# Commission Regulation (EU) No 800/2013 of 14 August 2013 amending Regulation (EU) No 965/2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (Text with EEA relevance)

## ANNEX I U.K.

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|---|---|
| AppendixV | List of specific approvalsNon-commercial operations(subject to the conditions specified in the approval and contained in the operations manual or pilot's operating handbook)Insertion of name and contact details.Insertion of the associated number.Issue date of the specific approvals (dd-mm-yyyy) and signature of the competent authority representative.Insertion of the Commercial Aviation Safety Team (CAST)/ICAO designation of the aircraft make, model and series, or master series, if a series has been designated (e.g. Boeing-737-3K2 or Boeing-777-232). The CAST/ICAO taxonomy is available at: http://www.intlaviationstandards.org/ The registration marks should be either listed in the List of Specific Approvals or in the operations manual. In the latter case the List of Specific Approvals shall refer to the related page in the operation manual.Specify the type of operation, e.g., agriculture, construction, photography, surveying, observation and patrol, aerial advertisement.List in this column any approved operations, e.g., Dangerous goods, LVO, RVSM, RNP, MNPS.List in this column the most permissive criteria for each approval, e.g. the decision height and RVR minima for CAT II.Issuing Authority:List of Specific Approvals #:Name of Operator:Date:Signature:Aircraft Model and Registration Marks:Types of specialised operation (SPO), if applicable:#…Specific Approvals:SpecificationRemarks…… |

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## ANNEX II U.K.

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| AppendixDECLARATIONin accordance with Commission Regulation (EU) No 965/2012 on Air operationsOperator | |
| | Name: |
| | Place in which the operator is established or residing and place from which the operations are directed: |
| | Name and contact details of the accountable manager:<br>Aircraft operation |
| | Starting date of operation/applicability date of the change: |
| | Type(s) of operation:<br># |
| | Part-NCC: (specify if passenger and/or cargo) |
| | Type(s) of aircraft, registration(s) and main base: |
| | Details of approvals held (attach list of specific approvals to the declaration, if applicable) |
| | List of alternative means of compliance with references to the AMCs they replace (attach to the declaration)<br>Statements# |
| | The management system documentation including the operations manual reflect the applicable requirements set out in Part-ORO, Part-NCC and Part-SPA. |

All flights will be carried out in accordance with the procedures and instructions specified in the operations manual.
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All aircraft operated hold a valid certificate of airworthiness and comply with Commission Regulation (EC) No 2042/2003.
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All flight crew members and cabin crew members, as applicable, are trained in accordance with the applicable requirements.
#

(If applicable)

The operator has implemented and demonstrated conformance to an officially recognised industry standard.

Reference of the standard:

Certification body:

Date of the last conformance audit:
#

Any change in the operation that affects the information disclosed in this declaration will be notified to the competent authority.
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The operator confirms that the information disclosed in this declaration is correct.

Date, name and signature of the accountable manager

## ANNEX III U.K.

ANNEX VI NON-COMMERCIAL AIR OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT[PART-NCC]SUBPART AGENERAL REQUIREMENTSNCC.GEN.100Competent authority

The competent authority shall be the authority designated by the Member State in which the operator has its principal place of business or is residing.
NCC.GEN.105Crew responsibilities(a)The crew member shall be responsible for the proper execution of his/her duties that are:

(1) related to the safety of the aircraft and its occupants; and

(2) specified in the instructions and procedures in the operations manual.
(b)

During critical phases of flight or whenever deemed necessary by the pilot-in-command in the interest of safety, the crew member shall be seated at his/her assigned station and shall not perform any activities other than those required for the safe operation of the aircraft.
(c)

During flight, the flight crew member shall keep his/her safety belt fastened while at his/her station.

(d)

During flight, at least one qualified flight crew member shall remain at the controls of the aircraft at all times.

(e)The crew member shall not undertake duties on an aircraft:

(1) if he/she knows or suspects that he/she is suffering from fatigue as referred to in 7.f of Annex IV to Regulation (EC) No 216/2008 or feels otherwise unfit, to the extent that the flight may be endangered; or

(2) when under the influence of psychoactive substances or alcohol or for other reasons as referred to in 7.g of Annex IV to Regulation (EC) No 216/2008.

(f)The crew member who undertakes duties for more than one operator shall:

(1) maintain his/her individual records regarding flight and duty times and rest periods as referred to in Annex III (Part-ORO), Subpart FTL to Regulation (EU) No 965/2012; and

(2) provide each operator with the data needed to schedule activities in accordance with the applicable FTL requirements.

(g)The crew member shall report to the pilot-in-command:

(1) any fault, failure, malfunction or defect, which he/she believes may affect the airworthiness or safe operation of the aircraft, including emergency systems; and

(2) any incident that was endangering, or could endanger, the safety of the operation.

NCC.GEN.106Pilot-in-command responsibilities and authority(a)The pilot-in-command shall be responsible for:

(1) the safety of the aircraft and of all crew members, passengers and cargo on board during aircraft operations as referred to in 1.c of Annex IV to Regulation (EC) No 216/2008;

(2) the initiation, continuation, termination or diversion of a flight in the interest of safety;

(3) ensuring that all instructions, operational procedures and checklists are complied with in accordance with the operations manual and as referred to in 1.b of Annex IV to Regulation (EC) No 216/2008;

(4) only commencing a flight if he/she is satisfied that all operational limitations referred to in 2.a.3 of Annex IV to Regulation (EC) No 216/2008 are complied with, as follows:

(i) the aircraft is airworthy;

(ii) the aircraft is duly registered;

(iii) instruments and equipment required for the execution of that flight are installed in the aircraft and are operative, unless operation with inoperative equipment is permitted by the minimum equipment list (MEL) or equivalent document, as required in NCC.IDE.A.105 or NCC.IDE.H.105;

(iv) the mass of the aircraft and centre of gravity location are such that the flight can be conducted within the limits prescribed in the airworthiness documentation;

(v) all cabin baggage, hold luggage and cargo are properly loaded and secured;

(vi) the aircraft operating limitations as specified in the aircraft flight manual (AFM) will not be exceeded at any time during the flight;

(vii) each flight crew member holds a valid licence in accordance with Regulation (EU) No 1178/2011; and

(viii) flight crew members are properly rated and meet competency and recency requirements;

(5) not commencing a flight if any flight crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue or the effects of any psychoactive substance;

(6) not continuing a flight beyond the nearest weather-permissible aerodrome or operating site, when the capacity of any flight crew member to perform duties is significantly reduced from causes such as fatigue, sickness or lack of oxygen;

(7) deciding on acceptance of the aircraft with unserviceabilities in accordance with the configuration deviation list (CDL) or minimum equipment list (MEL), as applicable;

(8) recording utilisation data and all known or suspected defects in the aircraft at the termination of the flight, or series of flights, in the aircraft technical log or journey log for the aircraft; and

(9) ensuring that flight recorders:

(i) are not disabled or switched off during flight; and

(ii) in the event of an accident or an incident that is subject to mandatory reporting:

(A) are not intentionally erased;

(B) are deactivated immediately after the flight is completed; and

(C) are reactivated only with the agreement of the investigating authority.

(b)

The pilot-in-command shall have the authority to refuse carriage of or disembark any person, baggage or cargo that may represent a potential hazard to the safety of the aircraft or its occupants.

(c)

The pilot-in-command shall, as soon as possible, report to the appropriate air traffic services (ATS) unit any hazardous weather or flight conditions encountered that are likely to affect the safety of other aircraft.

(d)

Notwithstanding the provision of (a)(6), in a multi-crew operation the pilot-in-command may continue a flight beyond the nearest weather-permissible aerodrome when adequate mitigating procedures are in place.

(e)

The pilot-in-command shall, in an emergency situation that requires immediate decision and action, take any action he/she considers necessary under the circumstances in accordance with 7.d of Annex IV to Regulation (EC) No 216/2008. In such cases he/she may deviate from rules, operational procedures and methods in the interest of safety.

(f)

The pilot-in-command shall submit a report of an act of unlawful interference without delay to the competent authority and shall inform the designated local authority.

(g)

The pilot-in-command shall notify the nearest appropriate authority by the quickest available means of any accident involving the aircraft that results in serious injury or death of any person or substantial damage to the aircraft or property.

NCC.GEN.110Compliance with laws, regulations and procedures(a)

The pilot-in-command shall comply with the laws, regulations and procedures of those States where operations are conducted.

(b)

The pilot-in-command shall be familiar with the laws, regulations and procedures, pertinent to the performance of his/her duties, prescribed for the areas to be traversed, the aerodromes or operating sites to be used and the related air navigation facilities as referred to in 1.a of Annex IV to Regulation (EC) No 216/2008.

NCC.GEN.115Common language

The operator shall ensure that all crew members can communicate with each other in a common language.

NCC.GEN.120Taxiing of aeroplanes

The operator shall ensure that an aeroplane is only taxied on the movement area of an aerodrome if the person at the controls:

(a) is an appropriately qualified pilot; or

(b) has been designated by the operator and:

(1) is trained to taxi the aeroplane;

(2) is trained to use the radio telephone, if radio communications are required;

(3) has received instruction in respect of aerodrome layout, routes, signs, marking, lights, air traffic control (ATC) signals and instructions, phraseology and procedures; and

(4) is able to conform to the operational standards required for safe aeroplane movement at the aerodrome.

NCC.GEN.125Rotor engagement — helicopters

A helicopter rotor shall only be turned under power for the purpose of flight with a qualified pilot at the controls.

NCC.GEN.130Portable electronic devices

The operator shall not permit any person to use a portable electronic device (PED) on board an aircraft that could adversely affect the performance of the aircraft's systems and equipment.

NCC.GEN.135Information on emergency and survival equipment carried

The operator shall at all times have available for immediate communication to rescue coordination centres (RCCs) lists containing information on the emergency and survival equipment carried on board.

NCC.GEN.140Documents, manuals and information to be carried(a)The following documents, manuals and information shall be carried on each flight as originals or copies unless otherwise specified:

(1) the AFM, or equivalent document(s);

(2) the original certificate of registration;

(3) the original certificate of airworthiness (CofA);

(4) the noise certificate;

(5) the declaration as specified in Annex III (Part-ORO), ORO.DEC.100, to Regulation (EU) No 965/2012;

(6) the list of specific approvals, if applicable;

(7) the aircraft radio licence, if applicable;

(8) the third party liability insurance certificate(s);

(9) the journey log, or equivalent, for the aircraft;

(10) details of the filed ATS flight plan, if applicable;

(11) current and suitable aeronautical charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted;

(12) procedures and visual signals information for use by intercepting and intercepted aircraft;

(13) information concerning search and rescue services for the area of the intended flight;

(14) the current parts of the operations manual that are relevant to the duties of the crew members, which shall be easily accessible to the crew members;

(15) the MEL or CDL;

(16) appropriate notices to airmen (NOTAMs) and aeronautical information service (AIS) briefing documentation;

(17) appropriate meteorological information;

(18) cargo and/or passenger manifests, if applicable; and

(19) any other documentation that may be pertinent to the flight or is required by the States concerned with the flight.

(b)

In case of loss or theft of documents specified in (a)(2) to (a)(8), the operation may continue until the flight reaches its destination or a place where replacement documents can be provided.

NCC.GEN.145Preservation, production and use of flight recorder recordings(a)

Following an accident or an incident that is subject to mandatory reporting, the operator of an aircraft shall preserve the original recorded data for a period of 60 days unless otherwise directed by the investigating authority.

(b)

The operator shall conduct operational checks and evaluations of flight data recorder (FDR) recordings, cockpit voice recorder (CVR) recordings and data link recordings to ensure the continued serviceability of the recorders.

(c)

The operator shall save the recordings for the period of operating time of the FDR as required by NCC.IDE.A.165 or NCC.IDE.H.165, except that, for the purpose of testing and maintaining the FDR, up to 1 hour of the oldest recorded material at the time of testing may be erased.

(d)

The operator shall keep and maintain up-to-date documentation that presents the necessary information to convert FDR raw data into parameters expressed in engineering units.

(e)

The operator shall make available any flight recorder recording that has been preserved, if so determined by the competent authority.

(f)Without prejudice to Regulation (EU) No 996/2010:

(1) CVR recordings shall only be used for purposes other than for the investigation of an accident or an incident subject to mandatory reporting, if all crew members and maintenance personnel concerned consent; and

(2) FDR recordings or data link recordings shall only be used for purposes other than for the investigation of an accident or an incident that is subject to mandatory reporting, if such records are:

(i) used by the operator for airworthiness or maintenance purposes only;

(ii) de-identified; or

(iii) disclosed under secure procedures.

NCC.GEN.150Transport of dangerous goods(a)

The transport of dangerous goods by air shall be conducted in accordance with Annex 18 to the Chicago Convention as last amended and amplified by the *Technical Instructions for the Safe Transport of Dangerous Goods by Air* (ICAO Doc 9284-AN/905), including its supplements and any other addenda or corrigenda.

(b)Dangerous goods shall only be transported by the operator approved in accordance with Annex V (Part-SPA), Subpart G, to Regulation (EU) No 965/2012 except when:

(1) they are not subject to the Technical Instructions in accordance with Part 1 of those Instructions; or

(2) they are carried by passengers or crew members, or are in baggage, in accordance with Part 8 of the Technical Instructions.

(c)

The operator shall establish procedures to ensure that all reasonable measures are taken to prevent dangerous goods from being carried on board inadvertently.

(d)

The operator shall provide personnel with the necessary information enabling them to carry out their responsibilities, as required by the Technical Instructions.

(e)

The operator shall, in accordance with the Technical Instructions, report without delay to the competent authority and the appropriate authority of the State of occurrence in the event of any dangerous goods accidents or incidents.

(f)

The operator shall ensure that passengers are provided with information about dangerous goods in accordance with the Technical Instructions.

(g)

The operator shall ensure that notices giving information about the transport of dangerous goods are provided at acceptance points for cargo as required by the Technical Instructions.

SUBPART BOPERATIONAL PROCEDURESNCC.OP.100Use of aerodromes and operating sites

The operator shall only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned.

NCC.OP.105Specification of isolated aerodromes — aeroplanes

For the selection of alternate aerodromes and the fuel policy, the operator shall consider an aerodrome as an isolated aerodrome if the flying time to the nearest adequate destination alternate aerodrome is more than:

(a) for aeroplanes with reciprocating engines, 60 minutes; or

(b) for aeroplanes with turbine engines, 90 minutes.

NCC.OP.110Aerodrome operating minima — general(a)For instrument flight rules (IFR) flights the operator shall establish aerodrome operating minima for each departure, destination and alternate aerodrome to be used. Such minima shall:

(1) not be lower than those established by the State in which the aerodrome is located, except when specifically approved by that State; and

(2) when undertaking low visibility operations, be approved by the competent authority in accordance with Annex V (Part SPA), Subpart E to Regulation (EU) No 965/2012.

(b)When establishing aerodrome operating minima, the operator shall take the following into account:

(1) the type, performance and handling characteristics of the aircraft;

(2) the composition, competence and experience of the flight crew;

(3) the dimensions and characteristics of the runways and final approach and take-off areas (FATOs) that may be selected for use;

(4) the adequacy and performance of the available visual and non-visual ground aids;

(5) the equipment available on the aircraft for the purpose of navigation and/or control of the flight path, during the take-off, the approach, the flare, the landing, the rollout and the missed approach;

(6) the obstacles in the approach, the missed approach and the climb-out areas necessary for the execution of contingency procedures;

(7) the obstacle clearance altitude/height for the instrument approach procedures;

(8) the means to determine and report meteorological conditions; and

(9) the flight technique to be used during the final approach.

(c)The minima for a specific type of approach and landing procedure shall only be used if all the following conditions are met:

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

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

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

(4) the crew is qualified appropriately.

NCC.OP.111Aerodrome operating minima — NPA, APV, CAT I operations(a)The decision height (DH) to be used for a non-precision approach (NPA) flown with the continuous descent final approach (CDFA) technique, approach procedure with vertical guidance (APV) or category I (CAT I) operation shall not be lower than the highest of:

(1) the minimum height to which the approach aid can be used without the required visual reference;

(2) the obstacle clearance height (OCH) for the category of aircraft;

(3) the published approach procedure DH where applicable;

(4) the system minimum specified in Table 1; or

(5) the minimum DH specified in the AFM or equivalent document, if stated.

