from the position and line of vision that he/she normally assumes when looking forward along the flight path.
- (e) All required emergency equipment shall be easily accessible for immediate use.

CAT.IDE.A.105 Minimum equipment for flight

A flight shall not be commenced when any of the aeroplane's instruments, items of equipment or functions required for the intended flight are inoperative or missing, unless:

- (a) the aeroplane is operated in accordance with the operator's MEL; or

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- (5) is appropriately illuminated during all phases of operation, except for aeroplanes with an MCTOM of 5700 kg or less, already registered in the State of Kuwait on 1 April 1995 and equipped with a standby attitude indicator in the left-hand instrument panel;
 - (6) is clearly evident to the flight crew when the standby attitude indicator is being operated by emergency power; and
 - (7) where the standby attitude indicator has its own dedicated power supply, has an associated indication, either on the instrument or on the instrument panel, when this supply is in use.
- (j) A chart holder in an easily readable position that can be illuminated for night operations.

CAT.IDE.A.135 Additional equipment for single-pilot operation under IFR

Aeroplanes operated under IFR with a single-pilot shall be equipped with an autopilot with at least altitude hold and heading mode.

CAT.IDE.A.140 Altitude alerting system

- (a) The following aeroplanes shall be equipped with an altitude alerting system:
 - (1) turbine propeller powered aeroplanes with an MCTOM of more than 5700 kg or having an MOPSC of more than nine; and
 - (2) aeroplanes powered by turbo-jet engines.
- (b) The altitude alerting system shall be capable of:
 - (1) alerting the flight crew when approaching a preselected altitude; and
 - (2) alerting the flight crew by at least an aural signal, when deviating from a preselected altitude.
- (c) Notwithstanding (a), aeroplanes with an MCTOM of 5700 kg or less, having an MOPSC of more than nine, first issued with an individual CofA before 1 April 1972 and already registered in the State of Kuwait on 1 April 1995 are exempted from being equipped with an altitude alerting system.

CAT.IDE.A.150 Terrain awareness warning system (TAWS)

- (a) Turbine-powered aeroplanes having an MCTOM of more than 5700 kg or an MOPSC of more than nine shall be equipped with a TAWS that meets the requirements for Class A equipment as specified in an acceptable standard.
- (b) Reciprocating-engine-powered aeroplanes with an MCTOM of more than 5700 kg or an MOPSC of more than nine shall be equipped with a TAWS that meets the requirement for Class B equipment as specified in an acceptable standard.
- (c) Turbine-powered aeroplanes for which the individual certificate of airworthiness (CofA) was first issued after 1 January 2019 and having an MCTOM of 5 700 kg or less and an MOPSC of six to nine shall be equipped with a TAWS that meets the requirements for Class B equipment, as specified in an acceptable standard.
- (d) All turbine-engine aeroplanes of a maximum certificated take-off mass of 5 700 kg or less and authorized to carry more than five but not more than nine passengers for which the individual certificate of airworthiness is first issued on or after 1 January 2026, shall

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be equipped with a ground proximity warning system which provides the warning of unsafe terrain clearance and a forward looking terrain avoidance function.

(e)

CAT.IDE.A.155 Airborne collision avoidance system (ACAS)

Unless otherwise provided for by international regulations, turbine-powered aeroplanes with an MCTOM of more than 5700 kg or an MOPSC of more than 19 shall be equipped with ACAS II. **CAT.IDE.A.160 Airborne weather detecting equipment**

The following shall be equipped with airborne weather detecting equipment when operated at night or in IMC in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable with airborne weather detecting equipment, may be expected to exist along the route:

- (a) pressurised aeroplanes;
- (b) non-pressurised aeroplanes with an MCTOM of more than 5700 kg; and
- (c) non-pressurised aeroplanes with a MOPSC of more than nine.

CAT.IDE.A.165 Additional equipment for operations in icing conditions at night

- (a) Aeroplanes operated in expected or actual icing conditions at night shall be equipped with a means to illuminate or detect the formation of ice.
- (b) The means to illuminate the formation of ice shall not cause glare or reflection that would handicap crew members in the performance of their duties.

CAT.IDE.A.170 Flight crew interphone system

Aeroplanes operated by more than one flight crew member shall be equipped with a flight crew interphone system, including headsets and microphones for use by all flight crew members.

CAT.IDE.A.175 Crew member interphone system

Aeroplanes with an MCTOM of more than 15000 kg, or with an MOPSC of more than 19 shall be equipped with a crew member interphone system, except for aeroplanes first issued with an individual Cof A before 1 April 1965 and already registered in the State of Kuwait on 1 April 1995.

CAT.IDE.A.180 Public address system


Aeroplanes with an MOPSC of more than 19 shall be equipped with a public address system.

