



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

INSPECTOR	
CERTIFICATE HOLDER/APPLICANT	

Nig.CARs 7	Requirement of the Regulation	Compliance Method Manual Ref #	Certificate holder/ Applicant Comments (if appropriate)	Status
7.1	GENERAL			
7.1.1.1	APPLICABILITY (a) Part 7 prescribes the minimum instrument and equipment requirements for all aircraft in all operations. (b) Part 7 requirements use the following key designators— (1) AAC: all aircraft — non-AOC Holders and AOC Holders appropriate to the subject of the regulations, e.g., an all aircraft regulation may only refer to seaplanes, but will include seaplanes operated by non-AOC Holders and AOC seaplanes. (2) AOC: AOC Holders are operators engaged in commercial air transport. Where AOC requirements are more detailed, the AOC requirements will be followed.			
7.1.1.2	DEFINITIONS (a) General definitions are contained in Part 1 of these regulations. For the purpose of Part 7, the following definitions shall apply— Advanced aircraft. An aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach or landing operation.			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>Airborne Image Recorder (AIR). A device that uses a combination of cameras to collect and record information that reflects the status of various parts of the aircraft (internal and external). Source: EUROCAE ED-112 "Minimum Operational Performance Specification for Crash-Protected Airborne Recorder Systems," March 2003, paragraph 1-1.5.1.</p> <p>Aircraft Data Recording System. A device or devices that use a combination of data providers to collect and record parameters that reflect the state and performance of an aircraft. Source: EUROCAE ED-155 "Minimum Performance Specification for Lightweight Flight Recording Systems," July 2009, paragraph 1-1.5.1.</p> <p>Airworthy. The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.</p> <p>Area navigation (RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these. <i>Note: Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.</i></p> <p>Basic aircraft. An aircraft which has the minimum equipment required to perform the intended take-off, approach or landing operation.</p> <p>Category I (CAT I) operation. A precision instrument approach and landing with:</p> <ul style="list-style-type: none"> i. a decision height not lower than 60 m (200 ft); and ii. with either a visibility not less than 800 m or a runway visual range not less than 550 m. <p>Category II (CAT II) operation. A precision instrument approach and landing with:</p> <ul style="list-style-type: none"> i. a decision height lower than 60 m (200 ft), but not lower than 30 m (100 ft); and ii. a runway visual range not less 300 m. <p>Category III A (CAT IIIA) operation. A precision approach and landing with:</p> <ul style="list-style-type: none"> i. a decision height lower than 30 m (100 ft) or no decision height; 			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>and</p> <p>ii. a runway visual range not less than 175 m.</p> <p>Category III B (CAT IIIB) operation. A precision approach and landing with:</p> <p>i. a decision height lower than 15 m (50 ft), or no decision height;</p> <p>and</p> <p>ii. a runway visual range less than 175 m but not less than 50 m.</p> <p>Category III C (CAT IIIC) operation. A precision instrument approach and landing with no decision height and no runway visual range limitations.</p> <p><i>Note: Where decision height (DH) and runway visual range (RVR) fall into different categories of operation, the instrument approach and landing operation would be conducted in accordance with the requirements of the most demanding category (e.g. an operation with a DH in the range of CAT IIIA but with an RVR in the range of CAT IIIB would be considered a CAT IIIB operation or an operation with a DH in the range of CAT II but with an RVR in the range of CAT I would be considered a CAT II operation).</i></p> <p>Cockpit Audio Recording System. A device that uses a combination of microphones and other audio and digital inputs to collect and record the aural environment of the cockpit and communications to, from and between the pilots. Source: EUROCAE ED-155 "Minimum Performance Specification for Lightweight Flight Recording Systems," July 2009, paragraph 1-1.5.1.</p> <p>Continuing airworthiness. The set of processes by which an aircraft, remote pilot station, an aeronautical product complies with the applicable airworthiness requirements and remain in a condition for safe operation throughout their operating life.</p> <p>Controlled Flight into Terrain. Occurs when an airworthy aircraft is flown, under the control of a qualified pilot, into terrain (water or obstacles) with inadequate awareness on the part of the pilot of the impending collision.</p> <p>Datalink Recording System. A device that records those messages</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>whereby the flight path of the aircraft is authorised, controlled directly or indirectly, and which are relayed over a digital data-link rather than by voice communication. Source: EUROCAE ED-155 "Minimum Performance Specification for Lightweight Flight Recording Systems," July 2009, paragraph 1-1.5.1.</p> <p>Emergency Locator Transmitter (ELT). A generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending on application, may be automatically activated by impact or be manually activated. An ELT may be any of the following:</p> <ul style="list-style-type: none">i. Automatic fixed ELT. An automatically activated ELT which is permanently attached to an aircraft.ii. Automatic portable ELT. An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft.iii. Automatic deployable ELT (ELT (AD)). An ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and in some cases, also be hydrostatic sensors. Manual deployment is also provided.iv. Survival ELT. An ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.v. ELT battery useful life. The length of time after its date of manufacture or recharge that the battery or battery pack may be stored under normal environmental conditions without losing its ability to allow the ELT to meet the applicable performance standards.vi. ELT battery expiration date. The date of battery manufacture or recharge plus one half of its useful life. Source: Canadian Aviation Regulations (CARS) Part V, 551.401. <p>Engine. A unit used or intended to be used for aircraft propulsion. It consists of at least those components and equipment necessary for functioning and control, but excludes the propeller/rotors (if applicable).</p> <p>Enhanced Ground Proximity Warning (EGPWS). A forward-looking warning system that uses the terrain database for terrain avoidance.</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>Enhanced Vision System (EVS). A system to display electronic realtime images of the external scene achieved through the use of image sensors.</p> <p>Flight manual. A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions information necessary to the flight crewmembers for the safe operation of the aircraft.</p> <p>Flight Recorder. Any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation. This could include the cockpit voice recorder (CVR) or flight data recorder (FDR).</p> <p>Ground Proximity Warning System (GPWS). A warning system that uses radar altimeters to alert the pilots of hazardous flight conditions.</p> <p>Head-up display (HUD). A display system that presents flight information into the pilot's forward external field of view.</p> <p>High Speed Aural Warning. A speed warning that is required for turbine-engined airplanes and airplanes with a Vmo/Mmo greater than 0.80 Vdf/Mdf or Vd/Md.</p> <p>Long Range Overwater Flights. Routes on which an aeroplane may be over water and at more than a distance corresponding to 120 minutes at cruising speed or 740 km (400 NM), whichever is the lesser, away from land suitable for making an emergency landing.</p> <p>Low Altitude Wind Shear Warning and Guidance System. A system that will issue a warning of low altitude wind shear and in some cases provide the pilot with guidance information of the escape manoeuvre.</p> <p>Mach Number Indicator. An indicator that shows airspeed as a function of the Mach number.</p> <p>Maintenance programme. A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies.</p> <p>Navigation specification. A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:</p> <p>i. Required navigation performance (RNP) specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>by the prefix RNP, e.g. RNP 4, RNP APCH.</p> <p>ii. Area navigational (RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.</p> <p><i>Note 1: The Performance-based Navigation (PBN) Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.</i></p> <p><i>Note 2: The term RNP, previously defined as “a statement of the performance necessary for operation within a defined airspace”, has been removed from this Annex as the concept of RNP has been overtaken by the concept of PBM. The term RNP in this Annex is now solely used in the context of navigation specifications that require performance monitoring and alerting, e.g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.</i></p> <p>Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.</p> <p><i>Note: Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.</i></p> <p>Terrain Awareness Warning System. A system that provides the flight crew with sufficient information and alerting to detect a potentially hazardous terrain situation and so the flight crew may take effective action to prevent a controlled flight into terrain (CFIT) event.</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

<p>7.1.1.3</p>	<p>ABBREVIATIONS</p> <p>(a) The following acronyms are used in Part 7:</p> <ol style="list-style-type: none"> (1) AAC – All Aircraft (2) ADF – Automatic Direction Finder (3) ADFR – Automatic Deployable Flight Recorder (4) ADRS – Aircraft Data Recording Systems (ADRS) (5) AFM – Aeroplane Flight Manual (6) AIR – Airborne Image Recorder (7) AOC - Air Operator Certificate (8) CARS – Cockpit Audio Recording System (9) DLC – Data Link Communications (10) DLR – Data-Link Recorder (11) DLRS – Data-Link Recording Systems (12) ELT (AD) - Automatically Deployable ELT (13) ELT(AF) -. Automatic Fixed ELT (14) ELT(AP) - Automatic Portable ELT (15) ELT(S) – Survival ELT (16) CAT - Commercial Air Transport (17) CAT I – Category One (18) CAT II – Category Two (19) CAT IIIA – Category Three A (20) CAT IIIB – Category Three B (21) CAT IIIC – Category Three C (22) CFIT -- Controlled Flight Into Terrain (23) CVR – Cockpit Voice Recorder (24) DH – Decision Height (25) DME – Distance Measuring Equipment (26) ELT – Emergency Locator Transmitter (27) EVS – Enhanced Vision Systems (28) FDR – Flight Data Recorder (29) GPS – Global Positioning System (30) GPWS – Ground Proximity Warning System (31) HUD – Head Up Display (32) ILS – Instrument Landing System (33) IFR – Instrument Flight Rules (34) IMC - Instrument Meteorological Conditions (35) LRNS - Long Range Navigation Systems 			
-----------------------	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(36) MACH – Mach Number Indicator (37) MEL – Minimum Equipment List (38) MHz – Megahertz (39) MLS – Microwave Landing System (40) MNPS - Minimum Navigation Performance Specifications (41) NDB – Nondirectional Beacon (42) PBCS – Performance-Based Communication and Surveillance (43) PBE - Protective Breathing Equipment (44) RNAV – Area Navigation (45) RNP – Required Navigation Performance (46) RVR – Runway Visual Range (47) RVSM – Reduced Vertical Separation Minimum (48) SSR – Secondary Surveillance Radar (49) TAWS – Terrain Awareness Warning System (50) VFR – Visual Flight Rules (51) VMC - Visual Meteorological Conditions (52) VOR – VHF Omnidirectional Radio range (53) VSM – Vertical Separation Minimum (54) ROAAS – Runway Overrun Awareness & Alerting System</p>			
<p>7.1.1.4</p>	<p>GENERAL INSTRUMENT AND EQUIPMENT REQUIREMENTS (a) [AAC] In addition to the minimum equipment necessary for the issuance of a certificate of airworthiness, the instruments, equipment and flight documents prescribed in Part 7 shall be installed or carried, as appropriate, in aircraft according to the aircraft used and to the circumstances under which the flight is to be conducted. (b) [AAC] All required instruments and equipment shall be approved and installed in accordance with applicable airworthiness requirements. (c) [AAC] Prior to operation in Nigeria of any aircraft not registered in Nigeria that uses an airworthiness inspection programme approved or accepted by the State of Registry, the owner/operator shall ensure that instruments and equipment required by Nigeria but not installed in the aircraft are properly installed and inspected in accordance with the requirements of the State of Registry. (d) [AOC] No person shall commence a flight in commercial air transport operations unless the required equipment— (1) Meets the minimum performance standard, all operational and</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>airworthiness requirements and the relevant provisions of ICAO Annex 10, Volume IV.</p> <p>(2) Is installed such that the failure of any single unit required for either communication or navigation purposes, or both, will not result in the inability to communicate and/or navigate safely on the route being flown.</p> <p>(3) Is in operable condition for the kind of operation being conducted, except as provided in the MEL.</p> <p>(e) [AAC] If equipment is to be used by one flight crewmember at his or her station during flight, it shall be installed so as to be readily operable from that flight crewmember's station.</p> <p>(f) [AAC] When a single item of equipment is required to be operated by more than one flight crewmember, it shall be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.</p>			
<p>7.2</p>	<p>FLIGHT INSTRUMENTS</p>			
<p>7.2.1.1</p>	<p>GENERAL REQUIREMENTS</p> <p>(a) [AAC] All aircraft shall be equipped with flight instruments which will enable the flight crew to—</p> <ol style="list-style-type: none"> (1) Control the flight path of the aircraft; (2) Carry out any required procedural manoeuvres; and (3) Observe the operating limitations of the aircraft in the expected operating conditions. <p>(b) [AAC] When a means is provided for transferring an instrument from its primary operating system to an alternative system, the means shall include a positive positioning control and shall be marked to indicate clearly which system is being used.</p> <p>(c) [AAC] Those instruments that are used by any one pilot shall be so arranged as to permit the pilot to see the indications readily from his or her station, with the minimum practicable deviation from the position and line of vision which he normally assumes when looking forward along the flight path.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

<p>7.2.1.2</p>	<p>MINIMUM FLIGHT INSTRUMENTS</p> <p>(a) [AAC] No person may operate any powered aircraft unless it is equipped with the following flight instruments:</p> <p>(1) An airspeed indicating system calibrated in knots, miles per hour or kilometers per hour.</p> <p>(2) Sensitive pressure altimeter calibrated in feet with a sub-scale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.</p> <p>(3) An accurate timepiece indicating the time in hours, minutes, and seconds.</p> <p>i. For non-AOC operations, either equipage or carriage is acceptable.</p> <p>(4) A magnetic compass.</p> <p>(5) Any other equipment as prescribed by the Authority.</p> <p><i>Note: This applies to both VFR and IFR operation in addition to the additional requirements for IFR elsewhere in this Part.</i></p> <p>(b) [AAC] No person may operate an aircraft in VFR flight as a controlled flight unless it is equipped with the instruments in 7.2.1.4 of this part.</p>			
<p>7.2.1.3</p>	<p>INSTRUMENTS FOR OPERATIONS REQUIRING TWO PILOTS IN DAY VFR</p> <p>(a) [AOC] Whenever two pilots are required, each pilot's station shall have separate flight instruments as follows:</p> <p>(1) An airspeed indicator calibrated in knots, miles per hour or kilometers per hour;</p> <p>(2) A sensitive pressure altimeter calibrated in feet with a sub-scale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight;</p> <p>(3) A vertical speed indicator;</p> <p>(4) A turn and slip indicator, or a turn coordinator incorporating a slip indicator;</p> <p>(5) An attitude indicator;</p> <p>i. A stabilised direction indicator, and</p> <p>ii. Any other equipment as required by the Authority.</p>			
<p>7.2.1.4</p>	<p>INSTRUMENTS REQUIRED FOR INSTRUMENT FLIGHT RULES OPERATIONS</p>			