(b)The minimum descent height (MDH) for an NPA operation flown without the CDFA technique shall not be lower than the highest of:

(1) the OCH for the category of aircraft;

(2) the system minimum specified in Table 1; or

(3) the minimum MDH specified in the AFM, if stated.

*TABLE 1*

**System minima**

| Facility | Lowest DH/MDH (ft) |
|---|---|

| | |
|---|---|
| Instrument landing system (ILS) | 200 |
| Global navigation satellite system (GNSS)/Satellite-based augmentation system (SBAS) (Lateral precision with vertical guidance approach (LPV)) | 200 |
| GNSS (Lateral Navigation (LNAV)) | 250 |
| GNSS/Baro-vertical navigation (VNAV) (LNAV/VNAV) | 250 |
| Localiser (LOC) with or without distance measuring equipment (DME) | 250 |
| Surveillance radar approach (SRA) (terminating at ½ NM) | 250 |
| SRA (terminating at 1 NM) | 300 |
| SRA (terminating at 2 NM or more) | 350 |
| VHF omnidirectional radio range (VOR) | 300 |
| VOR/DME | 250 |
| Non-directional beacon (NDB) | 350 |
| NDB/DME | 300 |
| VHF direction finder (VDF) | 350 |

NCC.OP.112Aerodrome operating minima — circling operations with aeroplanes(a)The MDH for a circling operation with aeroplanes shall not be lower than the highest of:

(1) the published circling OCH for the aeroplane category;

(2) the minimum circling height derived from Table 1; or

(3) the DH/MDH of the preceding instrument approach procedure.

(b)The minimum visibility for a circling operation with aeroplanes shall be the highest of:

(1) the circling visibility for the aeroplane category, if published;

(2) the minimum visibility derived from Table 2; or

(3) the runway visual range/converted meteorological visibility (RVR/CMV) of the preceding instrument approach procedure.

*TABLE 1*

**MDH and minimum visibility for circling vs. aeroplane category**

| | **Aeroplane category** | | | |
|---|---|---|---|---|
| | **A** | **B** | **C** | **D** |

| | | | | |
|---|---|---|---|---|
| **MDH (ft)** | 400 | 500 | 600 | 700 |
| **Minimum meteorological visibility (m)** | 1 500 | 1 600 | 2 400 | 3 600 |

NCC.OP.113Aerodrome operating minima — onshore circling operations with helicopters

The MDH for an onshore circling operation with helicopters shall not be lower than 250 ft and the meteorological visibility not less than 800 m.
NCC.OP.115Departure and approach procedures(a)

The pilot-in-command shall use the departure and approach procedures established by the State of the aerodrome, if such procedures have been published for the runway or FATO to be used.
(b)Notwithstanding (a), the pilot-in-command shall only accept an ATC clearance to deviate from a published procedure:

(1) provided that obstacle clearance criteria are observed and full account is taken of the operating conditions; or

(2) when being radar-vectored by an ATC unit.
(c)

In any case, the final approach segment shall be flown visually or in accordance with the published approach procedures.
NCC.OP.120Noise abatement procedures

The operator shall develop operating procedures taking into account the need to minimise the effect of aircraft noise while ensuring that safety has priority over noise abatement.
NCC.OP.125Minimum obstacle clearance altitudes — IFR flights(a)

The operator shall specify a method to establish minimum flight altitudes that provide the required terrain clearance for all route segments to be flown in IFR.
(b)

The pilot-in-command shall establish minimum flight altitudes for each flight based on this method. The minimum flight altitudes shall not be lower than that published by the State overflown.
NCC.OP.130Fuel and oil supply — aeroplanes(a)The pilot-in-command shall only commence a flight if the aeroplane carries sufficient fuel and oil for the following:

(1) for visual flight rules (VFR) flights:

(i) by day, to fly to the aerodrome of intended landing and thereafter to fly for at least 30 minutes at normal cruising altitude; or

(ii) by night, to fly to the aerodrome of intended landing and thereafter to fly for at least 45 minutes at normal cruising altitude;

(2) for IFR flights:

(i) when no destination alternate is required, to fly to the aerodrome of intended landing, and thereafter to fly for at least 45 minutes at normal cruising altitude; or

(ii) when a destination alternate is required, to fly to the aerodrome of intended landing, to an alternate aerodrome and thereafter to fly for at least 45 minutes at normal cruising altitude.

(b)In computing the fuel required including to provide for contingency, the following shall be taken into consideration:

(1) forecast meteorological conditions;

(2) anticipated ATC routings and traffic delays;

(3) procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and

(4) any other condition that may delay the landing of the aeroplane or increase fuel and/or oil consumption.

(c)

Nothing shall preclude amendment of a flight plan in-flight, in order to re-plan the flight to another destination, provided that all requirements can be complied with from the point where the flight is re-planned.

NCC.OP.131Fuel and oil supply — helicopters(a)The pilot-in-command shall only commence a flight if the helicopter carries sufficient fuel and oil for the following:

(1) for VFR flights, to fly to the aerodrome/operating site of intended landing and thereafter to fly for at least 20 minutes at best-range-speed; and

(2) for IFR flights:

(i) when no alternate is required or no weather-permissible alternate aerodrome is available, to fly to the aerodrome/operating site of intended landing, and thereafter to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome/operating site under standard temperature conditions and approach and land; or

(ii) when an alternate is required, to fly to and execute an approach and a missed approach at the aerodrome/operating site of intended landing, and thereafter:

(A) to fly to the specified alternate; and

(B) to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the alternate aerodrome/operating site under standard temperature conditions and approach and land.

(b)In computing the fuel required including to provide for contingency, the following shall be taken into consideration:

(1) forecast meteorological conditions;

(2) anticipated ATC routings and traffic delays;

(3) procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and

(4) any other condition that may delay the landing of the aircraft or increase fuel and/or oil consumption.

(c)

Nothing shall preclude amendment of a flight plan in-flight, in order to re-plan the flight to another destination, provided that all requirements can be complied with from the point where the flight is re-planned.

NCC.OP.135Stowage of baggage and cargo

The operator shall establish procedures to ensure that:

(a) only hand baggage that can be adequately and securely stowed is taken into the passenger compartment; and

(b) all baggage and cargo on board that might cause injury or damage, or obstruct aisles and exits if displaced, is stowed so as to prevent movement.

NCC.OP.140Passenger briefing

The pilot-in-command shall ensure that:

(a) prior to take-off passengers have been made familiar with the location and use of the following:

(1) seat belts;

(2) emergency exits; and

(3) passenger emergency briefing cards;

and if applicable:

(4) life-jackets;

(5) oxygen dispensing equipment;

(6) life-rafts; and

(7) other emergency equipment provided for individual passenger use;

and

(b) in an emergency during flight, passengers are instructed in such emergency action as may be appropriate to the circumstances.

NCC.OP.145Flight preparation(a)

Before commencing a flight, the pilot-in-command shall ascertain by every reasonable means available that the ground and/or water facilities including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aircraft, are adequate for the type of operation under which the flight is to be conducted.

(b)Before commencing a flight, the pilot-in-command shall be familiar with all available meteorological information appropriate to the intended flight. Preparation for a flight away from the vicinity of the place of departure, and for every flight under IFR, shall include:

(1) a study of available current weather reports and forecasts; and

(2) the planning of an alternative course of action to provide for the eventuality that the flight cannot be completed as planned, because of weather conditions.

NCC.OP.150Take-off alternate aerodromes — aeroplanes(a)

For IFR flights, the pilot-in-command shall specify at least one weather-permissible take-off alternate aerodrome in the flight plan if the weather conditions at the aerodrome of departure are at or below the applicable aerodrome operating minima or it would not be possible to return to the aerodrome of departure for other reasons.
(b)The take-off alternate aerodrome shall be located within the following distance from the aerodrome of departure:

(1) for aeroplanes having two engines, not more than a distance equivalent to a flight time of 1 hour at the single-engine cruise speed in still air standard conditions; and

(2) for aeroplanes having three or more engines, not more than a distance equivalent to a flight time of 2 hours at the one-engine-inoperative (OEI) cruise speed according to the AFM in still air standard conditions.

(c)

For an aerodrome to be selected as a take-off alternate aerodrome the available information shall indicate that, at the estimated time of use, the conditions will be at or above the aerodrome operating minima for that operation.
NCC.OP.151Destination alternate aerodromes — aeroplanes

For IFR flights, the pilot-in-command shall specify at least one weather-permissible destination alternate aerodrome in the flight plan, unless:

(a) the available current meteorological information indicates that, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, the approach and landing may be made under visual meteorological conditions (VMC); or

(b) the place of intended landing is isolated and:

(1) an instrument approach procedure is prescribed for the aerodrome of intended landing; and

(2) available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival:

(i) a cloud base of at least 300 m (1 000 ft) above the minimum associated with the instrument approach procedure; and

(ii) visibility of at least 5,5 km or of 4 km more than the minimum associated with the procedure.

NCC.OP.152Destination alternate aerodromes — helicopters

For IFR flights, the pilot-in-command shall specify at least one weather-permissible destination alternate in the flight plan, unless:

(a) an instrument approach procedure is prescribed for the aerodrome of intended landing and the available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival, or from the actual time of departure to 2 hours after the estimated time of arrival, whichever is the shorter period:

(1) a cloud base of at least 120 m (400 ft) above the minimum associated with the instrument approach procedure; and

(2) visibility of at least 1 500 m more than the minimum associated with the procedure; or

(b) the place of intended landing is isolated and:

(1) an instrument approach procedure is prescribed for the aerodrome of intended landing;

(2) available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival:

(i) the cloud base is at least 120 m (400 ft) above the minimum associated with the instrument approach procedure;

(ii) visibility is at least 1 500 m more than the minimum associated with the procedure; and

(3) a point of no return (PNR) is determined in case of an offshore destination.

NCC.OP.155Refuelling with passengers embarking, on board or disembarking(a)

The aircraft shall not be refuelled with aviation gasoline (AVGAS) or wide-cut type fuel or a mixture of these types of fuel, when passengers are embarking, on board or disembarking.
(b)

For all other types of fuel, necessary precautions shall be taken and the aircraft shall be properly manned by qualified personnel ready to initiate and direct an evacuation of the aircraft by the most practical and expeditious means available.

NCC.OP.160Use of headset(a)Each flight crew member required to be on duty in the flight crew compartment shall wear a headset with boom microphone or equivalent. The headset shall be used as the primary device for voice communications with ATS:

(1) when on the ground:

(i) when receiving the ATC departure clearance via voice communication; and

(ii) when engines are running;

(2) when in flight:

(i) below transition altitude; or

(ii) 10 000 ft, whichever is higher;

and

(3) whenever deemed necessary by the pilot in command.
(b)

In the conditions of (a), the boom microphone or equivalent shall be in a position that permits its use for two-way radio communications.

NCC.OP.165Carriage of passengers

The operator shall establish procedures to ensure that:

(a) passengers are seated where, in the event that an emergency evacuation is required, they are able to assist and not hinder evacuation of the aircraft;

(b) prior to and during taxiing, take-off and landing, and whenever deemed necessary in the interest of safety by the pilot-in-command, each passenger on board occupies a seat or berth and has his/her safety belt or restraint device properly secured; and

(c) multiple occupancy is only allowed on specified aircraft seats occupied by one adult and one infant properly secured by a supplementary loop belt or other restraint device.

NCC.OP.170Securing of passenger compartment and galley(s)

The pilot-in-command shall ensure that:

(a) before taxiing, take-off and landing, all exits and escape paths are unobstructed; and

(b) before take-off and landing, and whenever deemed necessary in the interest of safety, all equipment and baggage are properly secured.

NCC.OP.175Smoking on board

The pilot-in-command shall not allow smoking on board:

(a) whenever considered necessary in the interest of safety;

(b) during refuelling of the aircraft;

(c) while the aircraft is on the surface unless the operator has determined procedures to mitigate the risks during ground operations;

(d) outside designated smoking areas, in the aisle(s) and lavatory(ies);

(e) in cargo compartments and/or other areas where cargo is carried that is not stored in flame-resistant containers or covered by flame-resistant canvas; and

(f) in those areas of the passenger compartments where oxygen is being supplied.

NCC.OP.180Meteorological conditions(a)

The pilot-in-command shall only commence or continue a VFR flight if the latest available meteorological information indicates that the weather conditions along the route and at the intended destination at the estimated time of use will be at or above the applicable VFR operating minima.

(b)

The pilot-in-command shall only commence or continue an IFR flight towards the planned destination aerodrome if the latest available meteorological information indicates that, at the estimated time of arrival, the weather conditions at the destination or at least one destination alternate aerodrome are at or above the applicable aerodrome operating minima.

(c)

If a flight contains VFR and IFR segments, the meteorological information referred to in (a) and (b) shall be applicable as far as relevant.

NCC.OP.185Ice and other contaminants — ground procedures(a)

The operator shall establish procedures to be followed when ground de-icing and anti-icing and related inspections of the aircraft are necessary to allow the safe operation of the aircraft.

(b)

The pilot-in-command shall only commence take-off if the aircraft is clear of any deposit that might adversely affect the performance or controllability of the aircraft, except as permitted under the procedures referred to in (a) and in accordance with the AFM.

NCC.OP.190Ice and other contaminants — flight procedures(a)

The operator shall establish procedures for flights in expected or actual icing conditions.

(b)

The pilot-in-command shall only commence a flight or intentionally fly into expected or actual icing conditions if the aircraft is certified and equipped to cope with such conditions as referred to in 2.a.5 of Annex IV to Regulation (EC) No 216/2008.

(c)

If icing exceeds the intensity of icing for which the aircraft is certified or if an aircraft not certified for flight in known icing conditions encounters icing, the pilot-in-command shall exit the icing conditions without delay, by a change of level and/or route, and if necessary by declaring an emergency to ATC.

NCC.OP.195Take-off conditions

Before commencing take-off, the pilot-in-command shall be satisfied that:

(a) according to the information available, the weather at the aerodrome or operating site and the condition of the runway or FATO intended to be used would not prevent a safe take-off and departure; and

(b) applicable aerodrome operating minima will be complied with.

NCC.OP.200Simulated situations in flight(a)The pilot-in-command shall, when carrying passengers or cargo, not simulate:

(1) situations that require the application of abnormal or emergency procedures; or

(2) flight in instrument meteorological conditions (IMC).

(b)

Notwithstanding (a), when training flights are conducted by an approved training organisation, such situations may be simulated with student pilots on-board.

NCC.OP.205In-flight fuel management(a)

The operator shall establish a procedure to ensure that in-flight fuel checks and fuel management are performed.

(b)

The pilot-in-command shall check at regular intervals that the amount of usable fuel remaining in flight is not less than the fuel required to proceed to a weather-permissible

aerodrome or operating site and the planned reserve fuel as required by NCC.OP.130 or NCC.OP.131.

NCC.OP.210Use of supplemental oxygen

The pilot-in-command shall ensure that he/she and flight crew members engaged in performing duties essential to the safe operation of an aircraft in flight use supplemental oxygen continuously whenever the cabin altitude exceeds 10 000 ft for a period of more than 30 minutes and whenever the cabin altitude exceeds 13 000 ft.

NCC.OP.215Ground proximity detection

When undue proximity to the ground is detected by a flight crew member or by a ground proximity warning system, the pilot flying shall take corrective action immediately in order to establish safe flight conditions.

NCC.OP.220Airborne collision avoidance system (ACAS)

The operator shall establish operational procedures and training programs when ACAS is installed and serviceable. When ACAS II is used, such procedures and training shall be in accordance with Regulation (EU) No 1332/2011.

NCC.OP.225Approach and landing conditions

Before commencing an approach to land, the pilot-in-command shall be satisfied that, according to the information available, the weather at the aerodrome or the operating site and the condition of the runway or FATO intended to be used would not prevent a safe approach, landing or missed approach.

NCC.OP.230Commencement and continuation of approach(a)

The pilot-in-command may commence an instrument approach regardless of the reported runway visual range/visibility (RVR/VIS).