CAT.IDE.A.185 Cockpit voice recorder

- (a) The following aeroplanes shall be equipped with a cockpit voice recorder (CVR):
 - (1) aeroplanes with an MCTOM of more than 5 700 kg; and
 - (2) multi-engined turbine-powered aeroplanes with an MCTOM of 5 700 kg or less, with an MOPSC of more than nine and first issued with an individual (CofA) on or after 1 January



- (c) Data shall be obtained from aeroplane sources that enable accurate correlation with information displayed to the flight crew.
- (d) The FDR shall start to record the data prior to the aeroplane being capable of moving under its own power and shall stop after the aeroplane is incapable of moving under its own power. In addition, in the case of aeroplanes issued with an individual C of A on or after 1 April 1998, the FDR shall start automatically to record the data prior to the aeroplane being capable of moving under its own power and shall stop automatically after the aeroplane is incapable of moving under its own power.
- (e) If the FDR is not deployable, it shall have a device to assist in locating it under water. By 16 June 2018 at the latest, this device shall have a minimum underwater transmission time of 90 days. If the FDR is deployable, it shall have an automatic emergency locator transmitter.
- (f) The flight recorder system manufacturer shall provide the appropriate certifying authority with the following information in respect of the flight recorder systems:
- (1) manufacturer's operating instructions, equipment limitations and installation procedures;
 - (2) parameter origin or source and equations which relate counts to units of measurement;
 - (3) manufacturer's test reports.; and
 - (4) detailed information to ensure the continued serviceability of the flight recorder system.
- (g) The holder of the airworthiness approval for the installation design of the flight recorder system shall make available the relevant continuing airworthiness information to the operator of the Aircraft to be incorporated in the continuing airworthiness maintenance programme. This continuing airworthiness information shall cover in detail all the tasks required to ensure the continued serviceability of the flight recorder system.
- Note 1.** The flight recorder system is composed of the flight recorder as well as any dedicated sensors, hardware and software that provide information required per this Appendix.
- Note 2.** Conditions related to the continued serviceability of a flight recorder system are defined in this regulation. The ICAO Manual on Flight Recorder System Maintenance (FRSM) (Doc 10104) provides guidance on maintenance tasks associated with flight recorder systems.
- (h) Calibration of the FDR system:
- (1) for those parameters which have sensors dedicated only to the FDR and are not checked by other means, recalibration shall be carried out at an interval determined by the continuing airworthiness information for the FDR system. In the absence of such information, a recalibration shall be carried out at least every five years. The recalibration shall determine any discrepancies in the engineering conversion routines for the mandatory parameters and to ensure that parameters are being recorded within the calibration tolerances; and
 - ~~(e)~~ (2) when the parameters of altitude and airspeed are provided by sensors that are dedicated to the FDR system, there shall be a recalibration performed at an interval determined by the continuing airworthiness information for the FDR system. In the absence of such information, a recalibration shall be carried out at least every two years.

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- engine(s) becoming inoperative at any point along the route or planned diversions; or
- (2) for all other aeroplanes, 30 minutes at cruising speed or 100 NM, whichever is the lesser, shall be equipped with the equipment specified in (e).
- (e) Aeroplanes complying with (d) shall carry the following equipment:
- (1) life-rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in an emergency, and being of sufficient size to accommodate all the survivors in the event of a loss of one raft of the largest rated capacity;
- (2) a survivor locator light in each life-raft;
- (3) life-saving equipment to provide the means for sustaining life, as appropriate for the flight to be undertaken; and
- (4) at least two survival ELTs (ELT(S)).
- (f) Aeroplanes with an MCTOM of more than 27000 kg and with an MOPSC of more than 19 and all aeroplanes with an MCTOM of more than 45500 kg shall be fitted with a securely attached underwater locating device that operates at a frequency of 8,8 kHz \pm 1 kHz, unless:
- (1) the aeroplane is operated over routes on which it is at no point at a distance of more than 180 NM from the shore; or
- (2) the aeroplane is equipped with robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight.

Note 1. "Landplanes" includes amphibians operated as landplanes.

Note 2. Life jackets accessible from seats or berths located in crew rest compartments are required only if the seats or berths concerned are certified to be occupied during take-off and landing.

Note 3. information regarding the acceptable means of compliance with this Standard, particularly in the case of infants, can be found, in the ICAO Guidance on the preparation of an Operations Manual (Doc 10153), Chapter11 Attachment D.

CAT.IDE.A.305 Survival equipment

- (a) Aeroplanes operated over areas in which search and rescue would be especially difficult shall be equipped with:
- (1) signalling equipment to make the distress signals;
- (2) at least one ELT(S); and
- (3) additional survival equipment for the route to be flown taking account of the number of persons on board.
- (b) The additional survival equipment specified in (a)(3) does not need to be carried when the aeroplane:
- (1) remains within a distance from an area where search and rescue is not especially difficult corresponding to:
- (i) 120 minutes at one-engine-inoperative (OEI) cruising speed for aeroplanes capable of continuing the flight to an aerodrome with the critical engine(s)

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