STATEMENT OF COMPLIANCE

	<p>(a) [AAC] In addition to the requirements in 7.2.1.1, all aeroplanes when operated in IFR, or when the aircraft cannot be maintained in a desired altitude without reference to one or more flight instruments, shall be equipped with--</p> <p>(1) A means of measuring and displaying:</p> <ul style="list-style-type: none"> i. Magnetic heading (standby compass); ii. The time in hours, minutes and seconds; iii Barometric altitude; <p>(A) For non-AOC operations, either equipage or carriage is acceptable.</p> <ul style="list-style-type: none"> iii. Pressure altitude; iv. Indicated airspeed, with a means of preventing malfunctioning due to either condensation or icing; v. Turn and slip; vi. Aircraft attitude; and vii. Stabilised aircraft heading <p><i>Note: The requirements of (v), (vi), and (vii) may be met by combinations of instruments or by integrated flight director systems, provided that the safeguards against total failure, inherent in the three separate instruments, are retained.</i></p> <ul style="list-style-type: none"> viii. Whether the supply of power to the gyroscopic instruments is adequate; ix. The outside air temperature; x. Rate-of-climb and descent; and <p>(2) In addition, for aeroplanes with a maximum certificated take-off mass exceeding 5 700 kg or equipped with one or more turbojet engines—</p> <ul style="list-style-type: none"> i. An emergency power supply for electrically operated attitude indicating instruments <p>(A) Independent of the main electrical generating system for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command, and</p> <p>(B) Automatically operative after the total failure of the main</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>electrical generating system and clear indication given on the instrument panel that the attitude indicator(s) is being operated by emergency power; and</p> <p>ii. For aeroplanes with advanced cockpit automation systems (glass cockpits), system redundancy that provides the flight crew with attitude, heading, airspeed and altitude indications in case of failure of the primary system or display; and</p> <p>iii. two independent altitude measuring and display systems.</p> <p>(3) Such additional instruments or equipment as may be prescribed by the appropriate authority.</p> <p>(b) [AOC] All aeroplanes when operated in IFR, or when the aeroplane cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with—</p> <p>(1) For all aeroplanes:</p> <p>i. A magnetic compass;</p> <p>ii. An accurate timepiece indicating the time in hours, minutes and seconds;</p> <p>iii. Two sensitive pressure altimeters with counter drum-pointer or equivalent presentation: <i>Note: Neither three-pointer nor drum-pointer altimeters satisfy this requirement.</i></p> <p>iv. An airspeed indicating system with a means of preventing malfunctioning due to either condensation or icing;</p> <p>v. A turn and slip indicator aeroplanes or a slip indicator for helicopters;</p> <p>vi. Attitude indicator (artificial horizon);</p> <p>vii. A heading indicator (directional gyroscope); <i>Note: The requirements of items (v), (vi) and (vii) may be met by combinations of instruments or by integrated flight director systems provided that the safeguards against total failure, inherent in the separate instruments are retained;</i></p> <p>viii. A means of indicating whether the supply of power to the</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>gyroscopic instruments is adequate;</p> <p>ix. A means of indicating in the flightcrew compartment the outside air temperature;</p> <p>x. A rate-of-climb and descent indicator;</p> <p>(2) In addition, for aeroplanes with a maximum certificated take-off mass exceeding 5 700 kg—</p> <p>i. An emergency power supply for electrically operated attitude indicating instruments</p> <p>(A) Independent of the main electrical generating system for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command, and</p> <p>(B) Automatically operative after the total failure of the main electrical generating system and clear indication given on the instrument panel that the attitude indicator(s) is being operated by emergency power; and</p> <p>(ii) Such additional instruments or equipment as may be prescribed by the Authority.</p> <p>(c) [AOC] No person may operate an aeroplane under IFR, or under VFR over routes that cannot be navigated by reference to visual landmarks, unless the aeroplane is equipped with navigation equipment in accordance with the requirements of air traffic services in the area(s) of operation.</p> <p>(1) [AOC] No person may conduct single pilot IFR operations unless the aeroplane is equipped with an autopilot with at least altitude hold and heading mode.</p> <p>(2) [AAC] No person may operate an aeroplane under IFR unless it is equipped with an audio selector panel accessible to each required flight crewmember.</p> <p>(3) [AOC] No person may conduct single pilot IFR or night operations in commercial air transport operations unless the aeroplane is equipped with a headset with boom microphone or equivalent and a transmit button on the control wheel.</p> <p>(d) [AAC] All helicopters, unless otherwise indicated, when operated in IFR, or when</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>the helicopter cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with—</p> <p>(1) For all helicopters:</p> <ul style="list-style-type: none"> i. A magnetic compass; ii. An accurate timepiece indicating the time in hours, minutes and seconds; <p>(A) For non-AOC operations, either equipage or carriage is acceptable.</p> <ul style="list-style-type: none"> iii. Pressure altimeter: <ul style="list-style-type: none"> (A) [AAC] a sensitive pressure altimeter; (B) [AOC] two sensitive pressure altimeters; <i>Note: Due to the long history of misreadings, the use of drum-pointer altimeters is not recommended.</i> iv. An airspeed indicating system with a means of preventing malfunctioning due to either condensation or icing; v. A slip indicator; vi. Attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator; vii. A heading indicator (directional gyroscope); viii. A means of indicating whether the supply of power to the gyroscopic instruments is adequate; ix. A means of indicating in the flightcrew compartment the outside air temperature; x. A rate-of-climb and descent indicator; xi. A stabilisation system, unless it has been demonstrated to the satisfaction of the certifying Authority that the helicopter possesses, by nature of its design, adequate stability without such a system; <p>(2) [AOC] An emergency power supply for electrically operated attitude indicating instruments</p> <ul style="list-style-type: none"> i. Independent of the main electrical generating system for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command, and ii. Automatically operative after the total failure of the main electrical generating system and clear indication given on the instrument panel that the attitude indicator(s) is being operated by emergency 			
--	---	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	power; and (3) Such additional instruments or equipment as may be prescribed by the Authority.			
7.2.1.5	<p>INSTRUMENTS FOR OPERATION AT NIGHT</p> <p>(a) [AAC] No person may operate an aeroplane at night unless it is equipped with the following:</p> <p>(1) the instruments specified in sub-section 7.2.1.4 appropriate to the aircraft and operation;</p> <p>(2) the lights specified in sub-section 7.5.1 .1:</p> <p>(b) [AOC] No person may operate an aeroplane at night unless it is equipped with the following:</p> <p>(1) the instruments specified in sub-section 7.2.1.4 appropriate to the aircraft and operation;</p> <p>(2) the lights specified in sub-section 7.5.1.2.:</p> <p>(c) [AAC] No person may operate a helicopter at night unless it is equipped with the following:</p> <p>(1) the instruments specified in sub-section 7.2.1.4 appropriate to the aircraft and operation;</p> <p>(2) an attitude indicator (artificial horizon) for each required pilot;</p> <p>(3) a slip indicator;</p> <p>(4) a heading indicator (directional gyroscope);</p> <p>(5) a rate of climb and descent indicator;</p> <p>(6) the lights specified in sub-part 7.5:</p> <p>(7) Such additional instruments or equipment as may be prescribed by the Authority.</p>			
7.2.1.6	<p>STANDBY ATTITUDE INDICATOR</p> <p>(a) [AAC] No person may operate an aeroplane with a maximum certificated take-off mass exceeding 5,700 kg or a performance Class 1 or 2 helicopter unless that aeroplane or helicopter is equipped with a single standby attitude indicator (artificial horizon) that:</p> <p>(1) Operates independently of any other attitude indicating system;</p> <p>(2) Is powered continuously during normal operation; and</p> <p>(3) After a total failure of the normal electrical generating system, is automatically powered for a minimum of 30 minutes from a source independent of the normal electrical generating system.</p> <p>(b) [AAC] When the standby attitude indicator is being operated by emergency</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>power, it shall be clearly operating and illuminated to the flight crew.</p> <p>(c) [AAC] Where the standby attitude indicator has its own dedicated power supply there shall be an associated indication, either on the instrument or on the instrument panel when this supply is in use.</p> <p>(d) [AAC] If the standby attitude instrument system is installed and usable through flight attitudes of 3600 of pitch and roll, the turn and slip indicators may be replaced by slip indicators.</p>			
<p>7.2.1.7</p>	<p>INSTRUMENTS AND EQUIPMENT FOR CATEGORY II OPERATIONS</p> <p>(a) The instruments and equipment listed in this sub-section shall be installed, approved and maintained in accordance with IS: 7.2.1.6 for each aircraft operated in a Category II operation:</p> <p><i>Note: This sub-section does not require duplication of instruments and equipment required by sub-section 7.2.1.2 or any other provisions of this Part.</i></p> <p>(1) Group I is comprised of the following equipment and this equipment shall be inspected both within three calendar months of the previous inspection and shall also have a bench inspection within 12 months of the previous bench inspection using procedures contained in the approved maintenance programme.</p> <ul style="list-style-type: none"> i. Two localizer and glide slope receiving systems. <p><i>Note: Each system shall provide a basic ILS display and each side of the instrument panel shall have a basic ILS display. However, a single localizer antenna and a single glide slope antenna may be used.</i></p> <ul style="list-style-type: none"> ii. A communications system that does not affect the operation of at least one of the ILS systems. iii. A marker beacon receiver that provides distinctive aural and visual indications of the outer and the middle markers. iv. Two gyroscopic pitch and bank indicating systems. v. Two gyroscopic direction indicating systems. vi. Two airspeed indicators. vii. Two sensitive altimeters adjustable for barometric pressure, having markings at 20 ft intervals and each having a placarded correction for altimeter scale error and for the wheel height of the aircraft. viii. One self-monitoring radio altimeter with dual display. ix. Two vertical speed indicators. 			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>x. A flight control guidance system that consists of either an automatic approach coupler or a flight director system. <i>Note: A flight director system shall display computed information as steering command in relation to an ILS localizer and, on the same instrument, either computed information as pitch command in relation to an ILS glide slope or basic ILS glide slope information. An automatic approach coupler shall provide at least automatic steering in relation to an ILS localizer. The flight control guidance system may be operated from one of the receiving systems required by paragraph (a)(1)(i).</i></p> <p>xi. For Category II operations with decision heights below 150 ft a radio altimeter is required.</p> <p>(2) Group II is comprised of the following equipment and this equipment which, with the exception of the static system, does not require special maintenance procedures other than those necessary to retain the original approval condition. Group II equipment shall be inspected within 12 months of the previous inspection using procedures contained in the approved maintenance programme.</p> <p>i. Warning systems for immediate detection by the pilot of system faults in paragraphs (a)(1)(i), (a)(1)(iv), and (a)(1)(ix), of Group I</p> <p>ii. Dual controls.</p> <p>iii. An externally vented static pressure system with an alternate static pressure source.</p> <p>iv. A windshield wiper or equivalent means of providing adequate cockpit visibility for a safe visual transition by either pilot to touchdown and rollout.</p> <p>v. A heat source for each airspeed system pitot tube installed or an equivalent means of preventing malfunctioning due to icing of the pitot system.</p>			
<p>7.2.1.8</p>	<p>INSTRUMENTS AND EQUIPMENT FOR CATEGORY III OPERATIONS</p> <p>(a) The instruments and equipment listed in this sub-section shall be installed, approved and maintained in accordance with acceptable international criteria and the AFM in each aircraft operated in a Category III operation: <i>Note 1: This subsection does not require duplication of instruments and</i></p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p><i>equipment required by 7.2.1.2, and 7. 2.1.7 or any other provisions of this Part.</i></p> <p>(b) Airborne systems for CAT IIIA minima not less than RVR 200 m (600 ft): The following equipment in addition to the instrument and navigation equipment required by this Part for IFR flight and CAT II operations is the minimum aircraft equipment required for CAT III A:</p> <p>(1) A redundant flight control or guidance system demonstrated in accordance with international acceptable criteria. Acceptable flight guidance or control systems include the following—</p> <ul style="list-style-type: none"> i. A Fail Operational or Fail Passive automatic landing system as least to touchdown; ii. A Fail Operational or Fail Passive manual flight guidance system providing suitable head-up or head-down command guidance, and suitable monitoring capability at least to touchdown; iii. A hybrid system, using automatic landing capability as the primary means of landing at least to touchdown; or iv. Other system that can provide an equivalent level of performance and safety. <p>(2) An automatic throttle or automatic thrust control system that meets approved criteria as specified in the AFM. However, for operations with a 15 m (50 ft) DH, or other operations that have been specifically evaluated such as for engine inoperative landing capability, automatic throttles may not be required if it has been demonstrated that operations can be safely conducted, with an acceptable work load, without their use.</p> <p>(3) At least two independent navigation receivers/sensors providing lateral and vertical position or displacement information, typically with the first pilot's station receiving the information from one and the second pilot's station receiving the information from the other. The navigation receivers/sensors shall meet the criteria specified for CAT III A operations.</p> <p>(4) At least two approved radio altimeter systems that meet the performance requirements criteria as specified in the AFM, typically with the first pilot's station receiving information from one and the second pilot's station receiving information from the other.</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(5) Failure detection, annunciation, and warning capability, as determined acceptable by criteria in the AFM.</p> <p>(6) Missed approach guidance provided by one or more of the following means:</p> <ul style="list-style-type: none"> i. Attitude displays that include suitable pitch attitude markings, or a pre-established computed pitch command display. ii. An approved flight path angle display, or iii. An automatic or flight guidance go-around capability. <p>(7) Suitable forward and side flight deck visibility for each pilot as specified in the AFM.</p> <p>(8) Suitable windshield rain removal, ice protection, or defog capability as specified in the AFM.</p> <p>(c) Airborne systems for CAT IIIB minima less than RVR 200 m (600 ft) but not less than RVR 125 m (400 ft). The following equipment in addition to the instrument and navigation equipment required by this Part for IFR flight and CAT II and CAT III A operations is the minimum aircraft equipment required for CAT IIIB plus the following extra equipment requirements:</p> <ul style="list-style-type: none"> (1) A redundant flight control or guidance system demonstrated in accordance with international acceptable criteria. Acceptable flight guidance or control systems include the following - <ul style="list-style-type: none"> i. A Fail Operational landing system with a Fail Operational or Fail Passive automatic rollout system; ii. A Fail Passive landing system, limited to touchdown zone RVR not less than RVR 200 m (600 ft), with Fail Passive rollout provided automatically or by a flight guidance system providing suitable head-up or head-down guidance, and suitable monitoring capability; iii. A Fail Operational hybrid automatic landing and rollout system with comparable manual flight guidance system, using automatic landing capability as the primary means of landing; or iv. Other system that can provide an equivalent level of performance and safety. (2) An automatic throttle or automatic thrust control that meets the appropriate criteria as specified in the AFM. However, for operations with 			
--	---	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>a 15 m (50 ft) DH, automatic throttles may not be required if it has been demonstrated that operations can safely be conducted, with an acceptable work load, without their use.</p> <p>(3) At least two independent navigation receivers/sensors providing lateral and vertical position or displacement information, typically with the first pilot's station receiving information from one and the second pilot's station receiving information from the other. The navigation receivers/sensors shall meet the criteria specified in the AFM.</p> <p>(4) At least two approved radio altimeter systems that need the performance criteria outlined in the AFM, typically with the first pilot's station receiving information from one and the second pilot's station receiving information from the other.</p> <p>(5) Failure detection, annunciation and warning capability as specified in the AFM.</p> <p>(6) Missed approach guidance provided by one or more of the following means:</p> <ul style="list-style-type: none"> i. Attitude displays that include calibrated pitch attitude markings, or a pre-established computed pitch command display; or ii. An approved flight path angle display, or iii. An automatic or flight guidance go-around capability. <p>(7) Suitable forward and side flight deck visibility for each pilot, as specified in the AFM.</p> <p>(8) Suitable windshield rain removal, ice protection, or defog capability as specified in the AFM.</p> <p>(d) Airborne systems for CAT IIIC minima less than RVR 75 m (300 ft). The following equipment in addition to the instrument and navigation equipment required by this Part for IFR flight and CAT II, CAT IIIA and CAT IIIB operations is the minimum aircraft equipment required for CAT IIIC:</p> <p>(1) A Fail Operational Automatic Flight Control System, or manual flight guidance system designed to meet fail operational system criteria, or a hybrid system in which both the fail-passive automatic system and the monitored manual flight guidance components provide approach and flare guidance to touchdown, and in combination provide full fail operational capability, and</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(2) A fail operational automatic, manual, or hybrid rollout control system.</p> <p><i>Note.— Information regarding, automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS, is contained in the Manual of All-Weather Operations (Doc 9365).</i></p>			
7.2.1.9	<p>AIRCRAFT EQUIPPED WITH AUTOMATIC LANDING SYSTEMS, HEAD-UP DISPLAYS (HUD) OR EQUIVALENT DISPLAYS, ENHANCED VISION SYSTEMS (EVS), SYNTHETIC VISION SYSTEMS (SVS), AND/OR COMBINED VISION SYSTEMS (CVS).</p> <p>(a) [AAC] No person may operate an aircraft equipped with automatic landing systems, a HUD or equivalent display, EVS, SVS, CVS, or any combination of those systems into a hybrid system, unless the aircraft is approved by the Authority.</p> <p>(b) [AAC] In approving the operational use of automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS, the Authority shall ensure that:</p> <p>(1) The equipment meets the appropriate airworthiness certification requirements;</p> <p>(2) The operator/owner has carried out a safety risk assessment of the operations supported by the automatic landing systems, a HUD or equivalent displays, EVS, SVS, or CVS; and</p> <p>(3) The operator/owner has established and documented the procedures for the use of, and the training requirements for, a HUD or equivalent displays, EVS, SVS, or CVS.</p>			
7.2.1.10	<p>ELECTRONIC FLIGHT BAGS (EFBS)</p> <p>(a) [AAC] No person may operate an EFB on board an aircraft unless the EFB is issued a specific approval by the State of the Operator in accordance with the appropriate airworthiness requirements and the criteria for the safe operation of an aircraft, which:</p> <p>(1) Assess the EFB equipment and its associated installation hardware, including interaction with aircraft systems if applicable, to meet the appropriate airworthiness certification requirements;</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(2) Assess the risks associated with the operations supported by the EFB function(s);</p> <p>(3) Establish requirements for redundancy of the information (if appropriate) contained in and displayed by the EFB function(s);</p> <p>(4) Establish and document procedures for the management of the EFB function(s), including any databases it may use; and</p> <p>(5) Establish and document the procedures for the use of, and the training requirements for, the EFB function(s).</p> <p>(b) No person may operate an EFB on board an aircraft unless the PIC and/or operator/owner has ensured that the EFB does not affect the performance of the aircraft systems or equipment or the ability to operate the aircraft and has:</p> <p>(1) Assessed the safety risk(s) associated with each EFB function;</p> <p>(2) Established and documented the procedures for the use of, and the training requirements for, the device and each EFB function; and</p> <p>(3) Ensured that, in the event of an EFB failure, sufficient information is readily available to the flight crew for the flight to be conducted safely.</p>			
7.2.1.11	<p>RUNWAY OVERRUN AWARENESS AND ALERTING SYSTEM (ROAAS)</p> <p>(a) [AOC] All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 2026, shall be equipped with a runway overrun awareness and alerting system (ROAAS).</p>			
7.3	<p>COMMUNICATIONS EQUIPMENT</p>			
7.3.1.1	<p>RADIO EQUIPMENT</p> <p>(a) [AAC] No person may operate an aircraft unless it is equipped with radio communication equipment required for the kind of operation being conducted.</p> <p>(b) [AAC] All aircraft operated in VFR as a controlled flight, in IFR, at night, extended flight over water, or over land designated by the Authority as especially difficult for search and rescue, shall be equipped with radio communication equipment—</p>			