(b)If the reported RVR/VIS is less than the applicable minimum the approach shall not be continued:

(1) below 1 000 ft above the aerodrome; or

(2) into the final approach segment in the case where the decision altitude/height (DA/H) or minimum descent altitude/height (MDA/H) is more than 1 000 ft above the aerodrome.

(c)

Where the RVR is not available, RVR values may be derived by converting the reported visibility.

(d)

If, after passing 1 000 ft above the aerodrome, the reported RVR/VIS falls below the applicable minimum, the approach may be continued to DA/H or MDA/H.

(e)

The approach may be continued below DA/H or MDA/H and the landing may be completed provided that the visual reference adequate for the type of approach operation and for the intended runway is established at the DA/H or MDA/H and is maintained.

(f)

The touchdown zone RVR shall always be controlling.

SUBPART CAIRCRAFT PERFORMANCE AND OPERATING LIMITATIONSNCC.POL.100Operating limitations — all aircraft(a)

During any phase of operation, the loading, the mass and the centre of gravity (CG) position of the aircraft shall comply with any limitation specified in the AFM, or the operations manual, if more restrictive.
(b)

Placards, listings, instrument markings, or combinations thereof, containing those operating limitations prescribed by the AFM for visual presentation, shall be displayed in the aircraft.
NCC.POL.105Mass and balance, loading(a)

The operator shall establish the mass and the CG of any aircraft by actual weighing prior to initial entry into service. The accumulated effects of modifications and repairs on the mass and balance shall be accounted for and properly documented. Aircraft shall be reweighed if the effect of modifications on the mass and balance is not accurately known.
(b)

The weighing shall be accomplished by the manufacturer of the aircraft or by an approved maintenance organisation.
(c)The operator shall determine the mass of all operating items and crew members included in the aircraft dry operating mass by actual weighing, including any crew baggage, or by using standard masses. The influence of their position on the aircraft's CG shall be determined. When using standard masses the following mass values for crew members shall be used to determine the dry operating mass:

(1) 85 kg, including hand baggage, for flight crew/technical crew members; and

(2) 75 kg for cabin crew members.
(d)The operator shall establish procedures to enable the pilot-in-command to determine the mass of the traffic load, including any ballast, by:

(1) actual weighing;

(2) determining the mass of the traffic load in accordance with standard passenger and baggage masses; or

(3) calculating passenger mass on the basis of a statement by, or on behalf of, each passenger and adding to it a predetermined mass to account for hand baggage and clothing, when the number of passenger seats available on the aircraft is:

(i) less than 10 for aeroplanes; or

(ii) less than six for helicopters.
(e)When using standard masses the following mass values shall be used:

(1) for passengers, those in Tables 1 and 2, where hand baggage and the mass of any infant carried by an adult on one passenger seat are included:

*TABLE 1*

**Standard masses for passengers — aircraft with a total number of passenger seats of 20 or more**

| **Passenger seats** | **20 and more** | | **30 and more** |
|---|---|---|---|
| | **Male** | **Female** | **All adult** |

| | | | |
|---|---|---|---|
| Adults | 88 kg | 70 kg | 84 kg |
| Children | 35 kg | 35 kg | 35 kg |

*TABLE 2*

**Standard masses for passengers — aircraft with a total number of passenger seats of 19 or less**

| **Passenger seats** | **1 – 5** | **6 – 9** | **10 – 19** |
|---|---|---|---|
| Male | 104 kg | 96 kg | 92 kg |
| Female | 86 kg | 78 kg | 74 kg |
| Children | 35 kg | 35 kg | 35 kg |

(2) for baggage:

(i) for aeroplanes, when the total number of passenger seats available on the aeroplane is 20 or more, standard mass values for checked baggage in Table 3;

*TABLE 3*

**Standard masses for baggage — aeroplanes with a total number of passenger seats of 20 or more**

| **Type of flight** | **Baggage standard mass** |
|---|---|
| Domestic | 11 kg |
| Within the European region | 13 kg |
| Intercontinental | 15 kg |
| All other | 13 kg |

(ii) for helicopters, when the total number of passenger seats available on the helicopters is 20 or more, the standard mass value for checked baggage of 13 kg.

(f)For aircraft with 19 passenger seats or less, the actual mass of checked baggage shall be determined:

(1) by weighing; or

(2) by calculation on the basis of a statement by, or on behalf of, each passenger. Where this is impractical, a minimum standard mass of 13 kg shall be used.

(g)

The operator shall establish procedures to enable the pilot-in-command to determine the mass of the fuel load by using the actual density or, if not known, the density calculated in accordance with a method specified in the operations manual.

(h)The pilot-in-command shall ensure that the loading of:

(1) the aircraft is performed under the supervision of qualified personnel; and

(2) traffic load is consistent with the data used for the calculation of the aircraft mass and balance.

(i)

The operator shall establish procedures to enable the pilot-in-command to comply with additional structural limits such as the floor strength limitations, the maximum load per running metre, the maximum mass per cargo compartment and the maximum seating limit.
(j)

The operator shall specify, in the operations manual, the principles and methods involved in the loading and in the mass and balance system that meet the requirements contained in (a) to (i). This system shall cover all types of intended operations.
NCC.POL.110Mass and balance data and documentation(a)The operator shall establish mass and balance data and produce mass and balance documentation prior to each flight specifying the load and its distribution in such a way that the mass and balance limits of the aircraft are not exceeded. The mass and balance documentation shall contain the following information:

(1) aircraft registration and type;

(2) flight identification, number and date, as applicable;

(3) name of the pilot-in-command;

(4) name of the person who prepared the document;

(5) dry operating mass and the corresponding CG of the aircraft;

(6) mass of the fuel at take-off and the mass of trip fuel;

(7) mass of consumables other than fuel, if applicable;

(8) load components including passengers, baggage, freight and ballast;

(9) take-off mass, landing mass and zero fuel mass;

(10) applicable aircraft CG positions; and

(11) the limiting mass and CG values.
(b)

Where mass and balance data and documentation are generated by a computerised mass and balance system, the operator shall verify the integrity of the output data.
(c)

When the loading of the aircraft is not supervised by the pilot-in-command, the person supervising the loading of the aircraft shall confirm by hand signature or equivalent that the load and its distribution are in accordance with the mass and balance documentation established by the pilot-in-command. The pilot-in-command shall indicate his/her acceptance by hand signature or equivalent.
(d)The operator shall specify procedures for last minute changes to the load to ensure that:

(1) any last minute change after the completion of the mass and balance documentation is entered in the flight planning documents containing the mass and balance documentation;

(2) the maximum last minute change allowed in passenger numbers or hold load is specified; and

(3) new mass and balance documentation is prepared if this maximum number is exceeded.

NCC.POL.111Mass and balance data and documentation — alleviations

Notwithstanding NCC.POL.110 (a)(5), the CG position may not need to be on the mass and balance documentation, if the load distribution is in accordance with a pre-calculated balance table or if it can be shown that for the planned operations a correct balance can be ensured, whatever the real load is.

NCC.POL.115Performance — general

The pilot-in-command shall only operate the aircraft if the performance is adequate to comply with the applicable rules of the air and any other restrictions applicable to the flight, the airspace or the aerodromes or operating sites used, taking into account the charting accuracy of any charts and maps used.

NCC.POL.120Take-off mass limitations — aeroplanes

The operator shall ensure that:

(a) the mass of the aeroplane at the start of take-off shall not exceed the mass limitations:

(1) at take-off as required in NCC.POL.125;

(2) en-route with one engine inoperative (OEI) as required in NCC.POL.130; and

(3) at landing as required in NCC.POL.135;

allowing for expected reductions in mass as the flight proceeds and for fuel jettisoning;

(b) the mass at the start of take-off shall never exceed the maximum take-off mass specified in the AFM for the pressure altitude appropriate to the elevation of the aerodrome or operating site, and if used as a parameter to determine the maximum take-off mass, any other local atmospheric condition; and

(c) the estimated mass for the expected time of landing at the aerodrome or operating site of intended landing and at any destination alternate aerodrome shall never exceed the maximum landing mass specified in the AFM for the pressure altitude appropriate to the elevation of those aerodromes or operating sites, and if used as a parameter to determine the maximum landing mass, any other local atmospheric condition.

NCC.POL.125Take-off — aeroplanes(a)When determining the maximum take-off mass, the pilot-in-command shall take the following into account:

(1) the calculated take-off distance shall not exceed the take-off distance available with a clearway distance not exceeding half of the take-off run available;

(2) the calculated take-off run shall not exceed the take-off run available;

(3) a single value of $V_1$ shall be used for the rejected and continued take-off, where a $V_1$ is specified in the AFM; and

(4) on a wet or contaminated runway, the take-off mass shall not exceed that permitted for a take-off on a dry runway under the same conditions.

(b)In the event of an engine failure during take-off, the pilot-in-command shall ensure that:

(1) for the aeroplane where a $V_1$ is specified in the AFM, the aeroplane shall be able to discontinue the take-off and stop within the accelerate-stop distance available; and

(2) for the aeroplane where a net take-off flight path is specified in the AFM, the aeroplane shall be able to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to comply with NCC.POL.130.

NCC.POL.130En-route — one engine inoperative — aeroplanes

The pilot-in-command shall ensure that in the event of an engine becoming inoperative at any point along the route, a multi-engined aeroplane shall be able to continue the flight to an adequate aerodrome or operating site without flying below the minimum obstacle clearance altitude at any point.

NCC.POL.135Landing — aeroplanes

The pilot-in-command shall ensure that at any aerodrome or operating site, after clearing all obstacles in the approach path by a safe margin, the aeroplane shall be able to land and stop, or a seaplane to come to a satisfactorily low speed, within the landing distance available. Allowance shall be made for expected variations in the approach and landing techniques, if such allowance has not been made in the scheduling of performance data.

SUBPART DINSTRUMENTS, DATA AND EQUIPMENTSECTION 1AeroplanesNCC.IDE.A.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to control the flight path;

(2) used to comply with NCC.IDE.A.245;

(3) used to comply with NCC.IDE.A.250; or

(4) installed in the aeroplane.

(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) spare fuses;

(2) independent portable lights;

(3) an accurate time piece;

(4) chart holder;

(5) first-aid kits;

(6) survival and signalling equipment;

(7) sea anchor and equipment for mooring; and

(8) child restraint device.

(c)Instruments and equipment not required by this Subpart as well as any other equipment which is not required by other applicable Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments, equipment or accessories shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008 or NCC.IDE.A.245 and NCC.IDE.A.250; and

(2) the instruments and equipment shall not affect the airworthiness of the aeroplane, even in the case of failures or malfunction.

(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is seated.

(e)

Those instruments that are used by a flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his/her station, with the minimum practicable deviation from the position and line of vision which he/she normally assumes when looking forward along the flight path.

(f)

All required emergency equipment shall be easily accessible for immediate use.

NCC.IDE.A.105Minimum equipment for flight

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

(a) the aeroplane is operated in accordance with the operator's minimum equipment list (MEL);

(b) the operator is approved by the competent authority to operate the aeroplane within the constraints of the master minimum equipment list (MMEL); or

(c) the aeroplane is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCC.IDE.A.110Spare electrical fuses

Aeroplanes shall be equipped with spare electrical fuses, of the ratings required for complete circuit protection, for replacement of those fuses that are allowed to be replaced in flight.

NCC.IDE.A.115Operating lights

Aeroplanes operated at night shall be equipped with:

(a) an anti-collision light system;

(b) navigation/position lights;

(c) a landing light;

(d) lighting supplied from the aeroplane's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the aeroplane;

(e) lighting supplied from the aeroplane's electrical system to provide illumination in all passenger compartments;

(f) an independent portable light for each crew member station; and

(g) lights to conform with the International Regulations for Preventing Collisions at Sea if the aeroplane is operated as a seaplane.

NCC.IDE.A.120Operations under VFR — flight and navigational instruments and associated equipment(a)Aeroplanes operated under VFR by day shall be equipped with a means of measuring and displaying the following:

(1) magnetic-heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed;

(5) slip; and

(6) Mach number whenever speed limitations are expressed in terms of Mach number.

(b)Aeroplanes operated under visual meteorological conditions (VMC) over water and out of sight of the land, or under VMC at night, or in conditions where the aeroplane cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a), equipped with:

(1) a means of measuring and displaying the following:

(i) turn and slip;

(ii) attitude;

(iii) vertical speed; and

(iv) stabilised heading;

(2) a means of indicating when the supply of power to the gyroscopic instruments is not adequate; and

(3) a means of preventing malfunction of the airspeed indicating system required in (a)(4) due to condensation or icing.

(c)Whenever two pilots are required for the operation, aeroplanes shall be equipped with an additional separate means of displaying the following:

(1) pressure altitude;

(2) indicated airspeed;

(3) slip, or turn and slip, as applicable;

(4) attitude, if applicable;

(5) vertical speed, if applicable;

(6) stabilised heading, if applicable; and

(7) Mach number whenever speed limitations are expressed in terms of Mach number, if applicable.

NCC.IDE.A.125Operations under IFR — flight and navigational instruments and associated equipment

Aeroplanes operated under IFR shall be equipped with:

(a) a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed;

(5) vertical speed;

(6) turn and slip;

(7) attitude;

(8) stabilised heading;

(9) outside air temperature; and

(10) Mach number whenever speed limitations are expressed in terms of Mach number;

(b) a means of indicating when the supply of power to the gyroscopic instruments is not adequate;

(c) whenever two pilots are required for the operation, an additional separate means of displaying for the second pilot:

(1) pressure altitude;

(2) indicated airspeed;

(3) vertical speed;

(4) turn and slip;

(5) attitude;

(6) stabilised heading; and

(7) Mach number whenever speed limitations are expressed in terms of Mach number, if applicable;

(d) a means of preventing malfunction of the airspeed indicating systems required in (a)(4) and (c)(2) due to condensation or icing;

(e) an alternate source of static pressure;

(f) a chart holder in an easily readable position that can be illuminated for night operations;

(g) a second independent means of measuring and displaying altitude; and

(h) an emergency power supply, independent of the main electrical generating system, for the purpose of operating and illuminating an attitude indicating system for a minimum period of 30 minutes. The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indication shall be given on the instrument that the attitude indicator is being operated by emergency power.

NCC.IDE.A.130Additional equipment for single-pilot operations under IFR

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

NCC.IDE.A.135Terrain awareness warning system (TAWS)

Turbine-powered aeroplanes with a maximum certified take-off mass (MCTOM) of more than 5 700 kg or a maximum operational passenger seating configuration (MOPSC) of more than nine shall be equipped with a TAWS that meets the requirements for:

(a) class A equipment, as specified in an acceptable standard, in the case of aeroplanes for which the individual certificate of airworthiness (CofA) was first issued after 1 January 2011; or

(b) class B equipment, as specified in an acceptable standard, in the case of aeroplanes for which the individual CofA was first issued on or before 1 January 2011.

NCC.IDE.A.140Airborne collision avoidance system (ACAS)

Unless otherwise provided for by Regulation (EU) No 1332/2011, turbine-powered aeroplanes with an MCTOM of more than 5 700 kg or an MOPSC of more than 19 shall be equipped with ACAS II.

NCC.IDE.A.145Airborne weather detecting equipment

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

(a) pressurised aeroplanes;

(b) non-pressurised aeroplanes with an MCTOM of more than 5 700 kg; and

(c) non-pressurised aeroplanes with an MOPSC of more than nine.

NCC.IDE.A.150Additional equipment for operations in icing conditions at night

(a) Aeroplanes operated in expected or actual icing conditions at night shall be equipped with a means to illuminate or detect the formation of ice.

(b) The means to illuminate the formation of ice shall not cause glare or reflection that would handicap flight crew members in the performance of their duties.

NCC.IDE.A.155Flight crew interphone system

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

NCC.IDE.A.160Cockpit voice recorder(a)The following aeroplanes shall be equipped with a CVR:

(1) aeroplanes with an MCTOM of more than 27 000 kg and first issued with an individual CofA on or after 1 January 2016; and

(2) aeroplanes with an MCTOM of more than 2 250 kg:

(i) certified for operation with a minimum crew of at least two pilots;

(ii) equipped with turbojet engine(s) or more than one turboprop engine; and

(iii) for which a type certificate is first issued on or after 1 January 2016.