STATEMENT OF COMPLIANCE

	<p>(1) Capable of conducting two-way communication at any time with air traffic services or aeronautical stations;</p> <p>(2) Capable of conducting communications on those frequencies prescribed by the Authority,</p> <p>(3) Capable of receiving meteorological information at any time during the flight;</p> <p>(4) Capable of conducting communications on the aeronautical emergency frequency 121.5 MHz;</p> <p>(5) Approved and installed in accordance with the requirements applicable to them, including the minimum performance requirements;</p> <p>(6) Installed such that the failure of any single unit required for communication equipment, will not result in the failure of another unit required for communications purposes; and</p> <p>(7) Meeting any other requirements as prescribed by the Authority.</p> <p><i>Note: The requirements in (b)(1)-(3) are considered fulfilled if the ability to conduct the communications specified therein is established during radio propagation conditions which are normal for the route.</i></p> <p>(c) [AAC] For operations where communication equipment is required to meet an RCP specification for PBC, an aeroplane shall, in addition to the requirement in paragraphs 7.3.1.1(a) and (b) of this subsection:</p> <p>(1) Be provided with communication equipment that will enable it to operate in accordance with the prescribe RCP specification;</p> <p>(2) Have information relevant to the aircraft RCP specification capabilities listed in the AFM or other aeroplane documentation approved by the Authority; and</p> <p>(3) Have information relevant to the aeroplane RCP specification capabilities included in the MEL. and</p> <p>(4) Be authorised by Nigeria for operations in such airspace.</p> <p><i>Note: Information on RCP and associated procedures, and guidance concerning the approval process, are contained in ICAO Doc 9869, Manual on Required Communications Performance (RCP). This document also contains references to other documents produced by States and international bodies concerning communication systems and RCP.</i></p> <p>(d) [AAC] No person shall operate an aircraft without meeting the established criteria</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>where an RCP specification for PBC has been prescribed by the Authority.</p> <p>(e) [AAC] For operations where an RCP specification for PBC has been prescribed, the operator shall establish and document:</p> <ol style="list-style-type: none"> (1) Normal and abnormal procedures, including contingency procedures; (2) Flight crew qualification and proficiency requirements, in accordance with appropriate RCP specifications; (3) A training programme for relevant personnel consistent with the intended operations; and (4) Appropriate maintenance procedures to ensure continuing airworthiness, in accordance with appropriate RCP specifications. <p>(f) [AAC] The operator shall ensure to provide the Authority in respect of those aircraft mentioned in paragraph 7.3.1.1(c) of this subsection, the following:</p> <ol style="list-style-type: none"> (1) Reports of observed communication performance issued by monitoring programmes established in accordance with ICAO Annex 11: 3.3.5.2; and (2) Corrective action for individual aircraft, aircraft types, or operators identified in such reports as not complying with the RCP specification. <p>(g) [AOC] No person may operate an aircraft in commercial air transport operations, or as otherwise specified by the Authority, unless it is equipped with two independent radio communications systems, appropriate to the route and airspace used.</p> <p>(h) [AAC] When more than one communications equipment unit is required, each shall be independent of the other or others to the extent that a failure in any one will not result in failure of any other.</p>			
<p>7.3.1.2</p>	<p>FLIGHT CREW AND CREW MEMBER INTERPHONE SYSTEM FOR AEROPLANES</p> <p>(a) [AOC] No person may operate an aeroplane in commercial air transport operations on which a flight crew of more than one is required unless the aeroplane is equipped with a flight crew interphone system, including headsets and microphones, not of a handheld type, for use by all members of the flight crew.</p> <p>(b) [AOC] No person may operate an aeroplane in commercial air transport</p>			



STATEMENT OF COMPLIANCE

	<p>operations with a maximum certificated take-off mass exceeding 15,000 kg, or having an approved passenger seating capacity of 19 or more, or having a flight crew compartment door, unless the aeroplane it is equipped with a crew member interphone system that—</p> <p>(1) Operates independently of the public address system except for handsets, headsets, microphones, selector switches and signalling devices.</p> <p>(2) Provides a means of two-way communication between the flight crew compartment and each—</p> <ul style="list-style-type: none"> i. Passenger compartment; ii. Galley located other than on a passenger deck level; and iii. Remote crew compartment that is not on the passenger deck and is not easily accessible from a passenger compartment. <p>(3) Is readily accessible for use—</p> <ul style="list-style-type: none"> i. From each of the required flight crew stations in the flight crew compartment; and ii. At required cabin crewmember stations close to each separate or pair of floor level emergency exits. <p>(4) Has an alerting system incorporating aural or visual signals for use by flight crewmembers to alert the cabin crew, and for use by cabin crewmembers to alert the flight crew in the event of suspicious activity or security breaches in the cabin.</p> <p>(5) Has a means for the recipient of a call to determine whether it is a normal call or an emergency call.</p> <p>(6) Provides on the ground a means of two-way communication between ground personnel and at least two flight crewmembers.</p>			
<p>7.3.1.3</p>	<p>PUBLIC ADDRESS SYSTEM – AOC HOLDERS</p> <p>(a) [AOC] No AOC holder may operate a passenger carrying aeroplane with a maximum approved passenger seating configuration of more than 19 unless a public address system is installed that—</p> <p>(1) Operates independently of the interphone systems except for handsets, headsets, microphones, selector switches and signalling devices.</p> <p>(2) Be readily accessible for immediate use from each required flight crewmember station.</p> <p>(3) For each required floor level passenger emergency exit which has an</p>			



STATEMENT OF COMPLIANCE

	<p>adjacent cabin crew seat, has a microphone which is readily accessible to the seated cabin crew member, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin crew members.</p> <p>(4) Is capable of operation within 10 seconds by a cabin crewmember at each of those stations in the compartment from which its use is accessible.</p> <p>(5) Is audible and intelligible at all passenger seats, toilets, and cabin crew seats and workstations.</p> <p>(b) [AOC] No AOC holder may operate a passenger carrying helicopter with a maximum approved passenger seating configuration of more than 19 unless a public address system is installed that—</p> <p>(1) Operates independently of the interphone systems except for handsets, headsets, microphones, selector switches and signalling devices.</p> <p>(2) Be readily accessible for immediate use from each required flight crewmember station.</p> <p>(3) For each required floor level passenger emergency exit which has an adjacent cabin crew seat, has a microphone which is readily accessible to the seated cabin crew member, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin crew members.</p> <p>(4) Is capable of operation within 10 seconds by a cabin crewmember at each of those stations in the compartment from which its use is accessible.</p> <p>(5) Is audible and intelligible at all passenger seats, toilets, and cabin crew seats and workstations.</p> <p>(6) Following a total failure of the normal electrical generating system, provide reliable operation for a minimum of 10 minutes.</p> <p>(c) [AOC] No AOC holder may operate a passenger carrying helicopter with a maximum approved passenger seating configuration of more than 9 but less than 19 without a public address system installed unless—</p> <p>(1) The helicopter is designed without a bulkhead between pilot and</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>passengers; and</p> <p>(2) The operator is able to demonstrate in a manner acceptable to the Authority that when in flight, the pilot's voice is audible and intelligible at all passenger seats.</p>			
7.3.1.4	<p>MICROPHONES</p> <p>(a) Equipment. No person may operate the following aircraft or in the following conditions unless the aircraft is equipped with a boom or throat microphone available at each required flight crew member flight duty station</p> <p>(1) [AAC- Aeroplane] Any aeroplane in IFR conditions;</p> <p>(2) [AOC- Aeroplane] Any aeroplane in commercial air transport operations;</p> <p>(3) [AAC-Helicopter] Any helicopter.</p> <p>(b) Usage. All flight crew members required to be on flight deck duty shall communicate through boom or throat microphones under the following operations or conditions:</p> <p>(1) [AAC-Aeroplane] During IFR operations;</p> <p>(2) [AOC- Aeroplane] Below the transition level/altitude;</p> <p>[AAC – Helicopter] At all times.</p>			
7.4	NAVIGATION AND SURVEILLANCE EQUIPMENT			
7.4.1	NAVIGATION EQUIPMENT			
7.4.1.1	<p>GENERAL</p> <p>(a) [AAC] No person may operate an aircraft unless it is equipped with navigation equipment that will enable it to proceed in accordance with—</p> <p>(1) Its operational flight plan; and</p> <p>(2) The requirements of air traffic services.</p> <p>(b) [AAC] No person may operate flights in defined portions of airspace, including MNPS, RVSM, or any other routes where a navigation specification for performance-based navigation (PBN) has been prescribed unless it—</p> <p>(1) Has received authorisation by the Authority for such operations; and</p>			



STATEMENT OF COMPLIANCE

	<p>(2) Is equipped with the navigation equipment to enable it to operate in accordance with the prescribed navigation specification(s); and</p> <p>(3) Is equipped with navigation equipment that continuously provides information to the flight crew of adherence to or departure from track with respect to the required degree of accuracy at any point along that track</p> <p>(c) [AAC] No person may operate an aircraft unless it has sufficient navigation equipment that will enable the aircraft to navigate in accordance with paragraphs (a) and (b) above, such that—</p> <p>(1) In the event of the failure of any piece of navigation equipment at any stage of flight, the remaining equipment will enable the aircraft to continue to navigate; and</p> <p>(2) The failure of any single unit required for either communications or navigation purposes or both will not result in the failure of another unit required for communications or navigation purposes.</p> <p>(d) The equipment requirements in paragraph (a) do not apply in instances where the Authority has authorised VFR by visual reference to landmarks.</p> <p>(e) [AAC] No person may operate an aeroplane under IFR, or under VFR over routes that cannot be navigated by reference to visual landmarks, unless the aeroplane is equipped with navigation equipment in accordance with the requirements of air traffic services in the area(s) of operation.</p> <p>(f) [AAC] All aircraft intended to land in IMC or at night shall be provided with radio navigation equipment capable of receiving signals providing guidance to—</p> <p>(1) A point from which a visual landing can be effected;</p> <p>(2) Each aerodrome at which it is intended to land in IMC; and</p> <p>(3) Any designated alternate aerodromes.</p>			
<p>7.4.1.2</p>	<p>MINIMUM NAVIGATION PERFORMANCE SPECIFICATIONS</p> <p>(a) [AAC] No person may operate an aeroplane in MNPS airspace unless it is equipped with navigation equipment that-</p> <p>(1) Continuously provides indications to the flightcrew of adherence to or</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>departure from track to the required degree of accuracy at any point along that track; and</p> <p>(2) Has been authorised by the Authority for MNPS operations concerned through either operations specifications for AOC holders or letter of authorisation for general aviation.</p> <p><i>Note: Equipment shall comply with minimum navigation performance specifications prescribed in ICAO Doc 7030 in the form of Regional Supplementary Procedures.</i></p> <p>(b) [AAC] The navigation equipment required for operations in MNPS airspace shall be visible and usable by either pilot seated at his duty station.</p> <p>(c) [AAC] For unrestricted operation in MNPS airspace, an aeroplane shall be equipped with two independent Long-Range Navigation Systems (LRNS).</p> <p>(d) [AAC] For operation in MNPS airspace along notified special routes, an aeroplane shall be equipped with one LRNS, unless otherwise specified.</p>			
<p>7.4.1.3</p>	<p>REDUCED VERTICAL SEPARATION MINIMUM</p> <p>(a) [AAC] For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1,000 ft) is applied between FL 290 and FL 410 inclusive, an aeroplane:</p> <p>(1) Shall be provided with equipment that is capable of:</p> <ul style="list-style-type: none"> i. Indicating to the flightcrew the flight level being flown; ii. Automatically maintaining a selected flight level; iii. Providing an alert to the flightcrew when a deviation occurs from the selected flight level. The threshold for the alert shall not exceed + or – 90 m (300 ft); and iv. Automatically reporting pressure-altitude and <p>(2) Shall be authorised for operations in the airspace concerned by –</p> <ul style="list-style-type: none"> i. The State of Operator for AOC holders through operations specifications, or ii. The State of Registry through a specific approval for operations for non-AOC holders <p>(3) Shall satisfy the demonstration requirements specified in IS:7.4.1.2 as to the altimetry system performance requirements for vertical navigation</p>			



STATEMENT OF COMPLIANCE

	<p>performance capability.</p> <p>(b) Prior to granting an RVSM specific approval required by paragraph (a)(2), the Authority will be satisfied that:</p> <p>(1) The vertical navigation performance capability of the aeroplane satisfies the requirements specified in IS 7.4.1.2</p> <p>(2) The operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and</p> <p>(3) The operator has instituted appropriate flight crew procedures for operations in RVSM airspace.</p> <p><i>Note: An RVSM approval is valid globally on the understanding that any operating procedures specific to a given region will be stated in the operations manual or appropriate crew guidance.</i></p> <p>(c) RVSM. The Authority in consultation with the State of Registry, if appropriate, will ensure that, in respect of those aeroplanes mentioned in item (a)(2) above, adequate provisions exist for:</p> <p>(1) Receiving the reports of height-keeping performance issued by the monitoring agencies established in accordance with regional monitoring programme; and</p> <p>(2) Taking immediate corrective action for individual aircraft, or aircraft type groups, identified in such reports as not complying with the heightkeeping requirements for operations in airspace where RVSM is applied.</p> <p>(d) An operator with RVSM specific approval shall ensure that a minimum of two aeroplanes of each aircraft type grouping of the operator have their heightkeeping performance monitored, at least once every two years or within intervals of 1 000 flight hours per aeroplane, whichever period is longer. If an operator aircraft type grouping consists of a single aeroplane, monitoring of that aeroplane shall be accomplished within the specified period.</p> <p>(e) An operator shall ensure that each aeroplane shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the aeroplane to navigate in accordance with paragraphs (a), (b) and (c) of 7.4.1.3.</p> <p>(f) RVSM. The Authority will take appropriate action in respect of aircraft and</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>operators found to be operating in RVSM airspace in Nigeria without a valid RVSM specific approval.</p> <p><i>Note 1: These provisions and procedures need to address both the situation where the aircraft in question is operating without approval in the airspace of the State, and the situation where an operator for which the State has regulatory oversight responsibility is found to be operating without the required approval in the airspace of another State.</i></p>			
7.4.1.4	<p>ELECTRONIC NAVIGATION DATA MANAGEMENT</p> <p>(a) Electronic navigation data management. [AAC] No person shall employ electronic navigation data products that have been processed for application in the air and on the ground unless the Authority has approved:</p> <p>(1) The operator's procedures for ensuring that the process applied and the products delivered have acceptable standards of integrity and that the products are compatible with the intended function of the equipment that will use them;</p> <p>(2) The operator's programme for continual monitoring of both process and products; and</p> <p>(3) The operator's procedures to ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that require it.</p>			
7.4.1.5	<p>PRESSURE-ALTITUDE REPORTING TRANSPONDER</p> <p>(a) [AAC] No person may operate an aeroplane or helicopter unless it is equipped with an operative pressure-altitude reporting transponder that operates in accordance with the requirements of Nigerian air traffic services and the relevant provisions of ICAO Annex 10, Volume 4.</p> <p>(b) [AAC] No person may operate an aircraft in airspace that requires a pressure reporting transponder unless that equipment is operative.</p> <p>(c) [AOC] No person may operate an aeroplane unless it is equipped with a data source that provides pressure-altitude information with a resolution of 7.62 m (25ft) or better.</p> <p>(d) [AOC] No person may operate an aeroplane that is equipped with an automatic means of detecting airborne/on-the-ground status unless it is equipped with a Mode S transponder.</p>			



STATEMENT OF COMPLIANCE

<p>7.4.1.6</p>	<p>PERFORMANCE-BASED NAVIGATION</p> <p>(a) [AAC] No person shall operate an aircraft in PBN operations unless such operations have been approved by the authority.</p> <p>(b) For operations where navigation equipment is required to meet a navigation specification for PBN, an aeroplane shall, in addition to the requirements specified in paragraph (a):</p> <p>(1) be provided with navigation equipment which will enable it to operate in accordance with the prescribed navigation specification(s);</p> <p>(2) have information relevant to the aeroplane navigation specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of Design or State of Registry; and</p> <p>(3) have information relevant to the aeroplane navigation specification capabilities included in the MEL.</p> <p>(c) When and where a navigation specification for PBN has been prescribed by the Authority, the operator shall establish and document the following before using the PBN procedure:</p> <p>(1) Normal and abnormal procedures, including contingency procedures;</p> <p>(2) Flight crew qualification and proficiency requirements, in accordance with appropriate navigation specifications;</p> <p>(3) A training programme for relevant personnel consistent with the intended operations; and</p> <p>(4) appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate navigation specifications.</p> <p>Note 1. Guidance on safety risks and mitigations for PBN operations, in accordance with Annex 19, are contained in the Performance-based Navigation (PBN) Operational Approval Manual (Doc 9997).</p> <p>Note 2. Electronic navigation data management is an integral part of normal and abnormal procedures.</p> <p>(d). The Authority will issue a specific approval for operations based on PBN authorization required (AR) navigation specifications.</p> <p>Note. Guidance on specific approvals for PBN authorization required (AR) navigation specifications is contained in the Performance-based Navigation (PBN) Operational Approval Manual (Doc 9997).</p>			
-----------------------	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

7.4.2	SURVEILLANCE EQUIPMENT			
7.4.2.1	GENERAL (a) [AAC] No person may operate an aircraft unless is provided with surveillance equipment which will enable it to operate in accordance with the requirements of air traffic services.			
7.4.2.2	PERFORMANCE-BASED SURVEILLANCE (a) For operations where surveillance equipment is required to meet an RSP specification for performance-based surveillance (PBS), an aircraft shall, in addition to the requirements specified in paragraph (a): (1) be provided with surveillance equipment which will enable it to operate in accordance with the prescribed RSP specification(s); (2) have information relevant to the aeroplane RSP specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of Design or State of Registry; and (3) have information relevant to the aeroplane RSP specification capabilities included in the MEL. <i>Note 1. Information on surveillance equipment is contained in the Aeronautical Surveillance Manual (Doc 9924).</i> <i>Note 2. Information on RSP specifications for performance-based surveillance is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).</i> (b) When and where an RSP specification for PBS has been prescribed by the Authority, the operator shall establish and document the following before using the PBS procedure: (1) normal and abnormal procedures, including contingency procedures; (2) flight crew qualification and proficiency requirements, in accordance with appropriate RSP specifications; (3) a training programme for relevant personnel consistent with the intended operations; and (4) appropriate maintenance procedures to ensure continuing airworthiness, in accordance with appropriate RSP specifications. (c) The operator shall ensure that, in respect of those aeroplanes mentioned in paragraph (c), adequate provisions exist for:			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(1) receiving the reports of observed surveillance performance issued by monitoring programmes established in accordance with Annex 11, Chapter 3, 3.3.5.2; and</p> <p>(2) taking immediate corrective action for individual aircraft, aircraft types or operators, identified in such reports as not complying with the RSP specification.</p>			
7.4.2.3	<p>INSTALLATION</p> <p>(a) The equipment installation shall be such that the failure of any single unit required for communication, navigation or surveillance purposes or any combination thereof will not result in the failure of another unit required for surveillance purposes.</p>			
7.5	<p>AIRCRAFT LIGHTS AND INSTRUMENT ILLUMINATION</p>			
7.5.1.1	<p>REQUIRED AIRCRAFT LIGHTS AND INSTRUMENT ILLUMINATION</p> <p>(a) [AAC] All aircraft operated at night by, shall be equipped with:</p> <p>(1) A landing light;</p> <p>(2) Navigation/position lights;</p> <p>(3) Illumination for all flight instruments and equipment that are essential for the safe operation of the aircraft;</p> <p>(4) Lights in all passenger compartments; and</p> <p>(5) A n independent portable light for each crewmember station (approval not required).</p> <p>(b) All aircraft type certificated with aviation red or aviation white anti-collision system shall have the anti-collision system operative in both day and night. In the event of the failure of any light of the anti-collision light system, operation of the aircraft may continue to a location where repairs or replacement can be made.</p>			
7.5.1.2	<p>REQUIRED AIRCRAFT LIGHTS AND INSTRUMENT ILLUMINATION FOR COMMERCIAL AIR TRANSPORT OPERATIONS</p> <p>(a) [AOC] No person may operate an aircraft in commercial air transport operations unless the aircraft is equipped with:</p> <p>(1) Two landing lights or a single light having two separately energised filaments;</p> <p>(2) An anti-collision light system;</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(3) Illumination for all flight instruments and equipment that are essential for the safe operation of the aircraft;</p> <p>(4) Lights in all passenger compartments;</p> <p>(5) An independent portable light for each crew member station;</p> <p>(6) Navigation/position lights; and</p> <p>(7) Lights to conform to the International regulations for preventing collisions at sea if the aircraft is a seaplane or an amphibian aircraft.</p> <p>(8) For helicopters-- a landing Light that is trainable, at least in the vertical plane.</p>			
7.6	ENGINE INSTRUMENTS			
7.6.1.1	<p>ENGINE INSTRUMENTS</p> <p>(a) [AAC] Unless the Authority allows or requires different instrumentation for turbine engine powered aeroplanes to provide equivalent safety, no person may operate any powered aircraft without the following engine instruments:</p> <p>(1) A means for indicating fuel quantity in each fuel tank to be used.</p> <p>(2) An oil pressure indicator for each engine.</p> <p>(3) An oil temperature indicator for each engine.</p> <p>(4) A manifold pressure indicator for each altitude engine.</p> <p>(5) A tachometer for each engine.</p> <p>(b) [AOC] Unless the Authority allows or requires different instrumentation for turbine engine-powered aeroplanes to provide equivalent safety, in addition to the listed equipment requirements in paragraph (a), no person may operate any powered aircraft without the following engine instruments:</p> <p>(1) A carburetor air temperature indicator for each reciprocating engine.</p> <p>(2) A cylinder head temperature indicator for each air-cooled reciprocating engine.</p> <p>(3) A fuel pressure indicator for each engine.</p> <p>(4) A fuel flowmeter or fuel mixture indicator for each engine not equipped with an automatic altitude mixture control;</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(5) An oil quantity indicator for each oil-tank when a transfer or separate oil reserve supply is used.</p> <p>(6) An independent fuel pressure warning device for each engine or a master warning device for all engines with a means for isolating the individual warning circuits from the master warning device.</p> <p>(7) A device for each reversible propeller, to indicate to the pilot when the propeller is in reverse pitch, which complies with the following:</p> <p>i. The device may be actuated at any point in the reversing cycle between the normal low pitch stop position and full reverse pitch, but it may not give an indication at or above the normal low pitch stop position.</p> <p>ii. The source of indication shall be actuated by the propeller blade angle or be directly responsive to it.</p>			
7.7	WARNING INSTRUMENTS AND SYSTEMS			
7.7.1.1	<p>MACH NUMBER INDICATOR</p> <p>(a) [AAC] All aeroplanes with speed limitations expressed in terms of Mach number shall be equipped with a Mach number indicator.</p>			
7.7.1.2	<p>LOSS OF PRESSURISATION INDICATOR</p> <p>(a) [AAC] All pressurised aircraft intended to be operated at flight altitudes above 25,000 ft shall be equipped with a device to provide positive warning to the flightcrew of any dangerous loss of pressurisation.</p>			
7.7.1.3	<p>LANDING GEAR INDICATOR POSITION AND AURAL WARNING DEVICE</p> <p>(a) [AAC] Each powered civil aircraft with retractable landing gear shall have a landing gear position indicator.</p> <p>(b) [AOC] Each aeroplane with retractable landing gear shall have an aural warning device that functions continuously under the following conditions:</p> <p>(1) For aeroplanes with an established approach wing-flap position, whenever the wing flaps are extended beyond the maximum certified approach climb configuration position in the Aeroplane Flight Manual and the landing gear is not fully extended and locked.</p> <p>(2) For aeroplanes without an established approach climb wing-flap position,</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>whenever the wing flaps are extended beyond the position at which landing gear extension is normally performed and the landing gear is not fully extended and locked.</p> <p>(c) [AOC] The warning system required by paragraph (b) of this section:</p> <ol style="list-style-type: none"> (1) May not have a manual shutoff; (2) Shall be in addition to the throttle-actuated device installed under the type certification airworthiness requirements; and (3) May utilise any part of the throttle-actuated system including the aural warning device. <p>(d) [AOC] The flap position-sensing unit required in paragraph (b) may be installed at any suitable place in the aeroplane.</p>			
7.7.1.4	<p>ALTITUDE ALERTING SYSTEM</p> <p>(a) [AAC] No person may operate a turbine powered aeroplane with a maximum certificated take-off mass in excess of 5,700 kg or having a maximum approved passenger seating configuration of more than 9 seats, or a turbojet powered aeroplane, unless it is equipped with an altitude alerting system capable of—</p> <ol style="list-style-type: none"> (1) Alerting the flight-crew upon approaching preselected altitude in either ascent or descent; and (2) Alerting the flight-crew by at least an aural signal, when deviating above or below a preselected altitude. <p>(b) [AAC] For operations in defined portions of airspace where, based on Regional Air Navigation Agreement, a VSM of 300 m (1,000 ft) is applied above FL 290, an aircraft shall be provided with equipment which is capable of providing an alert to the flightcrew when a deviation occurs from the selected flight level. The threshold for the alert may not exceed ± 90 m (300 ft).</p>			
7.7.1.5	<p>GROUND PROXIMITY WARNING SYSTEM</p> <p>(a) [AAC] No operator may operate a turbine-engined aeroplane, or piston-engined aeroplane of a maximum certificated take-off mass in excess of 5,700kg or authorised to carry more than nine passengers, unless it is equipped with a ground proximity warning system that has a forward-looking terrain avoidance function.</p> <p>(b) [AOC] No operator may operate a helicopter with a maximum certificated take-off</p>			



STATEMENT OF COMPLIANCE

	<p>mass in excess of 3 175 kg, or authorized to carry more than nine passengers, in accordance with IFR, unless it is equipped with a ground proximity warning system which has a forward-looking terrain avoidance function.</p> <p>(c) The operator shall implement database management procedures that ensure the timely distribution and update of current terrain and obstacle data to the GPWS.</p> <p>(d) [AAC] No operator may operate a turbine engine-powered aeroplane 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, unless it is equipped with a ground proximity warning system which provides the warnings of 7.7.1.5(e) (1) and (3), warning of unsafe terrain clearance, and a forward looking terrain avoidance function.</p> <p>(e) [AAC] Each ground proximity warning system shall automatically provide, by means of aural signals which may be supplemented by visual signals, timely and distinctive warning to the flight crew of the following circumstances--:</p> <ol style="list-style-type: none"> (1) Excessive descent rate. (2) Excessive terrain closure rate. (3) Excessive altitude loss after take-off or go-around. (4) Unsafe terrain clearance while not in landing configuration; <ol style="list-style-type: none"> i. Gear not locked down; ii. Flaps not in a landing position; and (5) Excessive descent below the instrument glide path. 			
<p>7.7.1.6</p>	<p>WEATHER RADAR</p> <p>(a) [AOC] No person may operate an aeroplane in commercial air transport in an area where thunderstorms or other potentially hazardous weather conditions may be expected unless it is equipped with a weather radar.</p> <p>(b) [AOC] No person may operate a helicopter in commercial air transport when carrying passengers in an area where thunderstorms or other potentially hazardous weather conditions may be expected unless it is equipped with a weather radar.</p> <p>(c) [AAC] No person may operate a pressurized aeroplane with maximum</p>			



STATEMENT OF COMPLIANCE

	certificated take-off mass exceeding 5700kg in an area where thunderstorms or other potentially hazardous weather conditions may be expected unless it is equipped with a weather radar.			
7.7.1.7	<p>AIRBORNE COLLISION AVOIDANCE SYSTEM (ACAS)</p> <p>(a) [AAC] Any ACAS installed on an aircraft in Nigeria shall be approved by the Authority</p> <p>(b) [AAC] Each person operating an aircraft equipped with an ACAS shall have that system on and operating.</p> <p>(c) [AAC] No person may operate a turbine-engined aeroplane with a maximum certified take-off mass of over 5700kg, or that is authorised to carry more than 19 passengers, unless the aeroplane is equipped with an ACAS II.</p> <p>(d) [AAC] An ACAS shall operate in accordance with the relevant provisions of Nig. CARs Part 14, Air Navigation Services.</p>			
7.7.1.8	<p>FORWARD LOOKING WIND SHEAR WARNING SYSTEM—TURBOJET AEROPLANES</p> <p>(a) [AOC] All turbojet aeroplanes of a maximum certificated takeoff mass in excess of 5700 kg or authorised to carry more than nine passengers shall be equipped with a forward-looking wind shear warning system.</p> <p>(b) [AOC] The system shall be capable of providing the pilot with a timely aural and visual warning of wind shear ahead of the aircraft and the information required to permit the pilot to safely commence and continue a missed approach or go around or to execute an escape manoeuvre if necessary.</p> <p>(c) [AOC] The system shall also provide an indication to the pilot when the limits specified for the certification of automatic landing equipment are being approached, when such equipment is in use.</p>			
7.7.1.9	<p>LOCATION OF AN AEROPLANE IN DISTRESS</p> <p>(a) [AOC] As of 1 January 2025, all aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2024, shall autonomously transmit information from which a position can be determined by the operator at least once every minute, when in distress.</p>			



STATEMENT OF COMPLIANCE

	<p>(b) [AOC] As of 1 January 2026, no person may operate an aeroplane with a maximum certificated take-off mass of over 5 700 kg, for which the certificate of airworthiness is first issued on or after 01 January 2023, unless the aeroplane is equipped to autonomously transmit information from which a position can be determined by the operator at least once every minute, when in distress.</p> <p>(c) ACTIVATION/DEACTIVATION. The equipment shall:</p> <ol style="list-style-type: none"> 1. Automatically activate immediately or within 5 seconds after detection of an activation event; 2. Be capable of manual activation; and 3. Be capable of deactivation using the same mechanism that activated it. <p>(d) TRANSMISSION. The equipment shall meet the following criteria:</p> <ol style="list-style-type: none"> 1. Location within a 6 NM radius, including after any accident; 2. Timestamp of the position information; and 3. The accuracy of position information shall, as a minimum, meet the position accuracy requirements established for ELTs. <p>(e) The operator shall make position information of a flight in distress available to the appropriate organisations, as established by the Authority.</p> <p><i>Note 1: Aircraft behaviour events may include, but are not limited to, unusual attitudes, unusual speed conditions, collision with terrain, total loss of thrust/propulsion on all engines, and ground proximity warnings.</i></p> <p><i>Note 2: A distress alert may be triggered using criteria that may vary as a result of aircraft position and phase of flight. Further guidance regarding in-flight event detection and triggering criteria may be found in the EUROCAE ED-237, Minimum Aviation System Performance Specification (MASPS) for Criteria to Detect In-Flight Aircraft Distress Events to Trigger Transmission of Flight Information.</i></p> <p><i>Note 3: A State's procedures to address aircraft in distress are typically found in government agreements implementing ICAO Annexes 12 and 13. These procedures shall contain coordination information with the appropriate organisations.</i></p>			
7.8	FLIGHT RECORDERS			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

7.8.1	GENERAL REQUIREMENTS			
7.8.1.1	<p>FLIGHT RECORDERS SYSTEMS</p> <p>(a) Crash-protected flight recorders, for both aeroplanes and helicopters, shall comprise one or more of the following systems:</p> <ol style="list-style-type: none"> (1) A flight data recorder (FDR); (2) A cockpit voice recorder (CVR); (3) An airborne image recorder (AIR); and/or (4) A data-link recorder (DLR). <p><i>Note: When Image or and data link information is required to be recorded on a crash-protected flight recorder, it is permissible to record it on either the CVR or the FDR.</i></p> <p>(b) Lightweight flight recorders for aeroplanes shall comprise one or more of the following systems:</p> <ol style="list-style-type: none"> (1) An aircraft data recording system (ADRS); (2) A cockpit audio recording system (CARS); (3) An airborne image recording system (AIRS); and/or (4) A data link recording system (DLRS). <p><i>Note: Image and data link information is required to be recorded on a lightweight flight recorder, it is permissible to record it on either the CARS or the ADRS.</i></p> <p>(c) Combination recorders (FDR/CVR) may be used to meet the equipage requirements for helicopters.</p>			
7.8.1.2	<p>CONSTRUCTION AND INSTALLATION</p> <p>(a) Flight recorders shall be constructed, located, and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered, and transcribed. Flight recorders shall meet the prescribed crashworthiness and fire protection specifications.</p> <p>(b) Non-deployable flight recorder containers shall be painted a distinctive orange colour.</p> <p>(c) Non-deployable crash-protected flight recorders shall:</p> <ol style="list-style-type: none"> (1) Carry reflective material to facilitate their location; and 			



STATEMENT OF COMPLIANCE

	<p>(2) Have securely attached an automatically activated underwater locating device operating at a frequency of 37.5 kHz. At the earliest practical date, but not later than 01 January 2018, this device shall operate for a minimum of 90 days.</p> <p>(d) ADFR containers shall:</p> <ul style="list-style-type: none">(1) Be painted a distinctive orange colour; however, the surface visible from outside the aircraft may be of another colour;(2) Carry reflective material to facilitate their location;(3) Have an integrated automatically activated ELT; and(4) Have specific requirements that can be found in IS 7.8.1.2. <p>(e) Flight recorder systems shall be installed so that:</p> <ul style="list-style-type: none">(1) The probability of damage to the recordings is minimised;(2) There is an aural or visual means for pre-flight checking that the flight recorder systems are operating properly; and(3) If the flight recorder systems have an erasure device, the installation shall be designed to prevent operation of the device during flight time or crash impact;(4) For aircraft for which the individual certificate of airworthiness is first issued on or after 01 January 2023, a flight-crew-operated erase function shall be provided on the flight deck which, when activated, modifies the recording of a CVR and AIR so that it cannot be retrieved using normal replay or copying techniques. The installation shall be designed to prevent activation during flight. In addition, the probability of an inadvertent activation of an erase function during an accident shall also be minimised; and(5) They meet the prescribed crashworthiness and fire protection specifications. <p>(f) The crash-protected flight recorders shall be installed so that they receive electrical power from a bus that provides the maximum reliability for operation of the flight recorders without jeopardising service to essential or emergency loads.</p> <p>(g) The lightweight flight recorders shall be connected to a power source having the characteristics which ensure proper and reliable recording in the operational environment.</p> <p>(h) The flight recorder systems, when tested by methods approved by the State of</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>Design, shall be demonstrated to be suitable for the environmental extremes over which they are designed to operate.</p> <p>(i) Means shall be provided for an accurate time correlation between the flight recorder systems' recordings.</p> <p>(j) The flight recorder system manufacturer shall provide the appropriate certificating authority with the following information with respect to the flight recorder systems:</p> <p>(1) Manufacturer's operating instructions, equipment limitations, and installation procedures;</p> <p>(2) Manufacturer's test reports;</p> <p>(3) For aeroplane flight recording systems, parameter origin or source and equations that relate counts to units of measurement; and</p> <p>(4) Detailed information to ensure the continued serviceability of the flight recorder system.</p> <p>(k) 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 aeroplane 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.</p> <p><i>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 Regulation.</i></p> <p><i>Note 2— Conditions related to the continued serviceability of a flight recorder system are defined in IS: 7.8.1.4 (f).</i></p>			
<p>7.8.1.3</p>	<p>OPERATION</p> <p>(a) Flight recorder systems shall not be switched off during flight time.</p> <p>(b) To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with the accident/incident regulations of Nigeria.</p> <p><i>Note 1: The need for removal of the flight recorder records from the aircraft will be determined by the investigation authority in the State conducting the investigation with due regard to the seriousness of an</i></p>			