(b)

The CVR shall be capable of retaining data recorded during at least the preceding 2 hours.

(c)The CVR shall record with reference to a timescale:

(1) voice communications transmitted from or received in the flight crew compartment by radio;

(2) flight crew members' voice communications using the interphone system and the public address system, if installed;

(3) the aural environment of the flight crew compartment, including, without interruption, the audio signals received from each boom and mask microphone in use; and

(4) voice or audio signals identifying navigation or approach aids introduced into a headset or speaker.

(d)

The CVR shall start automatically to record prior to the aeroplane moving under its own power and shall continue to record until the termination of the flight when the aeroplane is no longer capable of moving under its own power.

(e)

In addition to (d), depending on the availability of electrical power, the CVR 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.

(f)

The CVR shall have a device to assist in locating it in water.

NCC.IDE.A.165Flight data recorder(a)

Aeroplanes with an MCTOM of more than 5 700 kg and first issued with an individual CofA on or after 1 January 2016 shall be equipped with an FDR that uses a digital method of recording and storing data and for which a method of readily retrieving that data from the storage medium is available.

(b)

The FDR shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power, configuration and operation and be capable of retaining data recorded during at least the preceding 25 hours.

(c)

Data shall be obtained from aeroplane sources that enable accurate correlation with information displayed to the flight crew.

(d)

The FDR shall start automatically to record the data prior to the aeroplane being capable of moving under its own power and shall stop automatically after the aeroplane is incapable of moving under its own power.

(e)

The FDR shall have a device to assist in locating it in water.

NCC.IDE.A.170Data link recording(a)Aeroplanes first issued with an individual CofA on or after 1 January 2016 that have the capability to operate data link communications and are required to be equipped with a CVR shall record on a recorder, where applicable:

(1) data link communication messages related to ATS communications to and from the aeroplane, including messages applying to the following applications:

(i) data link initiation;

(ii) controller–pilot communication;

(iii) addressed surveillance;

(iv) flight information;

(v) as far as is practicable, given the architecture of the system, aircraft broadcast surveillance;

(vi) as far as is practicable, given the architecture of the system, aircraft operational control data; and

(vii) as far as is practicable, given the architecture of the system, graphics;

(2) information that enables correlation to any associated records related to data link communications and stored separately from the aeroplane; and

(3) information on the time and priority of data link communications messages, taking into account the system's architecture.

(b)

The recorder shall use a digital method of recording and storing data and information and a method for readily retrieving that data. The recording method shall allow the data to match the data recorded on the ground.

(c)

The recorder shall be capable of retaining data recorded for at least the same duration as set out for CVRs in NCC.IDE.A.160.

(d)

The recorder shall have a device to assist in locating it in water.

(e)

The requirements applicable to the start and stop logic of the recorder are the same as the requirements applicable to the start and stop logic of the CVR contained in NCC.IDE.A.160(d) and (e).

NCC.IDE.A.175Flight data and cockpit voice combination recorder

Compliance with CVR requirements and FDR requirements may be achieved by:

(a) one flight data and cockpit voice combination recorder if the aeroplane has to be equipped with a CVR or an FDR; or

(b) two flight data and cockpit voice combination recorders if the aeroplane has to be equipped with a CVR and an FDR.

NCC.IDE.A.180Seats, seat safety belts, restraint systems and child restraint devices(a)Aeroplanes shall be equipped with:

(1) a seat or berth for each person on board who is aged 24 months or more;

(2) a seat belt on each passenger seat and restraining belts for each berth;

(3) a child restraint device (CRD) for each person on board younger than 24 months;

(4) a seat belt with upper torso restraint system incorporating a device that will automatically restrain the occupant's torso in the event of rapid deceleration:

(i) on each flight crew seat and on any seat alongside a pilot's seat; and

(ii) on each observer's seat located in the flight crew compartment;

and

(5) a seat belt with upper torso restraint system on the seats for the minimum required cabin crew, in the case of aeroplanes first issued with an individual CofA after 31 December 1980.

(b)A seat belt with upper torso restraint system shall:

(1) have a single point release; and

(2) on flight crew seats, on any seat alongside a pilot's seat and on the seats for the minimum required cabin crew, include two shoulder straps and a seat belt that may be used independently.

NCC.IDE.A.185Fasten seat belt and no smoking signs

Aeroplanes in which not all passenger seats are visible from the flight crew seat(s) shall be equipped with a means of indicating to all passengers and cabin crew when seat belts shall be fastened and when smoking is not allowed.

NCC.IDE.A.190First-aid kit(a)Aeroplanes shall be equipped with first-aid kits in accordance with Table 1.

*TABLE 1*

**Number of first-aid kits required**

| Number of passenger seats installed | Number of first-aid kits required |
|---|---|
| 0 – 100 | 1 |
| 101 – 200 | 2 |
| 201 – 300 | 3 |
| 301 – 400 | 4 |
| 401 – 500 | 5 |
| 501 or more | 6 |

(b)First-aid kits shall be:

(1) readily accessible for use; and

(2) kept up-to-date.

NCC.IDE.A.195Supplemental oxygen — pressurised aeroplanes(a)

Pressurised aeroplanes operated at flight altitudes for which the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

(b)Pressurised aeroplanes operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and:

(i) 100 % of the passengers for any period when the cabin pressure altitude exceeds 15 000 ft, but in no case less than 10 minutes' supply;

(ii) at least 30 % of the passengers, for any period when, in the event of loss of pressurisation and taking into account the circumstances of the flight, the pressure altitude in the passenger compartment will be between 14 000 ft and 15 000 ft; and

(iii) at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 14 000 ft;

(2) all the occupants of the passenger compartment for no less than 10 minutes, in the case of aeroplanes operated at pressure altitudes above 25 000 ft, or operated below that altitude, but under conditions that will not allow them to descend safely to a pressure altitude of 13 000 ft within 4 minutes.

(c)Pressurised aeroplanes operated at flight altitudes above 25 000 ft shall, in addition, be equipped with:

(1) a device to provide a warning indication to the flight crew of any loss of pressurisation; and

(2) quick donning masks for flight crew members.

NCC.IDE.A.200Supplemental oxygen — non-pressurised aeroplanes(a)

Non-pressurised aeroplanes operated at flight altitudes when the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

(b)Non-pressurised aeroplanes operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 13 000 ft; and

(2) all crew members and passengers for any period that the pressure altitude in the passenger compartments will be above 13 000 ft.

NCC.IDE.A.205Hand fire extinguishers(a)Aeroplanes shall be equipped with at least one hand fire extinguisher:

(1) in the flight crew compartment; and

(2) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.

(b)

The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the compartment where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration in compartments occupied by persons.

NCC.IDE.A.206Crash axe and crowbar(a)

Aeroplanes with an MCTOM of more than 5 700 kg or with an MOPSC of more than nine shall be equipped with at least one crash axe or crowbar located in the flight crew compartment.

(b)

In the case of aeroplanes with an MOPSC of more than 200, an additional crash axe or crowbar shall be installed in or near the rearmost galley area.

(c)

Crash axes and crowbars located in the passenger compartment shall not be visible to passengers.

NCC.IDE.A.210Marking of break-in points

If areas of the aeroplane's fuselage suitable for break-in by rescue crews in an emergency are marked, such areas shall be marked as shown in Figure 1.

Figure 1Marking of break-in pointsNCC.IDE.A.215Emergency locator transmitter (ELT)(a)Aeroplanes shall be equipped with:

(1) an ELT of any type when first issued with an individual CofA on or before 1 July 2008;

(2) an automatic ELT when first issued with an individual CofA after 1 July 2008.

(b)

ELTs of any type shall be capable of transmitting simultaneously on 121,5 MHz and 406 MHz.

NCC.IDE.A.220Flight over water(a)The following aeroplanes shall be equipped with a life-jacket for each person on board or equivalent individual floatation device for each person on board younger than 24 months, stowed in a position that is readily accessible from the seat or berth of the person for whose use it is provided:

(1) landplanes operated over water at a distance of more than 50 NM from land or taking off or landing at an aerodrome or operating site where, in the opinion of the pilot-in-command, the take-off or approach path is so disposed over water that there would be a likelihood of a ditching; and

(2) seaplanes operated over water.

(b)

Each life-jacket or equivalent individual flotation device shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

(c)Seaplanes operated over water shall be equipped with:

(1) a sea anchor and other equipment necessary to facilitate mooring, anchoring or manoeuvring the aeroplane on water, appropriate to its size, weight and handling characteristics; and

(2) equipment for making the sound signals as prescribed in the International Regulations for Preventing Collisions at Sea, where applicable.

(d)The pilot-in-command of an aeroplane operated at a distance away from land where an emergency landing is possible greater than that corresponding to 30 minutes at normal cruising speed or 50 NM, whichever is the lesser, shall determine the risks to survival of the occupants of the aeroplane in the event of a ditching, based on which he/she shall determine the carriage of:

(1) equipment for making the distress signals;

(2) life-rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency; and

(3) life-saving equipment to provide the means of sustaining life, as appropriate to the flight to be undertaken.

NCC.IDE.A.230Survival equipment(a)Aeroplanes operated over areas in which search and rescue would be especially difficult shall be equipped with:

(1) signalling equipment to make the distress signals;

(2) at least one survival ELT(S); and

(3) additional survival equipment for the route to be flown taking account of the number of persons on board.

(b)The additional survival equipment specified in (a)(3) does not need to be carried when the aeroplane:

(1) remains within a distance from an area where search and rescue is not especially difficult corresponding to:

(i) 120 minutes at one-engine-inoperative (OEI) cruising speed for aeroplanes capable of continuing the flight to an aerodrome with the critical engine(s) becoming inoperative at any point along the route or planned diversion routes; or

(ii) 30 minutes at cruising speed for all other aeroplanes;

or

(2) remains within a distance no greater than that corresponding to 90 minutes at cruising speed from an area suitable for making an emergency landing, for aeroplanes certified in accordance with the applicable airworthiness standard.

NCC.IDE.A.240Headset(a)

Aeroplanes shall be equipped with a headset with a boom microphone or equivalent for each flight crew member at their assigned station in the flight crew compartment.

(b)

Aeroplanes operated under IFR or at night shall be equipped with a transmit button on the manual pitch and roll control for each required flight crew member.

NCC.IDE.A.245Radio communication equipment(a)Aeroplanes operated under IFR or at night, or when required by the applicable airspace requirements, shall be equipped

with radio communication equipment that, under normal radio propagating conditions, shall be capable of:

(1) conducting two-way communication for aerodrome control purposes;

(2) receiving meteorological information at any time during flight;

(3) conducting two-way communication at any time during flight with those aeronautical stations and on those frequencies prescribed by the appropriate authority; and

(4) providing for communication on the aeronautical emergency frequency 121,5 MHz.

(b)

When more than one communication 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.

NCC.IDE.A.250Navigation equipment(a)Aeroplanes shall be equipped with navigation equipment that will enable them to proceed in accordance with:

(1) the ATS flight plan, if applicable; and

(2) the applicable airspace requirements.

(b)

Aeroplanes shall have sufficient 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 shall allow safe navigation in accordance with (a), or an appropriate contingency action, to be completed safely.

(c)

Aeroplanes operated on flights in which it is intended to land in IMC shall be equipped with suitable equipment capable of providing guidance to a point from which a visual landing can be performed. This equipment shall be capable of providing such guidance for each aerodrome at which it is intended to land in IMC and for any designated alternate aerodromes.

NCC.IDE.A.255Transponder

Aeroplanes shall be equipped with a pressure altitude reporting secondary surveillance radar (SSR) transponder and any other SSR transponder capability required for the route being flown.

NCC.IDE.A.260Electronic navigation data management(a)

The operator shall only use electronic navigation data products that support a navigation application meeting standards of integrity that are adequate for the intended use of the data.

(b)

When the electronic navigation data products support a navigation application needed for an operation for which Annex V (Part-SPA) to Regulation (EU) No 965/2012 requires an approval, the operator shall demonstrate to the competent authority that the process applied and the delivered products meet standards of integrity that are adequate for the intended use of the data.

(c)

The operator shall continuously monitor both the process and the products, either directly or by monitoring the compliance of third party providers.
(d)

The operator shall ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aeroplanes that require it.
SECTION 2HelicoptersNCC.IDE.H.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to control the flight path;

(2) used to comply with NCC.IDE.H.245;

(3) used to comply with NCC.IDE.H.250; or

(4) installed in the helicopter.
(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) independent portable light;

(2) an accurate time piece;

(3) chart holder;

(4) first-aid kit;

(5) survival and signalling equipment;

(6) sea anchor and equipment for mooring; and

(7) child restraint device.
(c)Instruments and equipment not required by this Subpart as well as any other equipment which is not required by other applicable Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments, equipment or accessories shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008 or NCC.IDE.H.245 and NCC.IDE.H.250; and

(2) the instruments and equipment shall not affect the airworthiness of the helicopter, even in the case of failures or malfunction.
(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is seated.
(e)

Those instruments that are used by a flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his/her station, with the minimum practicable deviation from the position and line of vision which he/she normally assumes when looking forward along the flight path.
(f)

All required emergency equipment shall be easily accessible for immediate use.
NCC.IDE.H.105Minimum equipment for flight

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

(a) the helicopter is operated in accordance with the operator's minimum equipment list (MEL);

(b) the operator is approved by the competent authority to operate the helicopter within the constraints of the master minimum equipment list (MMEL); or

(c) the helicopter is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCC.IDE.H.115Operating lights

Helicopters operated at night shall be equipped with:

(a) an anti-collision light system;

(b) navigation/position lights;

(c) a landing light;

(d) lighting supplied from the helicopter's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the helicopter;

(e) lighting supplied from the helicopter's electrical system to provide illumination in all passenger compartments;

(f) an independent portable light for each crew member station; and

(g) lights to conform with the International Regulations for Preventing Collisions at Sea if the helicopter is amphibious.

NCC.IDE.H.120Operations under VFR — flight and navigational instruments and associated equipment(a)Helicopters operated under VFR by day shall be equipped with a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed; and

(5) slip.

(b)Helicopters operated under VMC over water and out of sight of the land, or under VMC at night, or when the visibility is less than 1 500 m, or in conditions where the helicopter cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be equipped, in addition to (a), with:

(1) a means of measuring and displaying the following:

(i) attitude;

(ii) vertical speed; and

(iii) stabilised heading;

(2) a means of indicating when the supply of power to the gyroscopic instruments is not adequate; and

(3) a means of preventing malfunction of the airspeed indicating system required in (a)(4) due to condensation or icing.

(c)Whenever two pilots are required for the operation, helicopters shall be equipped with an additional separate means of displaying the following:

(1) pressure altitude;

(2) indicated airspeed;

(3) slip;

(4) attitude, if applicable;

(5) vertical speed, if applicable; and

(6) stabilised heading, if applicable.

NCC.IDE.H.125Operations under IFR — flight and navigational instruments and associated equipment

Helicopters operated under IFR shall be equipped with:

(a) a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed;

(5) vertical speed;

(6) slip;

(7) attitude;

(8) stabilised heading; and

(9) outside air temperature;

(b) a means of indicating when the supply of power to the gyroscopic instruments is not adequate;

(c) whenever two pilots are required for the operation, an additional separate means of displaying the following:

(1) pressure altitude;

(2) indicated airspeed;

(3) vertical speed;

(4) slip;

(5) attitude; and

(6) stabilised heading;

(d) a means of preventing malfunction of the airspeed indicating systems required in (a)(4) and (c)(2) due to condensation or icing;

(e) an alternate source of static pressure;

(f) a chart holder in an easily readable position that can be illuminated for night operations; and

(g) an additional means of measuring and displaying attitude as a standby instrument.

NCC.IDE.H.130Additional equipment for single-pilot operations under IFR

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

NCC.IDE.H.145Airborne weather detecting equipment

Helicopters with an MOPSC of more than nine and operated under IFR or at night shall be equipped with airborne weather detecting equipment when current weather reports indicate that thunderstorms or other potentially hazardous weather conditions, regarded as detectable with airborne weather detecting equipment, may be expected to exist along the route to be flown.