STATEMENT OF COMPLIANCE

	<p><i>occurrence and the circumstances, including the impact on the operation.</i></p> <p><i>Note 2: The operator's responsibilities regarding the retention of flight recorder records are contained in the Civil Aviation (Investigation of Air Accidents and Incidents) Regulations of Nigeria</i></p>			
7.8.1.4	<p>CONTINUED SERVICEABILITY AND INSPECTION OF FLIGHT RECORDER SYSTEMS</p> <p>(a) The operator shall conduct operational checks and evaluations of recordings from the flight recorder systems to ensure the continued serviceability of the recorders.</p> <p>(b) The procedures for the inspections of the flight recorder systems are given in IS 7.8.1.4.</p>			
7.8.1.5	<p>FLIGHT RECORDER ELECTRONIC DOCUMENTATION</p> <p>(a) Operators shall provide to the Nigeria Safety Investigation Burea(NSIB) the documentation concerning parameter allocation, conversion equations, periodic calibration and other serviceability / maintenance information of the flight recording systems in electronic format and in accordance with industry specifications.</p> <p><i>Note: Industry specification for documentation concerning flight recorder parameters may be found in the ARINC 647A, Flight Recorder Electronic Documentation, or equivalent document.</i></p>			
7.8.1.6	<p>COMBINATION RECORDERS</p> <p>(a) [AAC] No person may operate an aeroplane of a maximum certificated take-off mass over 5 700kg required to be equipped with an FDR and a CVR unless it is equipped with—</p> <p>(1) An FDR and a CVR; or</p> <p>(2) Two combination recorders (FDR/CVR).</p> <p>(b) [AOC] No person may operate an aeroplane of a maximum certificated take-off mass of over 5 700 kg and which is required to be equipped with both a FDR and CVR unless—</p> <p>(1) The aeroplane is equipped with an FDR and a CVR or alternatively equipped with two combination recorders (FDR/CVR).</p> <p>(2) The aeroplane is equipped with two combination recorders (FDR/CVR) for aeroplanes type certificated on or after 1 January 2016.</p> <p><i>Note: The requirement may be satisfied by equipping the aeroplanes with two combination recorders (one forward and one aft) or separate devices.</i></p>			



STATEMENT OF COMPLIANCE

	<p>(c) [AOC] No person may operate an aeroplane of a maximum certificated take-off mass of over 15 000 kg which is required to be equipped with both a CVR and an FDR and type certificated on or after 1 January 2016, unless—</p> <p>(1) The aeroplane is equipped with two combination recorders (FDR/CVR), and</p> <p>(2) one recorder is located as close to the cockpit as practicable and the other recorder located as far aft as practicable.</p> <p>(d) [AOC] No person may operate a multi-engined turbine-powered aeroplane of a maximum certificated take-off mass of 5 700 kg or less, unless –</p> <p>(1) The aeroplane is equipped with an FDR and/or a CVR, or</p> <p>(2) The aeroplane is equipped with one combination recorder (FDR/CVR).</p>			
7.8.1.7	<p>FLIGHT RECORDER DATA RECOVERY</p> <p>(a) All aeroplanes of a maximum certificated take-off mass of over 27 000 kg which are authorised to carry more than 19 passengers, and for which the application for type certification is submitted to a Contracting State on or after 01 January 2021, shall be equipped with a means approved by the Authority to recover flight recorder data and make it available in a timely manner.</p> <p>(b) In approving the means to make flight recorder data available in a timely manner, the Authority will take into account the following:</p> <p>(1) The capabilities of the operator;</p> <p>(2) Overall capability of the aeroplane and its systems as certified by State of Design;</p> <p>(3) The reliability of the means to recover the appropriate CVR channels and appropriate FDR data; and</p> <p>(4) Specific mitigation measures.</p>			
7.8.2	<p>FLIGHT DATA RECORDERS (FDR) AND AIRCRAFT DATA RECORDING SYSTEMS (ADRS)</p>			
7.8.2.1	<p>TYPES AND PARAMETERS</p> <p>(a) Aeroplane. Aeroplane FDR shall record the parameters as listed in IS 7.8.2.1(A) for the following FDR types:</p> <p>(1) Types I and IA FDR shall record the parameters required to determine</p>			



STATEMENT OF COMPLIANCE

	<p>accurately the aeroplane flight path, speed, attitude, engine power, configuration and operation.</p> <p>(2) Types II and IIA FDRs shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power and configuration of lift and drag devices.</p> <p>(b) Helicopter. Helicopter FDR shall record the parameters as listed in IS 7.8.2.1 (B) for the following FDR types:</p> <p>(1) Type IV FDRs shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power and operation.</p> <p>(2) Type IVA FDRs shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power, operations and configuration.</p> <p>(3) Type V FDRs shall record the parameters required to determine accurately the helicopter flight path, speed, attitude and engine power.</p>			
<p>7.8.2.2</p>	<p>AIRCRAFT EQUIPAGE FOR OPERATION</p> <p>(a) No person may operate the following aeroplane unless the aeroplane is equipped with an FDR capable of recording the aural environment of the flight deck during flight time.</p> <p>(b) [AAC] All turbine-engined aeroplanes with a seating configuration of more than 5 passenger seats and a maximum certificated take-off mass of 5 700 kg or less, for which the application for a TC is first made to the appropriate Authority on or after 01 January 2016, shall be equipped with:</p> <p>(1) An FDR that shall record at least the first 16 parameters prescribed in IS 7.8.2.1(A);</p> <p>(2) A Class C AIR or AIRS that shall record at least the flight path and speed parameters displayed to the pilot(s) as prescribed in IS 7.8.2.2; or</p> <p>(3) An ADRS that shall record at least the first 7 parameters prescribed in IS 7.8.2.2.</p> <p>(i) If further ADRS recording capacity is available, the recording of any parameters from 8 onwards defined in IS:7.8.2.2 shall be considered.</p> <p><i>Note: TC first issued refers to the date of issuance of the original TC for the aeroplane type, not the date of certification of particular aeroplane variants or derivative models.</i></p>			



STATEMENT OF COMPLIANCE

	<p>(c) [AOC] All turbine-engined aeroplanes of a maximum certificated take-off mass of 5700 kg or less, for which the individual certificate of airworthiness is first issued on or after 01 January 2016, shall be equipped with:</p> <p>(1) An FDR that shall record at least the first 16 parameters prescribed in IS 7.8.2.1(A);</p> <p>(2) A Class C AIR or AIRS that shall record at least the flight path and speed parameters displayed to the pilot(s) as defined in IS 7.8.2.2; or</p> <p>(3) An ADRS that shall record at least the first 7 parameters listed in IS 7.8.2.2.</p> <p>(d) [AAC] All aeroplanes of a maximum certificated take-off mass of over 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 1989, shall be equipped with an FDR that shall record at least the first 32 parameters prescribed in IS 7.8.21(A).</p> <p>(e) [AAC] All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, up to and including 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 1989, shall be equipped with an FDR that shall record at least the first 16 parameters prescribed in IS 7.8.2.1(A).</p> <p>(f) [AOC] All multi-engined turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less, for which the individual certificate of airworthiness is first issued on or after 01 January 1990, shall be equipped with an FDR that shall record at least the first 16 parameters prescribed in IS 7.8.2.1(A).</p> <p>(g) [AOC] All turbine-engined aeroplanes with a maximum certificated take-off mass of over 5 700 kg, except those in paragraph 7.8.1.2(h) of this part, for which the individual certificate of airworthiness was first issued before 01 January 1989, shall be equipped with an FDR that shall record at least the first five parameters prescribed in IS 7.8.2.1(A).</p> <p>(h) [AOC] All turbine-engined aeroplanes with a maximum certificated take-off mass of over 5 700 kg, except those in 7.8.1.2 of this part, for which the individual certificate of airworthiness was first issued on or after 01 January 1987 but before 01 January 1989, shall be equipped with an FDR that shall record at least the first nine parameters prescribed in IS 7.8.2.1(A).</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>(i) [AOC] All turbine-engined aeroplanes with a maximum certificated take-off mass of over 27 000 kg, for which the individual certificate of airworthiness was first issued on or after 01 January 1987 but before 01 January 1989, that are of types of which the prototype was certificated by the appropriate Authority after 30 September 1969, shall be equipped with an FDR that shall record at least the first 16 parameters prescribed in IS 7.8.2.1(A).</p> <p>(j) [AOC] All turbine-engined aeroplanes with a maximum certificated take-off mass of over 27 000 kg, for which the individual certificate of airworthiness was first issued before 01 January 1987, that are of types of which the prototype was certificated by the appropriate Authority after 30 September 1969, shall be equipped with an FDR that shall record, in addition to the first five parameters prescribed in IS 7.8.2.1(A), such additional parameters as are necessary to meet the objectives of determining:</p> <p>(1) The attitude of the aeroplane in achieving its flight path; and</p> <p>(2) The basic forces acting upon the aeroplane resulting in the achieved flight path and the origin of such basic forces.</p> <p>(k) [AAC] All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, for which the individual certificate of airworthiness is first issued after 01 January 2005, shall be equipped with an FDR that shall record at least the first 78 parameters prescribed in IS 7.8.2.1(A).</p> <p>(l) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, for which the application for type certification is submitted on or after 01 January 2023, shall be equipped with an FDR capable of recording at least the 82 parameters prescribed in IS 7.8.2.1(A).</p> <p>(m) All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 2023, shall be equipped with an FDR capable of recording at least the 82 parameters prescribed in IS 7.8.2.1(A).</p> <p>(n) No person may operate the following helicopter unless the helicopter is equipped with an FDR capable of recording the aural environment of the flight deck during flight time.</p> <p>(o) [AAC] All helicopters with a maximum certificated take-off mass of over 3 175 kg, for which the individual certificate of airworthiness is first issued on or after</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>01 January 2016, shall be equipped with an FDR that shall record at least the first 48 parameters prescribed in IS 7.8.2.1(B).</p> <p>(p) [AAC] All helicopters with a maximum certificated take-off mass of over 7 000 kg, or having a passenger seating configuration of more than 19, for which the individual certificate of airworthiness is first issued on or after 01 January 1989, shall be equipped with an FDR that shall record at least the first 30 parameters prescribed in IS 7.8.2.1(B).</p> <p>(q) [AAC] All helicopters with a maximum certificated take-off mass of over 3 175 kg, up to and including 7 000 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 1989, shall be equipped with an FDR that shall record at least the first 15 parameters prescribed in IS 7.8.2.1(B).</p> <p>(r) [AOC] All turbine-engined helicopters of a maximum certificated take-off mass of over 2 250 kg, up to and including 3 175 kg, for which the application for a TC is first made to the appropriate Authority on or after 01 January 2018, shall be equipped with:</p> <p>(1) An FDR that shall record at least the first 48 parameters prescribed in IS 7.8.2.1(B);</p> <p>(2) A Class C AIR or AIRS that shall record at least the flight path and speed parameters displayed to the pilot(s), as defined in IS 7.8.2.2; or</p> <p>(3) An ADRS that shall record the first 7 parameters prescribed in IS 7.8.2.2.</p> <p>(s) [AOC] All helicopters of a maximum certificated take-off mass of 3 175 kg or less, for which the individual certificate of airworthiness is first issued on or after 01 January 2018, shall be equipped with:</p> <p>(1) An FDR that shall record at least the first 48 parameters prescribed in IS 7.8.2.1(B);</p> <p>(2) A Class C AIR or AIRS that shall record at least the flight path and speed parameters displayed to the pilot(s), as defined in IS 7.8.2.2; or</p> <p>(3) An ADRS that shall record the first 7 parameters prescribed in IS 7.8.2.2.</p> <p>(t) All helicopters of a maximum certificated take-off mass of over 3 175 kg, for which the application for type certification is submitted on or after 01 January 2023, shall be equipped with an FDR capable of recording at least the 53 parameters prescribed in IS 7.8.2.1(B).</p> <p>(u) All helicopters of a maximum certificated take-off mass of over 3 175 kg for which</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	the individual certificate of airworthiness is first issued on or after 01 January 2023 shall be equipped with an FDR capable of recording at least the 53 parameters prescribed in IS 7.8.2.1(B)			
7.8.2.3	RECORDING TECHNOLOGY (a) FDRs, ADRS, AIRs, or AIRS shall not use engraving metal foil, frequency modulation, photographic film, or magnetic tape in aircraft registered in Nigeria or operated in commercial air transport operations in Nigeria.			
7.8.2.4	DURATION (a) FDRs on aeroplanes shall be capable of retaining the information recorded during at least the last 25 hours of operation, with the exception of those installed on aeroplanes referenced in paragraph 7.8.2.2(f) of this part for which the FDR shall retain the information recorded during at least the last 30 minutes of operation, and, in addition, sufficient information from the preceding take-off for calibration purposes. (b) FDRs on helicopters shall retain the information recorded during at least the last 10 hours of operation.			
7.8.3	COCKPIT VOICE RECORDERS (CVR) AND COCKPIT AUDIO RECORDING SYSTEMS (CARS)			
7.8.3.1	START AND STOP LOGIC – COCKPIT VOICE RECORDERS AND COCKPIT AUDIO RECORDING SYSTEMS (a) The CVR, and CARS as applicable to aeroplanes, shall start to record prior to the aircraft moving under its own power and record continuously until the termination of the flight when the aircraft is no longer capable of moving under its own power. (b) In addition to (a) above, depending on the availability of electrical power, the CVR or CARS shall start to record as early as possible during the cockpit checks prior to engine start at the beginning of the flight until the cockpit checks immediately following engine shutdown at the end of the flight. (c) The CVR shall record simultaneously on four separate channels, or more, at least the following:			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(1) Voice communication transmitted from or received in the aircraft by radio;</p> <p>(2) Aural environment on the flight deck;</p> <p>(3) Voice communication of flight crew members on the flight deck using the aircraft's interphone system, if installed;</p> <p>(4) Voice or audio signals identifying navigation or approach aids introduced in the headset or speaker; and</p> <p>(5) Voice communication of flight crew members using the passenger address system, if installed.</p> <p>(d) The preferred CVR audio allocation shall be as follows:</p> <p>(1) Pilot-in-command audio panel</p> <p>(2) Co-pilot audio panel</p> <p>(3) Additional flight crew positions and time reference; and</p> <p>(4) Cockpit area microphone</p> <p>(e) The CARS shall record simultaneously on two separate channels, or more, at least the following:</p> <p>(1) Voice communication transmitted from or received in the aeroplane by radio;</p> <p>(2) Aural environment on the flight deck; and</p> <p>(3) Voice communication of flight crewmembers on the flight deck using the aeroplane's interphone, if installed.</p> <p>(f) The preferred CAR audio allocation shall be as follows:</p> <p>(1) Voice communication, and</p> <p>(2) Aural environment on the flight deck.</p> <p>(g) On a tape-based CVR, to ensure accurate time correlation between channels, the recorder shall record in an in-tine format. If a bi-directional configuration is used, the in-line format and channel allocation shall be retained in both directions.</p>			
<p>7.8.3.2</p>	<p>AIRCRAFT EQUIPAGE FOR OPERATIONS USING CVR AND CARS</p> <p>(a) No person may operate an aeroplane unless the aeroplane is equipped with a CVR and CARS as listed below:</p> <p>(1) [AAC] All turbine-engined aeroplanes for which the application for a type certificate is first submitted to the appropriate CAA on or after 1</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>January 2016 and required to be operated by more than one pilot shall be equipped with either a CVR or a CARS.</p> <p>(2) [AAC] All aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR.</p> <p>(3) [AAC] All aeroplanes of a maximum certificated take-off mass of over 5 700 kg, up to and including 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1987, shall be equipped with a CVR.</p> <p>(4) [AOC] All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2003, shall be equipped with a CVR capable of retaining the information recorded during at least the last two hours of its operation.</p> <p>(5) [AOC] All aeroplanes of a maximum certificated take-off mass of over 5 700 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR.</p> <p>(6) [AOC] All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued before 1 January 1987, with a maximum certificated take-off mass of over 27 000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 shall be equipped with a CVR.</p> <p>(7) [AOC] All turbine-engined aeroplanes, for which the individual certificate of airworthiness was first issued before 1 January 1987, with a maximum certificated take-off mass of over 5 700 kg up to and including 27 000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 shall be equipped with a CVR.</p> <p>(b) No person may operate a helicopter unless it is equipped with a cockpit voice recorder as listed below:</p> <p>(1) [AAC] All helicopters of a maximum certificated take-off mass of over 7000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR. For helicopters</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.</p> <p>(2) [AAC] All helicopters of a maximum certificated take-off mass of over 3175 kg for which the individual certificate of worthiness is first issued on or after 1 January 1987 shall be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.</p> <p>(3) [AAC] All helicopters of a maximum certificated take-off mass of over 7000 kg for which the individual certificate of worthiness is first issued on or after 1 January 1987 shall be equipped with a CVR. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on the CVR.</p>			
7.8.3.3	<p>RECORDING TECHNOLOGY</p> <p>(a) CVRs and CARS shall not use magnetic tape or wire in aircraft registered in Nigeria or operated in commercial air transport operations in Nigeria.</p>			
7.8.3.4	<p>(a) A CVR shall retain the information recorded during at least the last 2 hours of its operation.</p> <p>(b)(AOC) All aeroplanes of a maximum certificated take-off mass of over 27 000 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 2021, shall be equipped with a CVR that shall retain the information recorded during at least the last 25 hours of its operation.</p> <p>(c) [AOC] All aeroplanes that are required to be equipped with CARS, and for which the individual certificate of airworthiness is first issued on or after 01 January 2025, shall be equipped with a CARS that shall retain the information recorded during at least the last 2 hours of their operation.</p>			
7.8.3.5	<p>COCKPIT VOICE RECORDER ALTERNATE POWER SOURCE</p> <p>(a) [AOC] No person may operate an aeroplane required to be equipped with a CVR unless it is equipped with CVR alternate power that</p> <p>(1) automatically engages and provides ten minutes, plus or minus one minute, of operation whenever aeroplane power to the recorder ceases, either by normal shutdown or by any other loss of power;</p> <p>(2) powers the CVR and its associated cockpit area microphone components, and</p>			