NCC.IDE.H.150Additional equipment for operations in icing conditions at night(a)

Helicopters operated in expected or actual icing conditions at night shall be equipped with a means to illuminate or detect the formation of ice.

(b)

The means to illuminate the formation of ice shall not cause glare or reflection that would handicap flight crew members in the performance of their duties.

NCC.IDE.H.155Flight crew interphone system

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

NCC.IDE.H.160Cockpit voice recorder(a)

Helicopters with an MCTOM of more than 7 000 kg and first issued with an individual CofA on or after 1 January 2016 shall be equipped with a CVR.

(b)

The CVR shall be capable of retaining data recorded during at least the preceding 2 hours.

(c)The CVR shall record with reference to a timescale:

(1) voice communications transmitted from or received in the flight crew compartment by radio;

(2) flight crew members' voice communications using the interphone system and the public address system, if installed;

(3) the aural environment of the cockpit, including, without interruption, the audio signals received from each crew microphone; and

(4) voice or audio signals identifying navigation or approach aids introduced into a headset or speaker.

(d)

The CVR shall start automatically to record prior to the helicopter moving under its own power and shall continue to record until the termination of the flight when the helicopter is no longer capable of moving under its own power.
(e)

In addition to (d), depending on the availability of electrical power, the CVR 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.
(f)

The CVR shall have a device to assist in locating it in water.
NCC.IDE.H.165Flight data recorder(a)

Helicopters with an MCTOM of more than 3 175 kg and first issued with an individual CofA on or after 1 January 2016 shall be equipped with an FDR that uses a digital method of recording and storing data and for which a method of readily retrieving that data from the storage medium is available.
(b)

The FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power, configuration and operation and be capable of retaining data recorded during at least the preceding 10 hours.
(c)

Data shall be obtained from helicopter sources that enable accurate correlation with information displayed to the flight crew.
(d)

The FDR shall start automatically to record the data prior to the helicopter being capable of moving under its own power and shall stop automatically after the helicopter is incapable of moving under its own power.
(e)

The FDR shall have a device to assist in locating it in water.
NCC.IDE.H.170Data link recording(a)Helicopters first issued with an individual CofA on or after 1 January 2016 that have the capability to operate data link communications and are required to be equipped with a CVR shall record on a recorder, where applicable:

(1) data link communication messages related to ATS communications to and from the helicopter, including messages applying to the following applications:

(i) data link initiation;

(ii) controller–pilot communication;

(iii) addressed surveillance;

(iv) flight information;

(v) as far as is practicable, given the architecture of the system, aircraft broadcast surveillance;

(vi) as far as is practicable, given the architecture of the system, aircraft operational control data; and

(vii) as far as is practicable, given the architecture of the system, graphics;

(2) information that enables correlation to any associated records related to data link communications and stored separately from the helicopter; and

(3) information on the time and priority of data link communications messages, taking into account the system's architecture.

(b)

The recorder shall use a digital method of recording and storing data and information and a method for readily retrieving that data. The recording method shall allow the data to match the data recorded on the ground.

(c)

The recorder shall be capable of retaining data recorded for at least the same duration as set out for CVRs in NCC.IDE.H.160.

(d)

The recorder shall have a device to assist in locating it in water.

(e)

The requirements applicable to the start and stop logic of the recorder are the same as the requirements applicable to the start and stop logic of the CVR contained in NCC.IDE.H.160(d) and (e).

NCC.IDE.H.175Flight data and cockpit voice combination recorder

Compliance with CVR and FDR requirements may be achieved by one flight data and cockpit voice combination recorder.

NCC.IDE.H.180Seats, seat safety belts, restraint systems and child restraint devices(a)Helicopters shall be equipped with:

(1) a seat or berth for each person on board who is aged 24 months or more;

(2) a seat belt on each passenger seat and restraining belts for each berth;

(3) for helicopters first issued with an individual CofA after 31 December 2012, a seat belt with an upper torso restraint system for each passenger who is aged 24 months or more;

(4) a child restraint device (CRD) for each person on board younger than 24 months;

(5) a seat belt with upper torso restraint system incorporating a device that will automatically restrain the occupant's torso in the event of rapid deceleration on each flight crew seat; and

(6) a seat belt with upper torso restraint system on the seats for the minimum required cabin crew, in the case of helicopters first issued with an individual CofA after 31 December 1980.

(b)A seat belt with upper torso restraint system shall:

(1) have a single point release; and

(2) on flight crew seats, on any seat alongside a pilot's seat and on the seats for the minimum required cabin crew, include two shoulder straps and a seat belt that may be used independently.

NCC.IDE.H.185Fasten seat belt and no smoking signs

Helicopters in which not all passenger seats are visible from the flight crew seat(s) shall be equipped with a means of indicating to all passengers and cabin crew when seat belts shall be fastened and when smoking is not allowed.
NCC.IDE.H.190First-aid kit(a)

Helicopters shall be equipped with at least one first-aid kit.
(b)The first-aid kit(s) shall be:

(1) readily accessible for use; and

(2) kept up-to-date.
NCC.IDE.H.200Supplemental oxygen — non-pressurised helicopters(a)

Non-pressurised helicopters operated at flight altitudes when the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.
(b)Non-pressurised helicopters operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 13 000 ft; and

(2) all crew members and passengers for any period that the pressure altitude in the passenger compartment will be above 13 000 ft.
NCC.IDE.H.205Hand fire extinguishers(a)Helicopters shall be equipped with at least one hand fire extinguisher:

(1) in the flight crew compartment; and

(2) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.
(b)

The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the compartment where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration in compartments occupied by persons.
NCC.IDE.H.210Marking of break-in points

If areas of the helicopter's fuselage suitable for break-in by rescue crews in an emergency are marked, such areas shall be marked as shown in Figure 1.
Figure 1Marking of break-in pointsNCC.IDE.H.215Emergency locator transmitter (ELT)(a)

Helicopters shall be equipped with at least one automatic ELT.
(b)

Helicopters operating on a flight over water in support of offshore operations in a hostile environment and at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, where in the case of the critical engine failure, the helicopter is able to sustain level flight, shall be equipped with an automatically deployable ELT (ELT(AD)).

(c)

An ELT of any type shall be capable of transmitting simultaneously on 121,5 MHz and 406 MHz.

NCC.IDE.H.225Life-jackets(a)Helicopters shall be equipped with a life-jacket for each person on board or equivalent individual floatation device for each person on board younger than 24 months, which shall be worn or stowed in a position that is readily accessible from the seat or berth of the person for whose use it is provided, when:

(1) operated on a flight over water at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, where in the case of the critical engine failure, the helicopter is able to sustain level flight;

(2) operated on a flight over water beyond autorotational distance from the land, where in the case of critical engine failure, the helicopter is not able to sustain level flight; or

(3) taking off or landing at an aerodrome or operating site where the take-off or approach path is over water.

(b)

Each life-jacket or equivalent individual flotation device shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

NCC.IDE.H.226Crew survival suits

Each crew member shall wear a survival suit when:

(a) operating on a flight over water in support of offshore operations, at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, where in the case of the critical engine failure, the helicopter is able to sustain level flight and when:

  (1) the weather report or forecasts available to the pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight; or

  (2) the estimated rescue time exceeds the estimated survival time;

  or

(b) so determined by the pilot-in-command based on a risk assessment taking into account the following conditions:

  (1) flights over water beyond autorotational distance or safe forced landing distance from land, where in the case of the critical engine failure, the helicopter is not able to sustain level flight; and

  (2) the weather report or forecasts available to the pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight.

NCC.IDE.H.227Life-rafts, survival ELTs and survival equipment on extended overwater flights

Helicopters operated:

(a) on a flight over water at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, where in the case of the critical engine failure, the helicopter is able to sustain level flight; or

(b) on a flight over water at a distance corresponding to more than 3 minutes flying time at normal cruising speed, where in the case of the critical engine failure, the helicopter is not able to sustain level flight, and if so determined by the pilot-in-command by means of a risk assessment;

shall be equipped with:

(1) in the case of a helicopter carrying less than 12 persons, at least one life-raft with a rated capacity of not less than the maximum number of persons on board, stowed so as to facilitate their ready use in emergency;

(2) in the case of a helicopter carrying more than 11 persons, at least two life-rafts, stowed so as to facilitate their ready use in an emergency, sufficient together to accommodate all persons capable of being carried on board and, if one is lost the remaining life-raft(s) having the overload capacity sufficient to accommodate all persons on the helicopter;

(3) at least one survival ELT (ELT(S)) for each required life-raft; and

(4) life-saving equipment, including means of sustaining life, as appropriate to the flight to be undertaken.

NCC.IDE.H.230Survival equipment

Helicopters operated over areas in which search and rescue would be especially difficult shall be equipped with:

(a) signalling equipment to make distress signals;

(b) at least one survival ELT (ELT(S)); and

(c) additional survival equipment for the route to be flown taking account of the number of persons on board.

NCC.IDE.H.231Additional requirements for helicopters conducting offshore operations in a hostile sea area

Helicopters operated in offshore operations in a hostile sea area, at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed, shall comply with the following:

(a) When the weather report or forecasts available to the pilot-in-command indicate that the sea temperature will be less than plus 10 °C during the flight, or when the estimated rescue time exceeds the calculated survival time, or the flight is planned to be conducted at night, all persons on board are wearing a survival suit.

(b) All life-rafts carried in accordance with NCC.IDE.H.227 shall be installed so as to be usable in the sea conditions in which the helicopter's ditching, flotation and trim characteristics were evaluated in order to comply with the ditching requirements for certification.

(c) The helicopter shall be equipped with an emergency lighting system with an independent power supply to provide a source of general cabin illumination to facilitate the evacuation of the helicopter.

(d) All emergency exits, including crew emergency exits, and the means of opening them 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 if the helicopter is capsized and the cabin is submerged.

(e) All non-jettisonable doors that are designated as ditching emergency exits shall have a means of securing them in the open position so that they do not interfere with occupants' egress in all sea conditions up to the maximum required to be evaluated for ditching and flotation.

(f) All doors, windows or other openings in the passenger compartment intended to be used for the purpose of underwater escape shall be equipped so as to be operable in an emergency.

(g) Life-jackets shall be worn at all times, unless the passenger or crew member is wearing an integrated survival suit that meets the combined requirement of the survival suit and life-jacket.

NCC.IDE.H.232Helicopters certified for operating on water — miscellaneous equipment

Helicopters certified for operating on water shall be equipped with:

(a) a sea anchor and other equipment necessary to facilitate mooring, anchoring or manoeuvring the helicopter on water, appropriate to its size, weight and handling characteristics; and

(b) equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea, where applicable.

NCC.IDE.H.235All helicopters on flights over water — ditching

Helicopters shall be designed for landing on water or certified for ditching in accordance with the relevant airworthiness code or fitted with emergency flotation equipment when operated on a flight over water in a hostile environment at a distance from land corresponding to more than 10 minutes flying time at normal cruising speed.

NCC.IDE.H.240Headset

Whenever a radio communication and/or radio navigation system is required, helicopters shall be equipped with a headset with boom microphone or equivalent and a transmit button on the flight controls for each required pilot and/or crew member at his/her assigned station.

NCC.IDE.H.245Radio communication equipment(a)Helicopters operated under IFR or at night, or when required by the applicable airspace requirements, shall be equipped with radio communication equipment that, under normal radio propagating conditions, shall be capable of:

(1) conducting two-way communication for aerodrome control purposes;

(2) receiving meteorological information;

(3) conducting two-way communication at any time during flight with those aeronautical stations and on those frequencies prescribed by the appropriate authority; and

(4) providing for communication on the aeronautical emergency frequency 121,5 MHz.

(b)

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.

(c)

When a radio communication system is required, and in addition to the flight crew interphone system required in NCC.IDE.H.155, helicopters shall be equipped with a transmit button on the flight controls for each required pilot and crew member at his/her assigned station.

NCC.IDE.H.250Navigation equipment(a)Helicopters shall be equipped with navigation equipment that will enable them to proceed in accordance with:

(1) the ATS flight plan, if applicable; and

(2) the applicable airspace requirements.

(b)

Helicopters shall have sufficient 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 shall allow safe navigation in accordance with (a), or an appropriate contingency action, to be completed safely.

(c)

Helicopters operated on flights in which it is intended to land in IMC shall be equipped with navigation equipment capable of providing guidance to a point from which a visual landing can be performed. This equipment shall be capable of providing such guidance for each aerodrome at which it is intended to land in IMC and for any designated alternate aerodromes.

NCC.IDE.H.255Transponder

Helicopters shall be equipped with a pressure altitude reporting secondary surveillance radar (SSR) transponder and any other SSR transponder capability required for the route being flown.

## ANNEX IV U.K.

ANNEX VII NON-COMMERCIAL AIR OPERATIONS WITH OTHER-THAN-COMPLEX MOTOR-POWERED AIRCRAFT[PART-NCO]SUBPART AGENERAL REQUIREMENTSNCO.GEN.100Competent authority(a)

The competent authority shall be the authority designated by the Member State where the aircraft is registered.

(b)

If the aircraft is registered in a third country, the competent authority shall be the authority designated by the Member State where the operator is established or residing.

NCO.GEN.101Means of compliance

Alternative means of compliance to those adopted by the Agency may be used by an operator to establish compliance with Regulation (EC) No 216/2008 and its Implementing Rules.
NCO.GEN.102Touring motor gliders and powered sailplanes(a)Touring motor gliders shall be operated following the requirements for:

(1) aeroplanes when they are power-driven by an engine; and

(2) sailplanes when operated without using an engine.
(b)

Touring motor gliders shall be equipped in compliance with the requirements applicable to aeroplanes unless otherwise specified in Subpart D.
(c)

Powered sailplanes, excluding touring motor gliders, shall be operated and equipped in compliance with the requirements applicable to sailplanes.
NCO.GEN.105Pilot-in-command responsibilities and authority(a)The pilot-in-command shall be responsible for:

(1) the safety of the aircraft and of all crew members, passengers and cargo on board during aircraft operations as referred to in 1.c of Annex IV to Regulation (EC) No 216/2008;

(2) the initiation, continuation, termination or diversion of a flight in the interest of safety;

(3) ensuring that all operational procedures and checklists are complied with as referred to in 1.b of Annex IV to Regulation (EC) No 216/2008;

(4) only commencing a flight if he/she is satisfied that all operational limitations referred to in 2.a.3 of Annex IV to Regulation (EC) No 216/2008 are complied with, as follows:

  (i) the aircraft is airworthy;

  (ii) the aircraft is duly registered;

  (iii) instruments and equipment required for the execution of that flight are installed in the aircraft and are operative, unless operation with inoperative equipment is permitted by the minimum equipment list (MEL) or equivalent document, if applicable, as provided for in NCO.IDE.A.105, NCO.IDE.H.105, NCO.IDE.S.105 or NCO.IDE.B.105;

  (iv) the mass of the aircraft and, except in the case of balloons, the centre of gravity location are such that the flight can be conducted within limits prescribed in the airworthiness documentation;

  (v) all equipment, baggage and cargo are properly loaded and secured and an emergency evacuation remains possible; and

  (vi) the aircraft operating limitations as specified in the aircraft flight manual (AFM) will not be exceeded at any time during the flight;

(5) not commencing a flight if he/she is incapacitated from performing duties by any cause such as injury, sickness, fatigue or the effects of any psychoactive substance;

(6) not continuing a flight beyond the nearest weather-permissible aerodrome or operating site when his/her capacity to perform duties is significantly reduced from causes such as fatigue, sickness or lack of oxygen;

(7) deciding on acceptance of the aircraft with unserviceabilities in accordance with the configuration deviation list (CDL) or minimum equipment list (MEL), as applicable; and

(8) recording utilisation data and all known or suspected defects in the aircraft at the termination of the flight, or series of flights, in the aircraft technical log or journey log for the aircraft.

(b)

The pilot-in-command shall ensure that during critical phases of flight or whenever deemed necessary in the interest of safety, all crew members are seated at their assigned stations and do not perform any activities other than those required for the safe operation of the aircraft.

(c)

The pilot-in-command shall have the authority to refuse carriage of or disembark any person, baggage or cargo that may represent a potential hazard to the safety of the aircraft or its occupants.

(d)

The pilot-in-command shall, as soon as possible, report to the appropriate air traffic services (ATS) unit any hazardous weather or flight conditions encountered that are likely to affect the safety of other aircraft.

(e)

The pilot-in-command shall, in an emergency situation that requires immediate decision and action, take any action he/she considers necessary under the circumstances in accordance with 7.d of Annex IV to Regulation (EC) No 216/2008. In such cases he/she may deviate from rules, operational procedures and methods in the interest of safety.

(f)During flight, the pilot-in-command shall:

(1) except for balloons, keep his/her safety belt fastened while at his/her station; and

(2) remain at the controls of the aircraft at all times except if another pilot is taking the controls.

(g)

The pilot-in-command shall submit a report of an act of unlawful interference without delay to the competent authority and shall inform the designated local authority.

(h)

The pilot-in-command shall notify the nearest appropriate authority by the quickest available means of any accident involving the aircraft that results in serious injury or death of any person or substantial damage to the aircraft or property.

NCO.GEN.106Pilot-in-command responsibilities and authority — balloons

The pilot-in-command of a balloon shall in addition to NCO.GEN.105 be responsible for:

(a) the pre-flight briefing of those persons assisting in the inflation and deflation of the envelope; and

(b) ensuring that persons assisting in the inflation and deflation of the envelope wear appropriate protective clothing.

NCO.GEN.110Compliance with laws, regulations and procedure(a)

The pilot-in-command shall comply with the laws, regulations and procedures of those States where operations are conducted.

(b)

The pilot-in-command shall be familiar with the laws, regulations and procedures, pertinent to the performance of his/her duties, prescribed for the areas to be traversed, the aerodromes or operating sites to be used and the related air navigation facilities as referred to in 1.a of Annex IV to Regulation (EC) No 216/2008.

NCO.GEN.115Taxiing of aeroplanes

An aeroplane shall only be taxied on the movement area of an aerodrome if the person at the controls:

(a) is an appropriately qualified pilot; or

(b) has been designated by the operator and:

(1) is trained to taxi the aeroplane;

(2) is trained to use the radio telephone, if radio communications are required;

(3) has received instruction in respect of aerodrome layout, routes, signs, marking, lights, air traffic control (ATC) signals and instructions, phraseology and procedures; and

(4) is able to conform to the operational standards required for safe aeroplane movement at the aerodrome.

NCO.GEN.120Rotor engagement — helicopters

A helicopter rotor shall only be turned under power for the purpose of flight with a qualified pilot at the controls.

NCO.GEN.125Portable electronic devices

The pilot-in-command shall not permit any person to use a portable electronic device (PED) on board an aircraft that could adversely affect the performance of the aircraft's systems and equipment.

NCO.GEN.130Information on emergency and survival equipment carried

Except for aircraft taking-off and landing at the same aerodrome/operating site, the operator shall, at all times, have available for immediate communication to rescue coordination centres (RCCs) lists containing information on the emergency and survival equipment carried on board.

NCO.GEN.135Documents, manuals and information to be carried(a)The following documents, manuals and information shall be carried on each flight as originals or copies unless otherwise specified:

(1) the AFM, or equivalent document(s);

(2) the original certificate of registration;

(3) the original certificate of airworthiness (CofA);

(4) the noise certificate, if applicable;

(5) the list of specific approvals, if applicable;

(6) the aircraft radio licence, if applicable;

(7) the third party liability insurance certificate(s);

(8) the journey log, or equivalent, for the aircraft;

(9) details of the filed ATS flight plan, if applicable;

(10) current and suitable aeronautical charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted;

(11) procedures and visual signals information for use by intercepting and intercepted aircraft;

(12) the MEL or CDL, if applicable; and

(13) any other documentation that may be pertinent to the flight or is required by the States concerned with the flight.

(b)Notwithstanding (a), on flights:

(1) intending to take off and land at the same aerodrome/operating site; or

(2) remaining within a distance or area determined by the competent authority,

the documents and information in (a)(2) to (a)(8) may be retained at the aerodrome or operating site.

(c)

Notwithstanding (a), on flights with balloons or sailplanes, excluding touring motor gliders (TMGs), the documents and information in (a)(2) to (a)(8) and (a)(11) to (a)(13) may be carried in the retrieve vehicle.

(d)

The pilot-in-command shall make available within a reasonable time of being requested to do so by the competent authority, the documentation required to be carried on board.

NCO.GEN.140Transport of dangerous goods(a)

The transport of dangerous goods by air shall be conducted in accordance with Annex 18 to the Chicago Convention as last amended and amplified by the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Doc 9284-AN/905), including its supplements and any other addenda or corrigenda.

(b)Dangerous goods shall only be transported by the operator approved in accordance with Annex V (Part-SPA), Subpart G, to Regulation (EU) No 965/2012 except when:

(1) they are not subject to the Technical Instructions in accordance with Part 1 of those Instructions; or

(2) they are carried by passengers or the pilot-in-command, or are in baggage, in accordance with Part 8 of the Technical Instructions;

(3) they are carried by operators of ELA2 aircraft.

(c)

The pilot-in-command shall take all reasonable measures to prevent dangerous goods from being carried on board inadvertently.

(d)

The pilot-in-command shall, in accordance with the Technical Instructions, report without delay to the competent authority and the appropriate authority of the State of occurrence in the event of any dangerous goods accidents or incidents.

(e)

The pilot-in-command shall ensure that passengers are provided with information about dangerous goods in accordance with the Technical Instructions.

NCO.GEN.145Immediate reaction to a safety problem

The operator shall implement:

(a) any safety measures mandated by the competent authority in accordance with ARO.GEN.135(c); and

(b) any relevant mandatory safety information issued by the Agency, including airworthiness directives.

NCO.GEN.150Journey log

Particulars of the aircraft, its crew and each journey shall be retained for each flight, or series of flights, in the form of a journey log, or equivalent.

NCO.GEN.155Minimum equipment list(a)An MEL may be established taking into account the following:

(1) the document shall provide for the operation of the aircraft, under specified conditions, with particular instruments, items of equipment or functions inoperative at the commencement of the flight;

(2) the document shall be prepared for each individual aircraft, taking account of the operator's relevant operational and maintenance conditions; and

(3) the MEL shall be based on the relevant Master Minimum Equipment List (MMEL), as defined in the data established in accordance with Commission Regulation (EU) No 748/2012[1], and shall not be less restrictive than the MMEL.

(b)

The MEL and any amendment thereto shall be notified to the competent authority.

SUBPART BOPERATIONAL PROCEDURESNCO.OP.100Use of aerodromes and operating sites

The pilot-in-command shall only use aerodromes and operating sites that are adequate for the type of aircraft and operation concerned.

NCO.OP.105Specification of isolated aerodromes — aeroplanes

For the selection of alternate aerodromes and the fuel policy, the pilot-in-command shall consider an aerodrome as an isolated aerodrome if the flying time to the nearest adequate destination alternate aerodrome is more than:

(a) for aeroplanes with reciprocating engines, 60 minutes; or

(b) for aeroplanes with turbine engines, 90 minutes.

NCO.OP.110Aerodrome operating minima — aeroplanes and helicopters(a)For instrument flight rules (IFR) flights, the pilot-in-command shall select and use aerodrome operating minima for each departure, destination and alternate aerodrome. Such minima shall:

(1) not be lower than those established by the State in which the aerodrome is located, except when specifically approved by that State; and

(2) when undertaking low visibility operations, be approved by the competent authority in accordance with Annex V (Part-SPA), Subpart E to Regulation (EU) No 965/2012.

(b)When selecting the aerodrome operating minima, the pilot-in-command shall take the following into account:

(1) the type, performance and handling characteristics of the aircraft;

(2) his/her competence and experience;

(3) the dimensions and characteristics of the runways and final approach and take-off areas (FATOs) that may be selected for use;

(4) the adequacy and performance of the available visual and non-visual ground aids;

(5) the equipment available on the aircraft for the purpose of navigation and/or control of the flight path, during the take-off, the approach, the flare, the landing, the rollout and the missed approach;

(6) the obstacles in the approach, the missed approach and the climb-out areas necessary for the execution of contingency procedures;

(7) the obstacle clearance altitude/height for the instrument approach procedures;

(8) the means to determine and report meteorological conditions; and

(9) the flight technique to be used during the final approach.

(c)The minima for a specific type of approach and landing procedure shall be used if:

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

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

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

(4) the pilot is qualified appropriately.

NCO.OP.111Aerodrome operating minima — NPA, APV, CAT I operations(a)The decision height (DH) to be used for a non-precision approach (NPA) flown with the continuous descent final approach (CDFA) technique, approach procedure with vertical guidance (APV) or category I (CAT I) operation shall not be lower than the highest of:

(1) the minimum height to which the approach aid can be used without the required visual reference;

(2) the obstacle clearance height (OCH) for the category of aircraft;

(3) the published approach procedure DH where applicable;

(4) the system minimum specified in Table 1; or

(5) the minimum DH specified in the AFM or equivalent document, if stated.

(b)The minimum descent height (MDH) for an NPA operation flown without the CDFA technique shall not be lower than the highest of:

(1) the OCH for the category of aircraft;

(2) the system minimum specified in Table 1; or

(3) the minimum MDH specified in the AFM, if stated.

*TABLE 1*

**System minima**

| **Facility** | **Lowest DH/MDH (ft)** |
|---|---|
| Instrument landing system (ILS) | 200 |
| Global navigation satellite system (GNSS)/Satellite-based augmentation system (SBAS) (Lateral precision with vertical guidance approach (LPV)) | 200 |
| GNSS (Lateral Navigation (LNAV)) | 250 |
| GNSS/Baro-vertical navigation (VNAV) (LNAV/VNAV) | 250 |
| Localiser (LOC) with or without distance measuring equipment (DME) | 250 |
| Surveillance radar approach (SRA) (terminating at ½ NM) | 250 |
| SRA (terminating at 1 NM) | 300 |
| SRA (terminating at 2 NM or more) | 350 |
| VHF omnidirectional radio range (VOR) | 300 |
| VOR/DME | 250 |
| Non-directional beacon (NDB) | 350 |
| NDB/DME | 300 |
| VHF direction finder (VDF) | 350 |

NCO.OP.112Aerodrome operating minima — circling operations with aeroplanes(a)The MDH for a circling operation with aeroplanes shall not be lower than the highest of:

(1) the published circling OCH for the aeroplane category;

(2) the minimum circling height derived from Table 1; or

(3) the DH/MDH of the preceding instrument approach procedure.

(b)The minimum visibility for a circling operation with aeroplanes shall be the highest of:

(1) the circling visibility for the aeroplane category, if published;

(2) the minimum visibility derived from Table 2; or

(3) the runway visual range/converted meteorological visibility (RVR/CMV) of the preceding instrument approach procedure.

*TABLE 1*

**MDH and minimum visibility for circling vs. aeroplane category**

| | **Aeroplane category** | | | |
|---|---|---|---|---|
| | **A** | **B** | **C** | **D** |
| **MDH (ft)** | 400 | 500 | 600 | 700 |
| **Minimum meteorological visibility (m)** | 1 500 | 1 600 | 2 400 | 3 600 |

NCO.OP.113Aerodrome operating minima — circling operations with helicopters

The MDH for an onshore circling operation with helicopters shall not be lower than 250 ft and the meteorological visibility not less than 800 m.

NCO.OP.115Departure and approach procedures — aeroplanes and helicopters(a)

The pilot-in-command shall use the departure and approach procedures established by the State of the aerodrome, if such procedures have been published for the runway or FATO to be used.

(b)The pilot-in-command may deviate from a published departure route, arrival route or approach procedure:

(1) provided obstacle clearance criteria can be observed, full account is taken of the operating conditions and any ATC clearance is adhered to; or

(2) when being radar-vectored by an ATC unit.

NCO.OP.120Noise abatement procedures — aeroplanes, helicopters and powered sailplanes

The pilot-in-command shall take into account published noise abatement procedures to minimise the effect of aircraft noise while ensuring that safety has priority over noise abatement.

NCO.OP.121Noise abatement procedures — balloons

The pilot-in-command shall take into account operating procedures to minimise the effect of heating-system noise while ensuring that safety has priority over noise abatement.

NCO.OP.125Fuel and oil supply — aeroplanes(a)The pilot-in-command shall only commence a flight if the aeroplane carries sufficient fuel and oil for the following:

(1) for visual flight rules (VFR) flights:

(i) by day, taking-off and landing at the same aerodrome/landing site and always remaining in sight of that aerodrome/landing site, to fly

the intended route and thereafter for at least 10 minutes at normal cruising altitude;

(ii) by day, to fly to the aerodrome of intended landing and thereafter to fly for at least 30 minutes at normal cruising altitude; or

(iii) by night, to fly to the aerodrome of intended landing and thereafter to fly for at least 45 minutes at normal cruising altitude;

(2) for IFR flights:

(i) when no destination alternate is required, to fly to the aerodrome of intended landing and thereafter to fly for at least 45 minutes at normal cruising altitude; or

(ii) when a destination alternate is required, to fly to the aerodrome of intended landing, to an alternate aerodrome and thereafter to fly for at least 45 minutes at normal cruising altitude.

(b)In computing the fuel required including to provide for contingency, the following shall be taken into consideration:

(1) forecast meteorological conditions;

(2) anticipated ATC routings and traffic delays;

(3) procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and

(4) any other condition that may delay the landing of the aeroplane or increase fuel and/or oil consumption.

(c)

Nothing shall preclude amendment of a flight plan in-flight, in order to re-plan the flight to another destination, provided that all requirements can be complied with from the point where the flight is re-planned.

NCO.OP.126Fuel and oil supply — helicopters(a)The pilot-in-command shall only commence a flight if the helicopter carries sufficient fuel and oil for the following:

(1) for VFR flights, to fly to the aerodrome/operating site of intended landing and thereafter to fly for at least 20 minutes at best-range-speed; and

(2) for IFR flights:

(i) when no alternate is required or no weather-permissible alternate aerodrome is available, to fly to the aerodrome/operating site of intended landing, and thereafter to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome/operating site under standard temperature conditions and approach and land; or

(ii) when an alternate is required, to fly to and execute an approach and a missed approach at the aerodrome/operating site of intended landing, and thereafter:

(A) to fly to the specified alternate; and

(B) to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the alternate aerodrome/operating site

under standard temperature conditions and approach and land.

(b)In computing the fuel required including to provide for contingency, the following shall be taken into consideration:

(1) forecast meteorological conditions;

(2) anticipated ATC routings and traffic delays;

(3) procedures for loss of pressurisation or failure of one engine while en-route, where applicable; and

(4) any other condition that may delay the landing of the aircraft or increase fuel and/or oil consumption.

(c)

Nothing shall preclude amendment of a flight plan in-flight, in order to re-plan the flight to another destination, provided that all requirements can be complied with from the point where the flight is re-planned.

NCO.OP.127Fuel and ballast supply and planning — balloons(a)

The pilot-in-command shall only commence a flight if the reserve fuel, gas or ballast is sufficient for 30 minutes of flight.

(b)Fuel, gas or ballast supply calculations shall be based upon at least the following operating conditions under which the flight is to be conducted:

(1) data provided by the balloon manufacturer;

(2) anticipated masses;

(3) expected meteorological conditions; and

(4) air navigation services provider procedures and restrictions.

NCO.OP.130Passenger briefing

The pilot-in-command shall ensure that before or, where appropriate, during the flight, passengers are given a briefing on emergency equipment and procedures.

NCO.OP.135Flight preparation(a)

Before commencing a flight, the pilot-in-command shall ascertain by every reasonable means available that the ground and/or water facilities including communication facilities and navigation aids available and directly required on such flight, for the safe operation of the aircraft, are adequate for the type of operation under which the flight is to be conducted.

(b)Before commencing a flight, the pilot-in-command shall be familiar with all available meteorological information appropriate to the intended flight. Preparation for a flight away from the vicinity of the place of departure, and for every flight under IFR, shall include:

(1) a study of available current weather reports and forecasts; and

(2) the planning of an alternative course of action to provide for the eventuality that the flight cannot be completed as planned, because of weather conditions.