STATEMENT OF COMPLIANCE

	<p>(3) is located as close as practicable to the alternate power source.</p> <p>(b) [AOC] No person may operate an aeroplane of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2018 unless is it equipped with an alternate power source, as described in (a) above, that powers–</p> <p>(1) the forward CVR in the case of combination recorders, or</p> <p>(2) at least one CVR.</p> <p><i>Note 1 – “Alternate” means separate from the power source that normally provides power to the CVR. The use of aeroplane batteries or other power sources is acceptable provided that the requirements are above are met and electrical power to essential and critical loads is not compromised.</i></p> <p><i>Note 2 – When the CVR function is combined with other recording functions within the same unit, powering the other functions is allowed.</i></p>			
<p>7.8.4</p>	<p>DATA LINK RECORDERS (DLR) AND DATA LINK RECORDING SYSTEMS (DLRS)</p>			
<p>7.8.4.1</p>	<p>GENERAL</p> <p>(a) No person may operate an aeroplane or a helicopter for which the individual certificate of airworthiness is first issued on or after 01 January 2016, and which use any of the DLC applications referred to in IS 7.8.4.1 and are required to carry a CVR, unless the aircraft records the DLC messages on a crash-protected flight recorder.</p> <p>(b) No person may operate an aeroplane or a helicopter modified on or after 01 January 2016, which use any of the DLC applications referred to in IS 7.8.4.1, unless the aircraft records the DLC message on a crash-protected flight recorder or the installed DLC equipment is compliant with a TC issued or aircraft modification first approved prior to 01 January 2016.</p> <p>(c) No person may operate an aeroplane or a helicopter where the aircraft flight path is authorised or controlled through the use of data link messages, unless all data link messages, both uplinks to the aircraft and downlinks from the aircraft, are recorded on the aircraft. As far as practicable, the time the messages were displayed to the flight crew and the time of the responses shall be recorded.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	(d) No person may operate an aeroplane or a helicopter where the individual certificate of airworthiness was first issued before 01 January 2016, that are required to carry a CVR and are modified on or after 01 January 2016 to use any of the DLC applications referred to in IS 7.8.4.1 shall record the DLC messages on a crash-protected flight recorder.			
7.8.4.2	DURATION (a) The minimum recording duration shall be equal to the duration of the CVR			
7.8.4.3	CORRELATION (a) Data link recording shall be correlated to the recorded cockpit audio.			
7.8.5	AIRBORNE IMAGE RECORDER (AIR) AND AIRBORNE IMAGE RECORDING SYSTEM (AIRS) (a) Airborne image recorders are classified as follows. (1) A Class A AIR captures the general cockpit area in order to provide data supplemental to conventional flight recorders. (2) A Class B AIR captures data link message displays. (3) A Class C AIR captures instruments and control panels. (b) When AIRs are used, the AIR shall start to record prior to the aircraft moving under its own power and record continuously until the termination of the flight when the aircraft is no longer capable of moving under its own power. In addition, depending on the availability of electrical power, the AIR shall start to record as early as possible during the cockpit checks prior to engine start at the beginning of the flight until the cockpit checks immediately following engine shutdown at the end of the flight.			
7.8.6	FLIGHT CREW-MACHINE INTERFACE RECORDING			
7.8.6.1	GENERAL (a) [AAC] No person may operate an aeroplane of a maximum certificated take-off mass of over 5 700 kg, for which the individual certificate of airworthiness is first issued on or after 01 January 2023, unless the aeroplane shall be equipped with			



STATEMENT OF COMPLIANCE

	<p>a crash-protected flight recorder that shall record the information displayed to the flight crew from electronic displays, as well as the operation of switches and selectors by the flight crew as defined in IS 7.8.2.1</p> <p>(b) [AAC] No person shall operate an aircraft unless the AIR or AIRS shall start to record prior to the aircraft moving under its own power and record continuously until the termination of the flight when the aircraft is no longer capable of moving under its own power. In addition, depending on the availability of electrical power, the AIR or AIRS shall start to record as early as possible during the flight deck checks prior to engine start at the beginning of the flight until the flight deck checks immediately following engine shutdown at the end of the flight.</p>			
<p>7.8.6.2</p>	<p>APPLICATIONS TO BE RECORDED</p> <p>(a) The operation of switches and selectors and the information displayed to the flight crew from electronic displays shall be captured by sensors or other electronic means.</p> <p>(b) The recording of operation of switches and selectors by the flight crew shall include the following:</p> <ol style="list-style-type: none"> (1) Any switch or selector that will affect the operation and the navigation of the aircraft; and (2) Selection of normal and alternate systems. <p>(c) The recording of the information displayed to the flight crew from electronic displays shall include the following:</p> <ol style="list-style-type: none"> (1) Primary flight and (2) Aircraft system monitoring displays; (3) Engine indication displays; (4) Traffic, terrain, and weather displays; (5) Crew alerting systems displays; (6) Stand-by instruments; and (7) Installed EFB to the extent it is practical. <p>(d) If image sensors are used, the recording of such images shall not capture the head and shoulders of the flight crew members whilst seated in their normal operating position.</p>			
<p>7.8.6.3</p>	<p>DURATION</p> <p>(a) The minimum flight crew-machine interface recording duration shall be at least for the last 2 hours.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

7.8.6.4	<p>CORRELATION</p> <p>(a) Flight crew-machine interface recordings shall be able to be correlated to the recorded flight deck audio.</p>			
7.9	<p>EMERGENCY, RESCUE, AND SURVIVAL EQUIPMENT</p>			
7.9.1.1	<p>EMERGENCY EQUIPMENT: ALL AIRCRAFT</p> <p>(a) [AAC] Each item of emergency and flotation equipment shall be—</p> <p>(1) Readily accessible to the crew and, with regard to equipment located in the passenger compartment, to passengers without appreciable time for preparatory procedures;</p> <p>(2) Clearly identified and clearly marked to indicate its method of operation;</p> <p>(3) Marked as to date of last inspection; and</p> <p>(4) Marked as to contents when carried in a compartment or container</p>			
7.9.1.2	<p>EMERGENCY EXIT EQUIPMENT - PASSENGERS</p> <p>(a) No person shall operate an aeroplane without the following emergency exit equipment:</p> <p>(1) [AAC] Each passenger-carrying land plane emergency exit (other than over-the-wing) that is more than 6 ft from the ground with the aeroplane on the ground and the landing gear extended, shall have an approved means to assist the occupants in descending to the ground.</p> <p>(2) [AAC] Each passenger emergency exit, its means of access, and its means of opening shall be conspicuously marked by a sign visible to occupants approaching along the main passenger aisle.</p> <p>(3) [AAC] Each passenger-carrying aeroplane shall have an emergency lighting system, independent of the main lighting system that—</p> <p>(i) Illuminates each passenger exit marking and locating sign;</p> <p>(ii) Provides enough general lighting in the passenger cabin; and</p> <p>(iii) [AOC] Includes floor proximity emergency escape path marking</p> <p>(4) [AAC] Each passenger emergency exit and the means of opening that exit from the outside shall be marked on the outside of the aeroplane.</p>			



STATEMENT OF COMPLIANCE

	<p>(5) [AAC] Each passenger-carrying aeroplane shall be equipped with a slip resistant escape route that meets the requirements under which that aeroplane was type certified.</p> <p>(6) Each passenger-carrying aeroplane shall meet the detailed requirements contained in IS: 7.9.1.2.</p> <p>(b) No person shall operate a helicopter certificated with a maximum take-off mass of 7 000 pounds or less and nine or less passenger seats without the following emergency exit equipment:</p> <p>(1) Number and location.</p> <p>(i) There shall be at least one emergency exit on each side of the cabin readily accessible to each passenger. One of these exits shall be usable in any probable attitude that may result from a crash.</p> <p>(ii) Doors intended for normal use may also serve as emergency exits, provided that they meet the requirements of this section.</p> <p>(iii) If emergency flotation devices are installed, there shall be an emergency exit accessible to each passenger on each side of the cabin that is shown by test, demonstration, or analysis to—</p> <p>(A) Be above the waterline; and</p> <p>(B) Be open without interference from flotation devices, whether stowed or deployed.</p> <p>(2) Type and operation. Each emergency exit prescribed by paragraph (a) of this section shall—</p> <p>(i) Consist of a movable window or panel, or additional external door, providing an unobstructed opening that will admit a 19-by 26-inch ellipse;</p> <p>(ii) Have simple and obvious methods of opening, from the inside and from the outside, which do not require exceptional effort;</p> <p>(iii) Be arranged and marked so as to be readily located and opened even in darkness; and</p> <p>(iv) Be reasonably protected from jamming by fuselage deformation.</p> <p>(3) Ditching emergency exits for passengers. If certification with ditching provisions is requested, the markings required by (1)(iii) of this paragraph shall be designed to remain visible if the rotorcraft is capsized and the cabin is submerged.</p> <p>(c) No person shall operate a helicopter certificated with a maximum take-off mass</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>of more than 20 000 pounds and ten or more passenger seats without the following emergency exit equipment:</p> <p>(1) Passenger emergency exits and openings. Openings with dimensions larger than those specified below may be used, regardless of shape, if the base of the opening has a flat surface of not less than the specified width.</p> <p>For the purpose of this part, the types of passenger emergency exit shall be as follows:</p> <p>(i) Type I. This type shall have a rectangular opening of not less than 24 inches wide by 48 inches high, with corner radii not greater than one-third the width of the exit, in the passenger area in the side of the fuselage at floor level and as far away as practicable from areas that might become potential fire hazards in a crash.</p> <p>(ii) Type II. This type is the same as Type I, except that the opening shall be at least 20 inches wide by 44 inches high.</p> <p>(iii) Type III. This type is the same as Type I, except that—</p> <ol style="list-style-type: none"> a. The opening shall be at least 20 inches wide by 36 inches high; and b. The exits need not be at floor level. <p>(iv) Type IV. This type shall have a rectangular opening of not less than 19 inches wide by 26 inches high, with corner radii not greater than one-third the width of the exit, in the side of the fuselage with a step-up inside the rotorcraft of not more than 29 inches.</p> <p>(2) Passenger emergency exits; side-of-fuselage. Emergency exits shall be accessible to the passengers and, except as provided in (c)(4) of this paragraph, shall be provided in accordance with the following table: Emergency exits for each side of the fuselage</p> <p>(3) Passenger emergency exits; other than side-of-fuselage. In addition to the requirements of item (2) of this paragraph—</p> <ol style="list-style-type: none"> (i) There shall be enough openings in the top, bottom, or ends of the fuselage to allow evacuation with the rotorcraft on its side; or (ii) The probability of the rotorcraft coming to rest on its side in a crash landing shall be extremely remote. <p>(4) Ditching emergency exits for passengers. If the helicopter was certificated</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>with ditching provisions, ditching emergency exits shall be provided in accordance with the following:</p> <p>(i) For rotorcraft that have a passenger seating configuration, excluding pilots seats, of nine seats or less, one exit above the waterline in each side of the rotorcraft, meeting at least the dimensions of a Type IV exit.</p> <p>(ii) For rotorcraft that have a passenger seating configuration, excluding pilots seats, of 10 seats or more, one exit above the waterline in a side of the rotorcraft meeting at least the dimensions of a Type III exit, for each unit (or part of a unit) of 35 passenger seats, but no less than two such exits in the passenger cabin, with one on each side of the rotorcraft. However, where it has been shown through analysis, ditching demonstrations, or any other tests found necessary, that the evacuation capability of the rotorcraft during ditching is improved by the use of larger exits, or by other means, the passenger seat to exit ratio may be increased.</p> <p>(iii) Flotation devices, whether stowed or deployed, may not interfere with or obstruct the exits.</p> <p>(5) Ramp exits. One Type I exit only, or one Type II exit only, that is required in the side of the fuselage under paragraph (b) of this section, may be installed instead in the ramp of floor ramp rotorcraft if—</p> <p>(i) Its installation in the side of the fuselage is impractical; and</p> <p>(ii) Its installation in the ramp meets emergency exit access requirements in paragraph (g) below.</p> <p>(d) Emergency exit arrangement.</p> <p>(1) Each emergency exit shall consist of a movable door or hatch in the external walls of the fuselage and shall provide an unobstructed opening to the outside.</p> <p>(2) Each emergency exit shall be openable from the inside and from the outside.</p> <p>(3) The means of opening each emergency exit shall be simple and obvious and may not require exceptional effort.</p> <p>(4) There shall be means for locking each emergency exit and for preventing opening in flight inadvertently or as a result of mechanical failure.</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>(5) There shall be means to minimise the probability of the jamming of any emergency exit in a minor crash landing as a result of fuselage deformation under the ultimate inertial forces –</p> <ul style="list-style-type: none"> (iii) Upward – 1.5g; (iv) Forward – 4.0g; (v) Sideward – 2.0g; (vi) Downward – 4.0g. <p>(6) Except as provided in item (8) of this paragraph, each land-based rotorcraft emergency exit shall have an approved slide as stated in paragraph (g) of this subsection, or its equivalent, to assist occupants in descending to the ground from each floor level exit and an approved rope, or its equivalent, for all other exits, if the exit threshold is more than 6 ft above the ground—</p> <ul style="list-style-type: none"> (i) With the rotorcraft on the ground and with the landing gear extended; (ii) With one or more legs or part of the landing gear collapsed, broken, or not extended; and (iii) With the rotorcraft resting on its side, provided this was accomplished during the emergency evacuation test during type certification of the helicopter. <p>(7) The slide for each passenger emergency exit shall be a self-supporting slide or equivalent, and shall be designed to meet the following requirements:</p> <ul style="list-style-type: none"> (i) It shall be automatically deployed, and deployment shall begin during the interval between the time the exit opening means is actuated from inside the rotorcraft and the time the exit is fully opened. However, each passenger emergency exit which is also a passenger entrance door or a service door shall be provided with means to prevent deployment of the slide when the exit is opened from either the inside or the outside under non-emergency conditions for normal use. (ii) It shall be automatically erected within 10 seconds after deployment is begun. (iii) It shall be of such length after full deployment that the lower end is self-supporting on the ground and provides safe evacuation of occupants to the ground after collapse of one or more legs or part of the landing gear. 			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>(iv) It shall have the capability, in 25-knot winds directed from the most critical angle, to deploy and, with the assistance of only one person, to remain usable after full deployment to evacuate occupants safely to the ground.</p> <p>(v) For helicopters having 30 or fewer passenger seats and having an exit threshold more than 6 ft above the ground, a rope or other assist means may be used in place of the slide specified in item (6) of this paragraph, provided this was accomplished during the emergency evacuation test during type certification of the helicopter.</p> <p>(8) If a rope, with its attachment, is used for compliance with items (6), (7), or (8) of this paragraph, it shall—</p> <p>(i) Withstand a 400-pound static load; and</p> <p>(ii) Attach to the fuselage structure at or above the top of the emergency exit opening, or at another approved location if the stowed rope would reduce the pilot's view in flight.</p> <p>(e) Emergency exit marking.</p> <p>(1) Each passenger emergency exit, its means of access, and its means of opening shall be conspicuously marked for the guidance of occupants using the exits in daylight or in the dark. Such markings shall be designed to remain visible for rotorcraft equipped for overwater flights if the rotorcraft is capsized and the cabin is submerged.</p> <p>(2) The identity and location of each passenger emergency exit shall be recognisable from a distance equal to the width of the cabin.</p> <p>(3) The location of each passenger emergency exit shall be indicated by a sign visible to occupants approaching along the main passenger aisle. There shall be a locating sign—</p> <p>(i) Next to or above the aisle near each floor emergency exit, except that one sign may serve two exits if both exists can be seen readily from that sign; and</p> <p>(ii) On each bulkhead or divider that prevents fore and aft vision along the passenger cabin, to indicate emergency exits beyond and obscured by it, except that if this is not possible the sign may be placed at another appropriate location.</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p>(4) Each passenger emergency exit marking and each locating sign shall have white letters 1 inch high on a red background 2 inches high, be self or electrically illuminated, and have a minimum luminescence (brightness) of at least 160 micro lamberts. The colors may be reversed if this will increase the emergency illumination of the passenger compartment.</p> <p>(5) The location of each passenger emergency exit operating handle and instructions for opening shall be shown—</p> <p>(i) For each emergency exit, by a marking on or near the exit that is readable from a distance of 30 inches; and</p> <p>(ii) For each Type I or Type II emergency exit with a locking mechanism released by rotary motion of the handle, by—</p> <p>c. A red arrow, with a shaft at least three-fourths inch wide and a head twice the width of the shaft, extending along at least 70 degrees of arc at a radius approximately equal to three-fourths of the handle length; and</p> <p>d. The word "open" in red letters 1 inch high, placed horizontally near the head of the arrow.</p> <p>(6) Each emergency exit, and its means of opening, shall be marked on the outside of the rotorcraft. In addition, the following apply—</p> <p>(i) There shall be a 2-inch colored band outlining each passenger emergency exit, except small rotorcraft with a maximum weight of 12,500 pounds or less may have a 2-inch colored band outlining each exit release lever or device of passenger emergency exits which are normally used doors.</p> <p>(ii) Each outside marking, including the band, shall have color contrast to be readily distinguishable from the surrounding fuselage surface. The contrast shall be such that, if the reflectance of the darker color is 15 percent or less, the reflectance of the lighter color shall be at least 45 percent. "Reflectance" is the ratio of the luminous flux reflected by a body to the luminous flux it receives. When the reflectance of the darker color is greater than 15 percent, at least a 30 percent difference between its reflectance and the reflectance of the lighter color shall be provided.</p> <p>(f) Emergency lighting. The following apply:</p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(1) A source of light with its power supply independent of the main lighting system shall be installed to—</p> <p>(i) Illuminate each passenger emergency exit marking and locating sign; and</p> <p>(ii) Provide enough general lighting in the passenger cabin so that the average illumination, when measured at 40-inch intervals at seat armrest height on the center line of the main passenger aisle, is at least 0.05 foot-candle.</p> <p>(2) Exterior emergency lighting shall be provided at each emergency exit.</p> <p>The illumination may not be less than 0.05 foot-candle (measured normal to the direction of incident light) for minimum width on the ground surface, with landing gear extended, equal to the width of the emergency exit where an evacuee is likely to make first contact with the ground outside the cabin. The exterior emergency lighting may be provided by either interior or exterior sources with light intensity measurements made with the emergency exits open.</p> <p>(3) Each light required by item (1) or (2) of this paragraph shall be operable manually from the cockpit station and from a point in the passenger compartment that is readily accessible. The cockpit control device shall have an "on," "off," and "armed" position so that when turned on at the cockpit or passenger compartment station or when armed at the cockpit station, the emergency lights will either illuminate or remain illuminated upon interruption of the rotorcraft's normal electric power.</p> <p>(4) Any means required to assist the occupants in descending to the ground shall be illuminated so that the erected assist means is visible from the rotorcraft.</p> <p>(i) The assist means shall be provided with an illumination of not less than 0.03 foot-candle (measured normal to the direction of the incident light) at the ground end of the erected assist means where an evacuee using the established escape route would normally make first contact with the ground, with the rotorcraft in each of the attitudes corresponding to the collapse of one or more legs of the landing gear.</p> <p>(ii) If the emergency lighting subsystem illuminating the assist means is independent of the rotorcraft's main emergency lighting system,</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>it—</p> <p>e. Will automatically be activated when the assist means is erected;</p> <p>f. Will provide the illumination required by (4)(i) above; and</p> <p>g. Will not be adversely affected by stowage</p> <p>(5) The energy supply to each emergency lighting unit shall provide the required level of illumination for at least 10 minutes at the critical ambient conditions after an emergency landing.</p> <p>(6) If storage batteries are used as the energy supply for the emergency lighting system, they may be recharged from the rotorcraft's main electrical power system provided the charging circuit is designed to preclude inadvertent battery discharge into charging circuit faults.</p> <p>(g) Emergency exit access.</p> <p>(1) Each passageway between passenger compartments, and each passageway leading to Type I and Type II emergency exits, shall be—</p> <p>(iii) Unobstructed; and</p> <p>(iv) At least 20 inches wide.</p> <p>(2) For each emergency exit covered by (d)(6) in this paragraph, there shall be enough space adjacent to that exit to allow a crewmember to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required for that exit.</p> <p>(3) There shall be access from each aisle to each Type III and Type IV exit, and</p> <p>(i) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 20 or more, the projected opening of the exit provided shall not be obstructed by seats, berths, or other protrusions (including seatbacks in any position) for a distance from that exit of not less than the width of the narrowest passenger seat installed on the rotorcraft;</p> <p>(ii) For rotorcraft that have a passenger seating configuration, excluding pilot seats, of 19 or less, there may be minor obstructions in the region described in (g)(3) (i) of this paragraph, if there are compensating factors to maintain the effectiveness of the exit.</p>			
--	---	--	--	--