NCO.OP.140Destination alternate aerodromes — aeroplanes

For IFR flights, the pilot-in-command shall specify at least one weather-permissible destination alternate aerodrome in the flight plan, unless:

(a) the available current meteorological information indicates that, for the period from 1 hour before until 1 hour after the estimated time of arrival, or from the actual time of departure to 1 hour after the estimated time of arrival, whichever is the shorter period, the approach and landing may be made under visual meteorological conditions (VMC); or

(b) the place of intended landing is isolated and:

(1) an instrument approach procedure is prescribed for the aerodrome of intended landing; and

(2) available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival:

(i) a cloud base of at least 300 m (1 000 ft) above the minimum associated with the instrument approach procedure; and

(ii) visibility of at least 5,5 km or of 4 km more than the minimum associated with the procedure.

NCO.OP.141Destination alternate aerodromes — helicopters

For IFR flights, the pilot-in-command shall specify at least one weather-permissible destination alternate aerodrome in the flight plan, unless:

(a) an instrument approach procedure is prescribed for the aerodrome of intended landing and the available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival, or from the actual time of departure to 2 hours after the estimated time of arrival, whichever is the shorter period:

(1) a cloud base of at least 120 m (400 ft) above the minimum associated with the instrument approach procedure; and

(2) visibility of at least 1 500 m more than the minimum associated with the procedure; or

(b) the place of intended landing is isolated and:

(1) an instrument approach procedure is prescribed for the aerodrome of intended landing;

(2) available current meteorological information indicates that the following meteorological conditions will exist from 2 hours before to 2 hours after the estimated time of arrival:

(i) the cloud base is at least 120 m (400 ft) above the minimum associated with the instrument approach procedure;

(ii) visibility is at least 1 500 m more than the minimum associated with the procedure; and

(3) a point of no return (PNR) is determined in case of an offshore destination.

NCO.OP.145Refuelling with passengers embarking, on board or disembarking(a)

The aircraft shall not be refuelled with aviation gasoline (AVGAS) or wide-cut type fuel or a mixture of these types of fuel, when passengers are embarking, on board or disembarking.
(b)

For all other types of fuel, the aircraft shall not be refuelled when passengers are embarking, on board or disembarking, unless it is attended by the pilot-in-command or other qualified personnel ready to initiate and direct an evacuation of the aircraft by the most practical and expeditious means available.
NCO.OP.150Carriage of passengers

Except for balloons, the pilot-in-command shall ensure that, prior to and during taxiing, take-off and landing, and whenever deemed necessary in the interest of safety, each passenger on board occupies a seat or berth and has his/her safety belt or restraint device properly secured.
NCO.OP.155Smoking on board — aeroplanes and helicopters

The pilot-in-command shall not allow smoking on board:

(a) whenever considered necessary in the interest of safety; and

(b) during refuelling of the aircraft.
NCO.OP.156Smoking on board — sailplanes and balloons

No person shall be allowed to smoke on board a sailplane or balloon.
NCO.OP.160Meteorological conditions(a)

The pilot-in-command shall only commence or continue a VFR flight if the latest available meteorological information indicates that the weather conditions along the route and at the intended destination at the estimated time of use will be at or above the applicable VFR operating minima.
(b)

The pilot-in-command shall only commence or continue an IFR flight towards the planned destination aerodrome if the latest available meteorological information indicates that, at the estimated time of arrival, the weather conditions at the destination or at least one destination alternate aerodrome are at or above the applicable aerodrome operating minima.
(c)

If a flight contains VFR and IFR segments, the meteorological information referred to in (a) and (b) shall be applicable as far as relevant.
NCO.OP.165Ice and other contaminants — ground procedures

The pilot-in-command shall only commence take-off if the aircraft is clear of any deposit that might adversely affect the performance or controllability of the aircraft, except as permitted in the AFM.
NCO.OP.170Ice and other contaminants — flight procedures(a)

The pilot-in-command shall only commence a flight or intentionally fly into expected or actual icing conditions if the aircraft is certified and equipped to cope with such conditions as referred to in 2.a.5 of Annex IV to Regulation (EC) No 216/2008.
(b)

If icing exceeds the intensity of icing for which the aircraft is certified or if an aircraft not certified for flight in known icing conditions encounters icing, the pilot-in-command shall exit the icing conditions without delay, by a change of level and/or route, and if necessary by declaring an emergency to ATC.

NCO.OP.175Take-off conditions — aeroplanes and helicopters

Before commencing take-off, the pilot-in-command shall be satisfied that:

(a) according to the information available, the weather at the aerodrome or operating site and the condition of the runway or FATO intended to be used would not prevent a safe take-off and departure; and

(b) applicable aerodrome operating minima will be complied with.

NCO.OP.176Take-off conditions — balloons

Before commencing take-off, the pilot-in-command of a balloon shall be satisfied that, according to the information available, the weather at the operating site or aerodrome would not prevent a safe take-off and departure.

NCO.OP.180Simulated situations in flight(a)The pilot-in-command shall, when carrying passengers or cargo, not simulate:

(1) situations that require the application of abnormal or emergency procedures; or

(2) flight in instrument meteorological conditions (IMC).

(b)

Notwithstanding (a), when training flights are conducted by an approved training organisation, such situations may be simulated with student pilots on-board.

NCO.OP.185In-flight fuel management

The pilot-in-command shall check at regular intervals that the amount of usable fuel or, for balloons, ballast remaining in flight is not less than the fuel or ballast required to proceed to a weather-permissible aerodrome or operating site and the planned reserve fuel as required by NCO.OP.125, NCO.OP.126 or NCO.OP.127.

NCO.OP.190Use of supplemental oxygen

The pilot-in-command shall ensure that he/she and flight crew members engaged in performing duties essential to the safe operation of an aircraft in flight use supplemental oxygen continuously whenever the cabin altitude exceeds 10 000 ft for a period of more than 30 minutes and whenever the cabin altitude exceeds 13 000 ft.

NCO.OP.195Ground proximity detection

When undue proximity to the ground is detected by the pilot-in-command or by a ground proximity warning system, the pilot-in-command shall take corrective action immediately in order to establish safe flight conditions.

NCO.OP.200Airborne collision avoidance system (ACAS II)

When ACAS II is used, operational procedures and training shall be in accordance with Regulation (EU) No 1332/2011.

NCO.OP.205Approach and landing conditions — aeroplanes and helicopters

Before commencing an approach to land, the pilot-in-command shall be satisfied that, according to the information available, the weather at the aerodrome or the operating site and the condition of the runway or FATO intended to be used would not prevent a safe approach, landing or missed approach.

NCO.OP.210Commencement and continuation of approach — aeroplanes and helicopters(a)

The pilot-in-command may commence an instrument approach regardless of the reported runway visual range/visibility (RVR/VIS).
(b)If the reported RVR/VIS is less than the applicable minimum, the approach shall not be continued:

(1) below 1 000 ft above the aerodrome; or

(2) into the final approach segment in the case where the decision altitude/height (DA/H) or minimum descent altitude/height (MDA/H) is more than 1 000 ft above the aerodrome.

(c)

Where the RVR is not available, RVR values may be derived by converting the reported visibility.
(d)

If, after passing 1 000 ft above the aerodrome, the reported RVR/VIS falls below the applicable minimum, the approach may be continued to DA/H or MDA/H.
(e)

The approach may be continued below DA/H or MDA/H and the landing may be completed provided that the visual reference adequate for the type of approach operation and for the intended runway is established at the DA/H or MDA/H and is maintained.
(f)

The touchdown zone RVR shall always be controlling.
NCO.OP.215Operational limitations — hot-air balloons

A hot-air balloon may take off during night, provided sufficient fuel is carried for a landing during day.
SUBPART CAIRCRAFT PERFORMANCE AND OPERATING LIMITATIONSNCO.POL.100Operating limitations — all aircraft(a)

During any phase of operation, the loading, the mass and, except for balloons, the centre of gravity (CG) position of the aircraft shall comply with any limitation specified in the AFM, or equivalent document.
(b)

Placards, listings, instrument markings, or combinations thereof, containing those operating limitations prescribed by the AFM for visual presentation, shall be displayed in the aircraft.
NCO.POL.105Weighing(a)

The operator shall ensure that the mass and, except for balloons, the CG of the aircraft have been established by actual weighing prior to initial entry into service. The accumulated effects of modifications and repairs on the mass and balance shall be accounted for and properly documented. Such information shall be made available to the pilot-in-command. The aircraft shall be reweighed if the effect of modifications on the mass and balance is not accurately known.
(b)

The weighing shall be accomplished by the manufacturer of the aircraft or by an approved maintenance organisation.

NCO.POL.110Performance — general

The pilot-in-command shall only operate the aircraft if the performance is adequate to comply with the applicable rules of the air and any other restrictions applicable to the flight, the airspace or the aerodromes or operating sites used, taking into account the charting accuracy of any charts and maps used.
SUBPART DINSTRUMENTS, DATA AND EQUIPMENTSECTION 1AeroplanesNCO.IDE.A.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to control the flight path;

(2) used to comply with NCO.IDE.A.190;

(3) used to comply with NCO.IDE.A.195; or

(4) installed in the aeroplane.

(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) spare fuses;

(2) independent portable lights;

(3) an accurate time piece;

(4) first-aid kit;

(5) survival and signalling equipment;

(6) sea anchor and equipment for mooring; and

(7) child restraint device.

(c)Instruments and equipment not required by this Subpart as well as any other equipment that is not required by other applicable Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments or equipment shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008 or NCO.IDE.A.190 and NCO.IDE.A.195; and

(2) the instruments and equipment shall not affect the airworthiness of the aeroplane, even in the case of failures or malfunction.

(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is seated.

(e)

All required emergency equipment shall be easily accessible for immediate use.
NCO.IDE.A.105Minimum equipment for flight

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

(a) the aeroplane is operated in accordance with the MEL, if established; or

(b) the aeroplane is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCO.IDE.A.110Spare electrical fuses

Aeroplanes shall be equipped with spare electrical fuses, of the ratings required for complete circuit protection, for replacement of those fuses that are allowed to be replaced in flight.

NCO.IDE.A.115Operating lights

Aeroplanes operated at night shall be equipped with:

(a) an anti-collision light system;

(b) navigation/position lights;

(c) a landing light;

(d) lighting supplied from the aeroplane's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the aeroplane;

(e) lighting supplied from the aeroplane's electrical system to provide illumination in all passenger compartments;

(f) an independent portable light for each crew member station; and

(g) lights to conform with the International Regulations for Preventing Collisions at Sea if the aeroplane is operated as a seaplane.

NCO.IDE.A.120Operations under VFR — flight and navigational instruments and associated equipment(a)Aeroplanes operated under VFR by day shall be equipped with a means of measuring and displaying the following:

(1) magnetic heading;

(2) time, in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed; and

(5) Mach number, whenever speed limitations are expressed in terms of Mach number.

(b)Aeroplanes operated under visual meteorological conditions (VMC) at night, or in conditions where the aeroplane cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a), equipped with:

(1) a means of measuring and displaying the following:

(i) turn and slip;

(ii) attitude;

(iii) vertical speed; and

(iv) stabilised heading;

and

(2) a means of indicating when the supply of power to the gyroscopic instruments is not adequate.

(c)

Aeroplanes operated in conditions where they cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a) and (b), equipped with a means of preventing malfunction of the airspeed indicating system required in (a)(4) due to condensation or icing.

NCO.IDE.A.125Operations under IFR — flight and navigational instruments and associated equipment

Aeroplanes operated under IFR shall be equipped with:

(a) a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed;

(5) vertical speed;

(6) turn and slip;

(7) attitude;

(8) stabilised heading;

(9) outside air temperature; and

(10) Mach number, whenever speed limitations are expressed in terms of Mach number;

(b) a means of indicating when the supply of power to the gyroscopic instruments is not adequate; and

(c) a means of preventing malfunction of the airspeed indicating system required in (a)(4) due to condensation or icing.

NCO.IDE.A.130Terrain awareness warning system (TAWS)

Turbine-powered aeroplanes certified for a maximum passenger seating configuration of more than nine shall be equipped with a TAWS that meets the requirements for:

(a) class A equipment, as specified in an acceptable standard, in the case of aeroplanes for which the individual certificate of airworthiness (CofA) was first issued after 1 January 2011; or

(b) class B equipment, as specified in an acceptable standard, in the case of aeroplanes for which the individual CofA was first issued on or before 1 January 2011.

NCO.IDE.A.135Flight crew interphone system

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

NCO.IDE.A.140Seats, seat safety belts, restraint systems and child restraint devices(a)Aeroplanes shall be equipped with:

(1) a seat or berth for each person on board who is aged 24 months or more;

(2) a seat belt on each passenger seat and restraining belts for each berth;

(3) a child restraint device (CRD) for each person on board younger than 24 months; and

(4) a seat belt with upper torso restraint system on each flight crew seat, having a single point release.

NCO.IDE.A.145First-aid kit(a)

Aeroplanes shall be equipped with a first-aid kit.
(b)The first-aid kit shall be:

(1) readily accessible for use; and

(2) kept up-to-date.

NCO.IDE.A.150Supplemental oxygen — pressurised aeroplanes(a)

Pressurised aeroplanes operated at flight altitudes for which the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.
(b)Pressurised aeroplanes operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and:

(i) 100 % of the passengers for any period when the cabin pressure altitude exceeds 15 000 ft, but in no case less than 10 minutes' supply;

(ii) at least 30 % of the passengers, for any period when, in the event of loss of pressurisation and taking into account the circumstances of the flight, the pressure altitude in the passenger compartment will be between 14 000 ft and 15 000 ft; and

(iii) at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 14 000 ft;

and

(2) all the occupants of the passenger compartment for no less than 10 minutes, in the case of aeroplanes operated at pressure altitudes above 25 000 ft, or operated below that altitude but under conditions that will not allow them to descend safely to a pressure altitude of 13 000 ft within 4 minutes.

(c)

Pressurised aeroplanes operated at flight altitudes above 25 000 ft shall, in addition, be equipped with a device to provide a warning indication to the flight crew of any loss of pressurisation.

NCO.IDE.A.155Supplemental oxygen — non-pressurised aeroplanes(a)

Non-pressurised aeroplanes operated at flight altitudes when the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.
(b)Non-pressurised aeroplanes operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 13 000 ft; and

(2) all crew members and passengers for any period that the pressure altitude in the passenger compartment will be above 13 000 ft.

NCO.IDE.A.160Hand fire extinguishers(a)Aeroplanes, except touring motor gliders (TMG) and ELA1 aeroplanes, shall be equipped with at least one hand fire extinguisher:

(1) in the flight crew compartment; and

(2) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.

(b)

The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the compartment where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration in compartments occupied by persons.
NCO.IDE.A.165Marking of break-in points

If areas of the aeroplane's fuselage suitable for break-in by rescue crews in an emergency are marked, such areas shall be marked as shown in Figure 1.
Figure 1Marking of break-in pointsNCO.IDE.A.170Emergency locator transmitter (ELT)(a)Aeroplanes shall be equipped with:

(1) an ELT of any type, when first issued with an individual CofA on or before 1 July 2008;

(2) an automatic ELT, when first issued with an individual CofA after 1 July 2008; or

(3) a survival ELT (ELT(S)) or a personal locator beacon (PLB), carried by a crew member or a passenger, when certified for a maximum passenger seating configuration of six or less.

(b)

ELTs of any type and PLBs shall be capable of transmitting simultaneously on 121,5 MHz and 406 MHz.
NCO.IDE.A.175Flight over water(a)The following aeroplanes shall be equipped with a life-jacket for each person on board, or equivalent individual floatation device for each person on board younger than 24 months, that shall be worn or stowed in a position that is readily accessible from the seat or berth of the person for whose use it is provided:

(1) single-engined landplanes when:

(i) flying over water beyond gliding distance from land; or

(ii) taking off or landing at an aerodrome or operating site where, in the opinion of the pilot-in-command, the take-off or approach path is so disposed over water that there would be a likelihood of a ditching;

(2) seaplanes operated over water; and

(3) aeroplanes operated at a distance away from land where an emergency landing is possible greater than that corresponding to 30 minutes at normal cruising speed or 50 NM, whichever is less.