STATEMENT OF COMPLIANCE

	<p>(h) Main aisle width. The main passenger aisle width between seats shall equal or exceed the values in the following table:</p> <p><i>Note: A narrower width not less than 9 inches may be approved when substantiated by tests found necessary by the State of Manufacturer.</i></p>			
7.9.1.3	<p>VISUAL SIGNALLING DEVICES</p> <p>(a) [AAC] No person may operate an aircraft over water or across land areas which have been designated by the Authority as areas in which search and rescue would be especially difficult, unless equipped with such signaling devices as may be appropriate to the area overflown, to include—</p> <p>(1) At least one pyrotechnic signaling device for each life raft required for overwater operations; and</p> <p>(2) Any other requirements specified by the Authority.</p>			
7.9.1.4	<p>SURVIVAL KITS</p> <p>(a) [AAC] No person may operate an aircraft across land areas which have been designated by Nigeria as areas in which search and rescue would be especially difficult, unless equipped with enough survival kits for the number of occupants of the aircraft appropriate for the route to be flown.</p> <p>(b) Helicopters, when operating over sea areas which have been designated by the State concerned as areas in which search and rescue would be especially difficult, shall be equipped with life-saving equipment (including means of sustaining life) as may be appropriate to the area overflown.</p>			
7.9.1.5	<p>EMERGENCY LOCATOR TRANSMITTER</p> <p>(a) [AAC] No person may operate an aeroplane on any flight unless it is equipped with an automatically activated ELT that transmits simultaneously on both 406 MHz and 121.5 MHz, and meets the technical standards specified by the Authority and the relevant portions of ICAO Annex 10, Volume III.</p> <p>(b) [AAC] No person may operate an aeroplane authorised to carry more than 19 passengers unless, in addition to the requirements of 7.9.1.5.(a), it is equipped with an ELT of any type.</p> <p>(c) [AOC] No person may operate an aeroplane authorised to carry more than 19</p>			



STATEMENT OF COMPLIANCE

	<p>passengers for which the individual certificate of airworthiness is first issued after 1 July 2008 unless it is equipped with:</p> <p>(1) At least two ELTs, one of which shall be automatic; or</p> <p>(2) At least one ELT and a capability that meets the requirements of 7.7.1.9 of this part unless some other means of compliance of aircraft distress tracking has been used.</p> <p>Note. — In the case where the requirements for 7.7.1.9 are met by another system no automatic ELT is required.</p> <p>(d) [AOC] No person may operate an aeroplane in long-range overwater operations or over designated land areas where search and rescue would be especially difficult, without having on the aeroplane at least two ELTs, one of which shall be automatic,</p> <p>(1) [AOC] At least one survival type ELT shall be located with each life-raft carried</p> <p>(e) [AAC] No person may operate a helicopter on any flight unless it is equipped with an automatically activated ELT that transmits simultaneously on both 406 MHz and 121.5, and meets the technical standards specified by the Authority and the relevant portions of ICAO Annex 10, Volume 3.</p> <p>(f) [AAC] No person may operate a helicopter on any flight over water or a hostile environment designated as a land area where search and rescue would be especially difficult, unless it is equipped with at least one automatic ELT and one ELT in each life raft carried on board. (See Regulations 7.9.1.18).</p> <p><i>Note 1: When operating in a hostile environment, a safe ditching requires a helicopter to be designed for landing on water or certificated in accordance with ditching provisions.</i></p> <p><i>Note 2: The judicious choice of number of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid</i></p>			
--	--	--	--	--



STATEMENT OF COMPLIANCE

	<p><i>detection of inadvertent activation and convenient manual switching by crew members.</i></p> <p>(g) [AAC] Batteries used in ELTs shall be replaced (or recharged if the battery is rechargeable) and marked when—</p> <p>(1) The transmitter has been in use for more than one cumulative hour; or</p> <p>(2) 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired.</p> <p>(3) The date for a replacement of the battery in the ELT shall be legibly marked on the outside of the transmitter.</p>			
<p>7.9.1.6</p>	<p>PORTABLE FIRE EXTINGUISHERS</p> <p>(a) [AAC] No person may operate an aircraft unless it is equipped with portable fire extinguishers of a type which, when discharged, will not cause dangerous contamination of the air within the aircraft. At least one shall be located in —</p> <p>(1) The pilot's compartment; and</p> <p>(2) Each passenger compartment that is separate from the pilot's compartment and not readily accessible to the flight crew.</p> <p>(b) [AOC] No person may operate an aircraft unless it is equipped with portable fire extinguishers accessible for use in crew, passenger, and cargo compartments as follows:</p> <p>(1) The type and quantity of extinguishing agent shall be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used.</p> <p>(2) At least one portable fire extinguisher shall be provided and conveniently located for use in each Class E cargo compartment which is accessible to crew members during flight, and at least one shall be located in each upper and lower lobe galley.</p> <p>(3) At least one portable fire extinguisher shall be conveniently located on the flight deck for use by the flight crew.</p> <p>(4) At least one portable fire extinguisher shall be conveniently located in the passenger compartment if the passenger compartment is separate from the flight deck and not readily accessible to the flight crew.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	(5) For each aeroplane having a passenger seating capacity of more than 30, there shall be at least the following number of portable fire extinguishers conveniently located and uniformly distributed throughout the compartment.			
7.9.1.7	<p>LAVATORY FIRE EXTINGUISHER</p> <p>(a) [AAC] No person may operate an aircraft unless each lavatory in the aircraft is equipped with a built-in fire extinguisher for each disposal receptacle for towels, paper, or waste located within the lavatory.</p> <p>(b) [AAC] Built-in lavatory fire extinguishers shall be designed to discharge automatically into each disposal receptacle upon occurrence of a fire in the receptacle.</p> <p>(c) [AAC] Any agent used in a built-in fire extinguisher for each lavatory disposal receptacle for towels, or waste in an aircraft for which the individual certificate of airworthiness is first issued on or after 31 December 2011 shall:</p> <p>(1) Meet the applicable minimum performance requirements of the Authority; and</p> <p>(2) Not contain Halon 1211, Halon 1301, or Halon 2402.</p>			
7.9.1.8	<p>LAVATORY SMOKE DETECTOR</p> <p>(a) [AOC] No person may operate a passenger-carrying transport category aeroplane unless each lavatory in the aeroplane is equipped with a smoke detector system or equivalent that provides—</p> <p>(1) A warning light in the cockpit; or</p> <p>(2) A warning light or audio warning in the passenger cabin that shall be readily detected by a cabin crew member, taking into consideration the positioning of cabin crew members throughout the passenger compartment during various phases of flight</p>			
7.9.1.9	<p>CRASH AXE</p> <p>(a) [AAC] No person shall operate an aeroplane certificated with a take-off mass of 5 700 kg or more unless it is equipped with a crash axe appropriate for effective use in that type of aeroplane, stored in a place not visible to passengers on the aeroplane.</p>			
7.9.1.10	<p>MARKING OF BREAK-IN POINTS</p> <p>(a) [AAC] If areas of the fuselage suitable for break-in by rescue crews in an emergency are marked on an aircraft, such areas shall be</p>			



STATEMENT OF COMPLIANCE

	marked as shown below, and the colour of the markings shall be red or yellow and, if necessary, they shall be outlined in white to contrast with the background.			
7.9.1.11	<p>FIRST-AID KIT AND UNIVERSAL PRECAUTION KIT</p> <p>(a) First Aid Kits.</p> <p>(1) No person may operate aircraft unless it is it is equipped with an accessible, approved first-aid kit(s):</p> <p>(2) The contents of first-aid kits to be carried shall comply with Implementing Standard: IS: 7. 9.1.11</p> <p>(3) Each aircraft shall carry first-aid kits in accordance with at least the following schedule:</p> <p>(4) The location of first aid kits shall be:</p> <p>(i) Distributed evenly throughout the aircraft</p> <p>(ii) Readily accessible to cabin crew members, if cabin crew members are required for flight, and</p> <p>(iii) Located near the aircraft exits should their use be required outside the aircraft in an emergency situation.</p> <p>(b) Universal Precaution Kit.</p> <p>(1) No person shall operate an aircraft that requires a cabin crew member unless it is equipped with at least one universal precaution kit.</p> <p>(2) The contents of universal precaution kits to be carried shall comply with Implementing Standard: IS: 7. 9.1.11.</p> <p>(3) Each aircraft authorized to carry more than 250 passengers shall carry universal precaution kits in accordance with the following:</p> <p>(i) Two kits; and</p> <p>(ii) Additional kits, as determined by the Authority, at times of increased public health risk, such as during an outbreak of a serious communicable disease having pandemic potential</p>			
7.9.1.12	<p>EMERGENCY MEDICAL KIT - AEROPLANES</p> <p>(a) [AOC] No person may operate a passenger flight in an aeroplane authorized to carry more than 100 passengers, on a sector length of more than two hours unless the aeroplane is equipped with an approved emergency medical kit for the use of medical doctors or other qualified persons in treating in-flight medical emergencies that might occur during flight time.</p>			



STATEMENT OF COMPLIANCE

	<p>(b) [AOC] The contents of emergency medical kits to be carried shall comply with Implementing Standard: IS: 7. 9.1.12.</p> <p>(c) [AOC] The medical kit shall be stored in a secure location.</p>			
	<p>7.9.1.13 OXYGEN STORAGE AND DISPENSING APPARATUS</p> <p>(a) [AAC] All aircraft intended to be operated at altitudes requiring the use of supplemental oxygen shall be equipped with adequate oxygen storage and dispensing apparatus.</p> <p>(b) [AAC] The oxygen apparatus, the minimum rate of oxygen flow, and the supply of oxygen shall meet applicable airworthiness standards for type certification in the transport category as specified by the Authority.</p> <p>(c) [AAC] No person may operate an aircraft at altitudes above 10,000 ft unless it is equipped with oxygen masks, located so as to be within the immediate reach of flightcrew members while at their assigned duty station.</p> <p>(d) [AAC] No person may operate a pressurised aeroplane at altitudes above 25,000 ft unless:</p> <p>(1) Flightcrew member oxygen masks are available at the flight duty station and are of a quick donning type;</p> <p>(2) Sufficient spare outlets and masks and/or sufficient portable oxygen units with masks are distributed evenly throughout the cabin to ensure immediate availability of oxygen to each required cabin crew member regardless of his location at the time of cabin pressurization failure</p> <p>(e) [AAC] An oxygen-dispensing unit connected to oxygen supply terminals is installed so as to be immediately available to each occupant, wherever seated. The total number of dispensing units and outlets shall exceed the number of seats by at least 10%. The extra units are to be evenly distributed throughout the cabin.</p> <p>(f) [AAC] The amount of supplemental oxygen for sustenance required for a particular operation shall be determined on the basis of flight altitudes and flight duration, consistent with the operating procedures established for each operation in the Operations Manual and with the routes to be flown, and with the emergency procedures specified in the Operations Manual. See Implementing</p>			



STATEMENT OF COMPLIANCE

	<p>Standard: IS: 7.9.1.13 to determine the amount of supplemental oxygen needed for non-pressurised and pressurised aircraft.</p> <p>(g) [AAC] Aircraft intended to be operated at pressure altitudes above 25 000 ft or which, if operated at or below 25 000 ft, cannot descend safely within four minutes to 13 000 ft, and for which the individual certificate of airworthiness was first issued on or after 9 November 1998, shall be provided with automatically deployable oxygen equipment immediately available to each occupant, wherever seated. The total number dispensing units and outlets shall exceed the number of seats by at least 10 percent. The extra units shall be evenly distributed throughout the cabin.</p>			
<p>7.9.1.14</p>	<p>PROTECTIVE BREATHING EQUIPMENT</p> <p>(a) [AOC] No AOC holder may operate an aeroplane with a maximum certificated takeoff mass exceeding 5700 kg. or having a maximum approved seating configuration of more than 19 seats unless—</p> <p>(1) It has PBE to protect the eyes, nose and mouth of each flight crew member while on flight deck duty and to provide oxygen for a period of not less than 15 minutes; and</p> <p>(2) It has sufficient portable PBE to protect the eyes, nose and mouth of all required cabin crew members and to provide breathing gas for a period of not less than 15 minutes.</p> <p>(b) [AOC] The oxygen supply for PBE may be provided by the required supplemental oxygen system.</p> <p>(c) [AOC] The PBE intended for flight crew use shall be conveniently located on the flight deck and be easily accessible for immediate use by each required flight crew member at their assigned duty station.</p> <p>(d) [AOC] The PBE intended for cabin crew use shall be installed adjacent to each required cabin crew member duty station.</p> <p>(e) [AOC] Easily accessible portable PBE shall be provided and located at or adjacent to the required hand fire extinguishers except that, where the fire extinguisher is located inside a cargo compartment, the PBE shall be stowed outside but adjacent to the entrance to that compartment.</p> <p>(f) [AOC] The PBE while in use shall not prevent required communication.</p>			



STATEMENT OF COMPLIANCE

<p>7.9.1.15</p>	<p>FIRST AID OXYGEN DISPENSING UNITS</p> <p>(a) [AOC] No AOC holder may conduct a passenger carrying operation in a pressurised aeroplane at altitudes above 25,000 ft, when a cabin crew member is required to be carried, unless it is equipped with—</p> <p>(4) Undiluted first-aid oxygen for passengers who, for physiological reasons, may require oxygen following a cabin depressurisation; and</p> <p>(5) A sufficient number of dispensing units, but in no case less than two, with a means for cabin crew to use the supply</p> <p>(b) [AOC] The amount of first-aid oxygen required in paragraph (a) for a particular operation and route shall be determined on the basis of—</p> <p>(6) Flight duration after cabin depressurisation at cabin altitudes of more than 8,000 ft;</p> <p>(7) An average flow rate of at least 3 litres Standard Temperature Pressure Dry (STPD)/minute/person; and</p> <p>(8) At least 2% of the passengers carried, but in no case for less than one person.</p> <p>(c) The amount of first-aid oxygen required for a particular operation shall be determined on the basis of cabin pressure altitudes and flight duration, consistent with the operating procedures established for each operation and route.</p> <p>(d) The oxygen equipment provided shall be capable of generating a mass flow to each user of at least four litres per minute, STPD. Means may be provided to decrease the flow to not less than two litres per minutes, STPD, at any altitude.</p>			
<p>7.9.1.16</p>	<p>MEGAPHONES</p> <p>(a) [AOC] Each person operating a passenger-carrying aeroplane shall have a portable battery-powered megaphone or megaphones readily accessible to the crew members assigned to direct emergency evacuation.</p> <p>(b) [AOC] The number and location of megaphones required in paragraph (a) shall be determined as follows:</p> <p>(1) On aeroplanes with a seating capacity of more than 60 and less than 100 passengers, one megaphone shall be located at the most rearward location in the passenger cabin where it would be readily accessible to a normal cabin crew member seat; and</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>(2) On aeroplanes with a seating capacity of more than 99 passengers, two megaphones in the passenger cabin on each aeroplane one installed at the forward end and the other at the most rearward location where it would be readily accessible to a normal cabin crew member seat.</p> <p>(3) For aeroplanes with more than one passenger deck, in all cases when the total passenger seating configuration of a deck is more than 60, at least one megaphone is required on the deck.</p>			
<p>7.9.1.17</p>	<p>INDIVIDUAL FLOTATION DEVICES</p> <p>(a) Landplanes.</p> <p>(1) [AAC] Landplanes shall carry the equipment prescribed in paragraph 2:</p> <p>(i) When flying en-route over water beyond gliding distance from the shore;</p> <p>(ii) When flying over water at a distance of more than 93 km (50 NM) away from the shore for aircraft capable of maintaining safe altitude after the failure of one engine for two-engine aircraft and the failure of two engines for three or four-engine aircraft.; or</p> <p>(iii) When taking off or landing at an aerodrome where the (Authority) has determined the takeoff or approach path is so disposed over water that in the event of a mishap there would be the likelihood of a ditching.</p> <p>(2) [AAC] One life-jacket or equivalent flotation device equipped with a means of electric illumination shall be carried for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.</p> <p>(b) Seaplanes.</p> <p>(1) [AAC] For all flights, seaplanes shall be equipped with the equipment prescribed in paragraph 2.</p> <p>(c) Helicopters</p> <p>(1) [AAC] Helicopters operating in performance Class 1 or 2 and operating in accordance with the provisions of 4.5.1 shall be equipped with one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person</p>			



STATEMENT OF COMPLIANCE

	<p>for whose use it is provided. For offshore operations the life jacket shall be worn constantly unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket.</p> <p>(2) Helicopters operating in performance Class 3 when operating beyond autorotational distance from land but within a distance from land specified by the appropriate authority of the responsible State shall be equipped with one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.</p> <p>(3) For offshore operations, when operating beyond autorotational distance from land, the life jacket shall be worn unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket.</p> <p>(4) Helicopters operating in performance Class 3 when operating beyond the distance specified in Nig. CARs 7.9.1.17(c)(2) shall be equipped as in Nig. CARs 7.9.1.17(c)(1)</p> <p>5) In the case of helicopters operating in performance Class 2 or 3, when taking off or landing at a heliport where, in the opinion of the State of the Operator, the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching, at least the equipment required in 7.9.1.17(c)(1) shall be carried.</p> <p>(6) Each life jacket and equivalent individual flotation device, when carried in accordance with 7.9.1.19, shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.</p> <p>(7) In the case of helicopters operating in performance Class 2 or 3, when taking off or landing at a heliport where, in the opinion of the State of the Operator, the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching, at least the equipment required in 7.9.1.17(c)(1).</p>			
	<p>7.9.1.18 FLOTATION DEVICE FOR HELICOPTER DITCHING</p> <p>(a) [AAC] All helicopters flying over water at a distance from land corresponding to</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	more than 10 minutes at normal cruise speed in the case of performance Class 1 or 2 helicopters, or flying over water beyond auto-rotational or safe forced landing distance from land in the case of performance Class 3 helicopters, shall be fitted with a permanent or rapidly deployable means of floatation so as to ensure a safe ditching of the helicopter.			
7.10	MISCELLANEOUS SYSTEMS AND EQUIPMENT			
7.10.1.1	<p>SEATS, SAFETY BELTS, AND SHOULDER HARNESSSES</p> <p>(a) [AAC] Each aircraft used in passenger carrying operations shall be equipped with the following seats, safety belts, and shoulder harnesses that meet the airworthiness requirements for type certification of that aircraft:</p> <p>(1) A seat with safety belt for each person on board over an age of two (2) years; and a restraining belt for each berth on board the aircraft</p> <p>(2) A safety harness for each flight crewmember seat.</p> <p>(i) The safety harness for each pilot seat shall incorporate a device, which will automatically restrain the occupant's torso in the event of rapid deceleration.</p> <p>(ii) The safety harness for each pilot seat, which includes shoulder straps and a seat belt, shall incorporate a restraining device to prevent a suddenly incapacitated pilot from interfering with the flight controls.</p> <p>(3) A forward or rearward facing (within 15 degrees of the longitudinal axis of the aircraft) seat equipped with a safety harness for each cabin crew member station in the passenger compartment.</p> <p>(4) The cabin crew member's seats shall be located near floor level and other emergency exits as required by the Authority for emergency evacuation.</p>			
7.10.1.2	<p>PASSENGER AND PILOT COMPARTMENT DOORS – AEROPLANES</p> <p>(a) [AOC] Pilot compartment door —</p> <p>(1) No person may operate a passenger carrying aeroplane of a maximum</p>			



STATEMENT OF COMPLIANCE

	<p>certificated takeoff mass in excess of 45 500 kg or with a passenger seating capacity greater than 60 unless that aircraft is equipped with an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons.</p> <p>(2) No person may operate a passenger carrying aeroplane having a certificated takeoff mass of less than 45 500 kg or with a passenger seating capacity of less than 60 unless that aircraft is equipped with an approved flight crew compartment door, where practicable, that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorised persons.</p> <p>(3) Each pilot compartment door shall be capable of being locked and unlocked from either pilot's station.</p> <p>(4) A means shall be provided for monitoring from either pilot station the entire door area outside the pilot compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.</p> <p>(b) [AOC] Passenger compartment doors —</p> <p>(1) Each passenger compartment door shall have:</p> <p>(i) A means for the crew, in an emergency, to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers;</p> <p>(ii) A placard on each door used to access a required passenger emergency exit, indicating that such door shall be open during takeoff and landing; and</p> <p>(iii) A means readily available for each crewmember to unlock any door that separates a passenger compartment from another compartment that has emergency exit provisions</p>			
<p>7.10.1.3</p>	<p>LIFE RAFTS</p> <p>(a) [AAC] In addition to the equipment prescribed in 7. 9.1.17 and 7. 9.1.19 of this Part, life saving rafts in sufficient numbers to carry all persons on board shall be installed in:</p> <p>(1) Aeroplanes operated on long range over-water flights, and</p> <p>(2) All other aeroplanes when they are operated over water away from land</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>suitable for making an emergency landing at a distance of more than 185 km (100 NM) in the case of single-engine aeroplanes, and more than 370 km (200 NM) in the case of multi-engine aeroplanes capable of continuing flight with one engine inoperative.</p> <p>(3) Class 1 and 2 helicopters when they are operated over water at a distance from land corresponding to more than 10 minutes at normal cruise speed.</p> <p>(4) Class 3 helicopters when they are operated over water beyond autorotational or safe forced landing distance from land.</p> <p>(b) [AOC] An aircraft shall have life saving rafts with a sufficient capacity to carry all persons on board in the event of the loss of one raft of the largest capacity.</p> <p>(c) All life saving rafts shall be stowed so as to facilitate their ready use in an emergency.</p> <p>(d) Life rafts shall be equipped with the following life sustaining equipment—</p> <ol style="list-style-type: none"> (1) A electric survivor locator light; (2) A survival kit; (3) A pyrotechnic signaling device; and (4) An ELT (See 7.9.1.5). <p>(e) [AAC] In helicopters, life rafts which are not deployable by remote control and which have a mass of more than 40 kg shall be equipped with a means of mechanically assisted deployment.</p> <p>(f) [AAC] At the earliest practicable date but not later than 1 January 2018, on all aeroplanes of a maximum certificated take-off mass of over 27 000 kg, a securely attached underwater locating device operating at a frequency of 8.8kHz. This automatically activated underwater locating device shall operate for a minimum of 30 days and shall not be installed in wings or empennage.</p>			
<p>7.10.1.4</p>	<p>PASSENGER INFORMATION SIGNS</p> <p>(a) [AOC] No person shall operate a passenger carrying aeroplane with a maximum certificated take-off weight of 5,700 kg (12,500 lbs) or more unless it is equipped with—</p> <ol style="list-style-type: none"> (1) At least one passenger information sign (using either letters or symbols) notifying when smoking is prohibited and one sign (using either letters or symbols) notifying when safety belts shall be fastened, which shall, when illuminated, be legible to each person 			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	<p>seated in the passenger cabin under all probable conditions of cabin illumination;</p> <p>(2) Signs which notify when safety belts should be fastened and when smoking is prohibited shall be so constructed that the crew can turn them on and off;</p> <p>(3) A sign or placard affixed to each forward bulkhead and each passenger seat back that reads "Fasten Seat Belt While Seated."</p> <p>(b) [AAC] Notwithstanding paragraph (a), no person shall operate an aircraft in which all passenger seats are not visible from the flight deck, unless it is equipped with a means of indicating to all passengers and cabin crew</p> <p>(1) when seat belts shall be fastened;</p> <p>(2) when smoking is not allowed.</p> <p>(3) when and how oxygen equipment is to be used if the carriage of oxygen is required;</p> <p>(4) location and use of life jackets or equivalent individual flotation devices where their carriage is required;</p> <p>(5) location of emergency equipment; and</p> <p>(6) location and method of opening emergency exit</p>			
<p>7.10.1.5</p>	<p>MATERIALS FOR CABIN INTERIORS</p> <p>(a) No person shall operate an aircraft unless each compartment used by the crew or passengers meet the following requirements of the State of Design—</p> <p>(1) Materials shall be at least flash resistant;</p> <p>(2) The wall and ceiling linings and the covering of upholstering, floors and furnishings shall be flame resistant;</p> <p>(3) Each compartment where smoking is to be allowed shall be equipped with self-contained ash trays that are completely removable and other compartments shall be placarded against smoking; and</p> <p>(4) Each receptacle for used towels, papers and wastes shall be of fire resistant material and shall have a cover or other means of containing possible fires started in the receptacles.</p> <p>(b) For aircraft for which the State of Design has developed new airworthiness</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	requirements for cabin interiors since original type certification, the owner of the aircraft shall ensure that all materials that do not meet current State of Design requirement shall have them replaced upon the first major overhaul of the aircraft cabin or refurbishing of the cabin interior with materials that meet the new requirements.			
7.10.1.6	<p>STATIC PRESSURE SYSTEM</p> <p>(a) [AAC] No person may operate an aircraft unless it is equipped with a static pressure system vented to the outside atmospheric pressure so that they will be least affected by airflow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent.</p> <p>(b) [AAC] No person may operate an aircraft in IFR or VFR at night unless it is equipped with a static pressure system vented to the outside atmospheric pressure so that they will be least affected by airflow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent and a means of selecting an alternative source of static pressure.</p> <p>(c) [AOC] No person may operate an aircraft unless it is equipped with two independent static pressure systems, vented to the outside atmospheric pressure so that they will be least affected by airflow variation or moisture or other foreign matter, and installed so as to be airtight except for the vent.</p>			
7.10.1.7	<p>MATERIALS FOR CARGO AND BAGGAGE COMPARTMENTS</p> <p>(a) [AAC] Each cargo compartment shall have ceiling and sidewall liner panels which are constructed of materials which meet the test requirements for flame resistance of cargo compartment liners as prescribed for type certification.</p> <p><i>Note: The term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain fire.</i></p>			



STATEMENT OF COMPLIANCE

<p>7.10.1.8</p>	<p>POWER SUPPLY, DISTRIBUTION, AND INDICATION SYSTEM (a) [AOC] No AOC holder may operate an aeroplane unless it is equipped with— (1) A power supply and distribution system that meets the airworthiness requirements for certification of an aeroplane in the transport category, as specified by the Authority, or (2) A power supply and distribution system that is able to produce and distribute the load for the required instruments and equipment, with use of an auxiliary power supply if any one power source or component of the power distribution system fails.</p> <p><i>Note: The use of common elements in the power system may be approved if the Authority finds that they are designed to be reasonably protected against malfunctioning.</i></p> <p>(3) A means for indicating the adequacy of the power being supplied to required flight instruments. (b) [AOC] Engine-driven sources of energy, when used, shall be redundant.</p>			
<p>7.10.1.9</p>	<p>PROTECTIVE CIRCUIT FUSES (a) [AOC] No person may operate an aeroplane in which protective fuses are installed unless there are spare fuses available of appropriate ratings for replacement of those accessible in flight.</p>			
<p>7.10.1.10</p>	<p>ICING PROTECTION EQUIPMENT (a) [AAC] No person may operate an aircraft in expected or actual icing conditions unless it is equipped for the prevention or removal of ice on windshields, wings, control surfaces, empennage, propellers, rotor blades, or other parts of the aircraft where ice formation will adversely affect the safety of the aircraft. (b) [AAC] No person may operate an aircraft in expected or actual icing conditions at night unless it is equipped with a means to illuminate or detect the formation of ice. Any illumination that is used shall be of a type that will not cause glare or reflection that would handicap crew members in the performance of their duties.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

<p>7.10.1.11</p>	<p>PITOT HEAT AND INDICATION SYSTEMS (a) [AAC] No person may operate an aircraft in instrument flight conditions unless it is equipped with a pitot heat system. (b) [AOC] No AOC holder may operate an aeroplane equipped with a flight instrument pitot heating system unless the aeroplane is also equipped with an operable pitot heat indication system that complies with the following requirements: (1) The indication provided shall incorporate an amber light that is in clear view of a flight crew member. The indication provided shall be designed to alert the flight crew if either: (i) The pitot heating system is switched "off," and (ii) The pitot heating system is switched "on" and any pitot tube heating element is inoperative, or (2) An integrated flight crew alerting system that will notify the crew if the pitot system is malfunctioning</p>			
<p>7.10.1.12</p>	<p>WINDSHIELD WIPERS (a) [AOC] No AOC holder may operate an aeroplane with a maximum certificated take-off mass of more than 5700 kg unless it is equipped at each pilot station with a windshield wiper or equivalent means to maintain a clear portion of the windshield during precipitation.</p>			
<p>7.10.1.13</p>	<p>CHART HOLDER (a) [AOC] No person may operate an aeroplane in commercial air transport operations under single pilot IFR or at night unless a chart holder is installed in an easily readable position that can be illuminated for night operations.</p>			
<p>7.10.1.14</p>	<p>COSMIC RADIATION DETECTION EQUIPMENT (a) [AAC] No person shall operate an aeroplane intended to be operated above 15000 m (49, 000 ft) unless it is equipped with— (1) an instrument to measure and indicate continuously the dose rate of total cosmic radiation being received (i.e., the total of ionising and neutron radiation of galactic and solar origin) and the cumulative dose on each flight or (2) A system of on-board quarterly radiation sampling acceptable to the Authority as described in IS 7.10.1.13. (3) A display unit readily visible to a flight crew member.</p>			



STATEMENT OF COMPLIANCE

PART 7 INSTRUMENTS AND EQUIPMENT

	(b) The operator shall have the equipment in (a) above calibrated on the basis of assumptions acceptable to the Authority.			
7.10.1.15	MARITIME SOUND SIGNALLING DEVICE (a) [AAC] All seaplanes for all flights shall be equipped with equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea, where applicable.			
7.10.1.16	ANCHORS (a) [AAC]. No person shall operate a seaplane unless it is equipped with— (1) One anchor, and (2) One sea anchor (drogue) <i>Note: "Seaplanes" includes amphibians operated as seaplanes.</i>			
7.10.1.17	VIBRATION HEALTH MONITORING SYSTEM (a) [AOC] A helicopter which has a maximum certificate-d take-off mass in excess of 3175 kg or a maximum passenger seating configuration of more than 9 shall be equipped with a vibration health monitoring system.			