(b)Seaplanes operated over water shall be equipped with:

(1) one anchor;

(2) one sea anchor (drogue), when necessary to assist in manoeuvring; and

(3) equipment for making the sound signals, as prescribed in the International Regulations for Preventing Collisions at Sea, where applicable.

(c)The pilot-in-command of an aeroplane operated at a distance away from land where an emergency landing is possible greater than that corresponding to 30 minutes at normal cruising speed or 50 NM, whichever is the lesser, shall determine the risks to survival of the occupants of the aeroplane in the event of a ditching, based on which he/she shall determine the carriage of:

(1) equipment for making the distress signals;

(2) life-rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency; and

(3) life-saving equipment, to provide the means of sustaining life, as appropriate to the flight to be undertaken.

NCO.IDE.A.180Survival equipment

Aeroplanes operated over areas in which search and rescue would be especially difficult shall be equipped with such signalling devices and life-saving equipment, including means of sustaining life, as may be appropriate to the area overflown.

NCO.IDE.A.190Radio communication equipment(a)

Where required by the airspace being flown aeroplanes shall be equipped with radio communication equipment capable of conducting two-way communication with those aeronautical stations and on those frequencies to meet airspace requirements.

(b)

Radio communication equipment, if required by (a), shall provide for communication on the aeronautical emergency frequency 121,5 MHz.

(c)

When more than one communication 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.

NCO.IDE.A.195Navigation equipment(a)Aeroplanes operated over routes that cannot be navigated by reference to visual landmarks shall be equipped with any navigation equipment necessary to enable them to proceed in accordance with:

(1) the ATS flight plan; if applicable; and

(2) the applicable airspace requirements.

(b)

Aeroplanes shall have sufficient 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 shall allow safe navigation in accordance with (a), or an appropriate contingency action, to be completed safely.

(c)

Aeroplanes operated on flights in which it is intended to land in IMC shall be equipped with suitable equipment capable of providing guidance to a point from which a visual landing can be performed. This equipment shall be capable of providing such guidance for each aerodrome at t which it is intended to land in IMC and for any designated alternate aerodromes.

NCO.IDE.A.200Transponder

Where required by the airspace being flown, aeroplanes shall be equipped with a secondary surveillance radar (SSR) transponder with all the required capabilities.

SECTION 2HelicoptersNCO.IDE.H.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to control the flight path;

(2) used to comply with NCO.IDE.H.190;

(3) used to comply with NCO.IDE.H.195; or

(4) installed in the helicopter.

(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) independent portable lights;

(2) an accurate time piece;

(3) first-aid kit;

(4) survival and signalling equipment;

(5) sea anchor and equipment for mooring; and

(6) child restraint device.

(c)Instruments and equipment not required by this Subpart, as well as any other equipment that is not required by other applicable Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments or equipment shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008 or NCO.IDE.H.190 and NCO.IDE.H.195; and

(2) the instruments and equipment shall not affect the airworthiness of the helicopter, even in the case of failures or malfunction.

(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is seated.

(e)

All required emergency equipment shall be easily accessible for immediate use.

NCO.IDE.H.105Minimum equipment for flight

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

(a) the helicopter is operated in accordance with the MEL, if established; or

(b) the helicopter is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCO.IDE.H.115Operating lights

Helicopters operated at night shall be equipped with:

(a) an anti-collision light system;

(b) navigation/position lights;

(c) a landing light;

(d) lighting supplied from the helicopter's electrical system to provide adequate illumination for all instruments and equipment essential to the safe operation of the helicopter;

(e) lighting supplied from the helicopter's electrical system to provide illumination in all passenger compartments;

(f) an independent portable light for each crew member station; and

(g) lights to conform with the International Regulations for Preventing Collisions at Sea if the helicopter is amphibious.

NCO.IDE.H.120Operations under VFR — flight and navigational instruments and associated equipment(a)Helicopters operated under VFR by day shall be equipped with a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed; and

(5) slip.

(b)Helicopters operated under VMC at night, or when the visibility is less than 1 500 m, or in conditions where the helicopter cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a), equipped with:

(1) a means of measuring and displaying the following:

(i) attitude;

(ii) vertical speed; and

(iii) stabilised heading; and

(2) a means of indicating when the supply of power to the gyroscopic instruments is not adequate.

(c)

Helicopters operated when the visibility is less than 1 500 m, or in conditions where the helicopter cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a) and (b), equipped with a means of preventing malfunction of the airspeed indicating system required in (a)(4) due to condensation or icing.

NCO.IDE.H.125Operations under IFR — flight and navigational instruments and associated equipment

Helicopters operated under IFR shall be equipped with:

(a) a means of measuring and displaying the following:

(1) magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude;

(4) indicated airspeed;

(5) vertical speed;

(6) slip;

(7) attitude;

(8) stabilised heading; and

(9) outside air temperature;

(b) a means of indicating when the supply of power to the gyroscopic instruments is not adequate;

(c) a means of preventing malfunction of the airspeed indicating system required by (a)(4) due to condensation or icing; and

(d) an additional means of measuring and displaying attitude as a standby instrument.

NCO.IDE.H.126Additional equipment for single pilot operations under IFR

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

NCO.IDE.H.135Flight crew interphone system

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

NCO.IDE.H.140Seats, seat safety belts, restraint systems and child restraint devices(a)Helicopters shall be equipped with:

(1) a seat or berth for each person on board who is aged 24 months or more;

(2) a seat belt on each passenger seat and restraining belts for each berth;

(3) for helicopters first issued with an individual CofA after 31 December 2012, a seat belt with an upper torso restraint system for each passenger who is aged 24 months or more;

(4) a child restraint device for each person on board younger than 24 months; and

(5) a seat belt with upper torso restraint system incorporating a device that will automatically restrain the occupant's torso in the event of rapid deceleration on each flight crew seat.

(b)

A seat belt with upper torso restraint system shall have a single point release.

NCO.IDE.H.145First-aid kit(a)

Helicopters shall be equipped with a first-aid kit.

(b)The first-aid kit shall be:

(1) readily accessible for use; and

(2) kept up-to-date.

NCO.IDE.H.155Supplemental oxygen — non-pressurised helicopters(a)

Non-pressurised helicopters operated at flight altitudes when the oxygen supply is required in accordance with (b) shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the required oxygen supplies.

(b)Non-pressurised helicopters operated above flight altitudes at which the pressure altitude in the passenger compartments is above 10 000 ft shall carry enough breathing oxygen to supply:

(1) all crew members and at least 10 % of the passengers for any period in excess of 30 minutes when the pressure altitude in the passenger compartment will be between 10 000 ft and 13 000 ft; and

(2) all crew members and passengers for any period that the pressure altitude in the passenger compartment will be above 13 000 ft.

NCO.IDE.H.160Hand fire extinguishers(a)Helicopters, except ELA2 helicopters, shall be equipped with at least one hand fire extinguisher:

(1) in the flight crew compartment; and

(2) in each passenger compartment that is separate from the flight crew compartment, except if the compartment is readily accessible to the flight crew.

(b)

The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the compartment where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration in compartments occupied by persons.

NCO.IDE.H.165Marking of break-in points

If areas of the helicopter's fuselage suitable for break-in by rescue crews in an emergency are marked, such areas shall be marked as shown in Figure 1.

Figure 1Marking of break-in pointsNCO.IDE.H.170Emergency locator transmitter (ELT)(a)Helicopters certified for a maximum passenger seating configuration above six shall be equipped with:

(1) an automatic ELT; and

(2) one survival ELT (ELT(S)) in a life-raft or life-jacket when the helicopter is operated at a distance from land corresponding to more than 3 minutes flying time at normal cruising speed.

(b)

Helicopters certified for a maximum passenger seating configuration of six or less shall be equipped with an ELT(S) or a personal locator beacon (PLB), carried by a crew member or a passenger.

(c)

ELTs of any type and PLBs shall be capable of transmitting simultaneously on 121,5 MHz and 406 MHz.

NCO.IDE.H.175Flight over water(a)Helicopters shall be equipped with a life-jacket for each person on board or equivalent individual flotation device for each person on board younger than 24 months, which shall be worn or stowed in a position that is readily accessible from the seat or berth of the person for whose use it is provided, when:

(1) flying over water beyond autorotational distance from land where in case of the critical engine failure, the helicopter is not able to sustain level flight; or

(2) flying over water at a distance of land corresponding to more than 10 minutes flying at normal cruising speed, where in case of the critical engine failure, the helicopter is able to sustain level flight; or

(3) taking off or landing at an aerodrome/operating site where the take-off or approach path is over water.

(b)

Each life-jacket or equivalent individual flotation device shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

(c)The pilot-in-command of a helicopter operated on a flight over water at a distance from land corresponding to more than 30 minutes flying time at normal cruising speed or 50 NM, whichever is less, shall determine the risks to survival of the occupants of the helicopter in the event of a ditching, based on which he/she shall determine the carriage of:

(1) equipment for making the distress signals;

(2) life-rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency; and

(3) life-saving equipment, to provide the means of sustaining life, as appropriate to the flight to be undertaken.

(d)

The pilot-in-command shall determine the risks to survival of the occupants of the helicopter in the event of a ditching, when deciding if the life-jackets required in (a) shall be worn by all occupants.

NCO.IDE.H.180Survival equipment

Helicopters, operated over areas in which search and rescue would be especially difficult, shall be equipped with such signalling devices and life-saving equipment, including means of sustaining life, as may be appropriate to the area overflown.

NCO.IDE.H.185All helicopters on flights over water — ditching

Helicopters flying over water in a hostile environment beyond a distance of 50 NM from land shall be:

(a) designed for landing on water in accordance with the relevant airworthiness code;

(b) certified for ditching in accordance with the relevant airworthiness code; or

(c) fitted with emergency flotation equipment.

NCO.IDE.H.190Radio communication equipment(a)

Where required by the airspace being flown helicopters shall be equipped with radio communication equipment capable of conducting two-way communication with those aeronautical stations and on those frequencies to meet airspace requirements.

(b)

Radio communication equipment, if required by (a), shall provide for communication on the aeronautical emergency frequency 121,5 MHz.

(c)

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.

(d)

When a radio communication system is required, and in addition to the flight crew interphone system required in NCO.IDE.H.135, helicopters shall be equipped with a transmit button on the flight controls for each required pilot and/or crew member at his/her working station.

NCO.IDE.H.195Navigation equipment(a)Helicopters operated over routes that cannot be navigated by reference to visual landmarks shall be equipped with navigation equipment that will enable them to proceed in accordance with:

(1) the ATS flight plan, if applicable; and

(2) the applicable airspace requirements.

(b)

Helicopters shall have sufficient 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 shall allow safe navigation in accordance with (a), or an appropriate contingency action, to be completed safely.

(c)

Helicopters operated on flights in which it is intended to land in IMC shall be equipped with navigation equipment capable of providing guidance to a point from which a visual landing can be performed. This equipment shall be capable of providing such guidance for each aerodrome at which is intended to land in IMC and for any designated alternate aerodromes.

NCO.IDE.H.200Transponder

Where required by the airspace being flown, helicopters shall be equipped with a secondary surveillance radar (SSR) transponder with all the required capabilities.
SECTION 3SailplanesNCO.IDE.S.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to control the flight path;

(2) used to to comply with NCO.IDE.S.145;

(3) used to comply with NCO.IDE.S.150; or

(4) installed in the sailplane.

(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) independent portable lights;

(2) an accurate time piece;

(3) survival and signalling equipment.

(c)Instruments and equipment not required by this Subpart as well as any other equipment that is not required by other Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments or, equipment shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008; and

(2) the instruments and equipment shall not affect the airworthiness of the sailplane, even in the case of failures or malfunction.

(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is seated.

(e)

All required emergency equipment shall be easily accessible for immediate use.
NCO.IDE.S.105Minimum equipment for flight

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

(a) the sailplane is operated in accordance with the MEL, if established; or

(b) the sailplane is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCO.IDE.S.115Operations under VFR — flight and navigational instruments(a)Sailplanes operated under VFR by day shall be equipped with a means of measuring and displaying the following:

(1) in the case of powered sailplanes, magnetic heading;

(2) time in hours, minutes and seconds;

(3) pressure altitude; and

(4) indicated airspeed.

(b)Sailplanes operating in conditions where the sailplane cannot be maintained in a desired flight path without reference to one or more additional instruments, shall be, in addition to (a), equipped with a means of measuring and displaying the following:

(1) vertical speed;

(2) attitude or turn and slip; and

(3) magnetic heading.

NCO.IDE.S.120Cloud flying — flight and navigational instruments

Sailplanes performing cloud flying shall be equipped with a means of measuring and displaying the following:

(a) magnetic heading;

(b) time in hours, minutes and seconds;

(c) pressure altitude;

(d) indicated airspeed;

(e) vertical speed; and

(f) attitude or turn and slip.

NCO.IDE.S.125Seats and restraint systems(a)Sailplanes shall be equipped with:

(1) a seat for each person on board; and

(2) a seat belt with upper torso restraint system for each seat according to the AFM.

(b)

A seat belt with upper torso restraint system shall have a single point release.

NCO.IDE.S.130Supplemental oxygen

Sailplanes operated at pressure altitudes above 10 000 ft shall be equipped with an oxygen storage and dispensing apparatus carrying enough breathing oxygen to supply:

(a) crew members for any period in excess of 30 minutes when the pressure altitude will be between 10 000 ft and 13 000 ft; and

(b) all crew members and passengers for any period that the pressure altitude will be above 13 000 ft.

NCO.IDE.S.135Flight over water

The pilot-in-command of a sailplane operated over water shall determine the risks to survival of the occupants of the sailplane in the event of a ditching, based on which he/she shall determine the carriage of:

(a) a life-jacket, or equivalent individual floatation device, for each person on board, that shall be worn or stowed in a position that is readily accessible from the seat of the person for whose use it is provided;

(b) an emergency locator transmitter (ELT) or a personal locator beacon (PLB), carried by a crew member or a passenger, capable of transmitting simultaneously on 121,5 MHz and 406 MHz; and

(c) equipment for making distress signals, when operating a flight:

(1) over water beyond gliding distance from land; or

(2) where the take-off or approach path is so disposed over water that in the event of a mishap there would be a likelihood of ditching.

NCO.IDE.S.140Survival equipment

Sailplanes operated over areas in which search and rescue would be especially difficult shall be equipped with such signalling devices and life-saving equipment as appropriate to the area overflown.

NCO.IDE.S.145Radio communication equipment(a)

Where required by the airspace being flown sailplanes shall be equipped with radio communication equipment capable of conducting two-way communication with those aeronautical stations or those frequencies to meet airspace requirements.

(b)

Radio communication equipment, if required by (a), shall provide for communication on the aeronautical emergency frequency 121,5 MHz.

NCO.IDE.S.150Navigation equipment

Sailplanes shall be equipped with any navigation equipment necessary to proceed in accordance with:

(a) the ATS flight plan if applicable; and

(b) the applicable airspace requirements.

NCO.IDE.S.155Transponder

When required by the airspace being flown, sailplanes shall be equipped with a secondary surveillance radar (SSR) transponder with all the required capabilities.

SECTION 4BalloonsNCO.IDE.B.100Instruments and equipment — general(a)Instruments and equipment required by this Subpart shall be approved in accordance with the applicable airworthiness requirements if they are:

(1) used by the flight crew to determine the flight path;

(2) used to comply with NCO.IDE.B.145; or

(3) installed in the balloon.

(b)The following items, when required by this Subpart, do not need an equipment approval:

(1) independent portable lights;

(2) an accurate time piece;

(3) first-aid kit;

(4) survival and signalling equipment.

(c)Instruments and equipment not required by this Subpart as well as any other equipment that is not required by other Annexes, but is carried on a flight, shall comply with the following:

(1) the information provided by these instruments or equipment shall not be used by the flight crew to comply with Annex I to Regulation (EC) No 216/2008; and

(2) the instruments and equipment shall not affect the airworthiness of the balloon, even in the case of failures or malfunction.

(d)

Instruments and equipment shall be readily operable or accessible from the station where the flight crew member that needs to use it is assigned.

(e)

All required emergency equipment shall be easily accessible for immediate use.

NCO.IDE.B.105Minimum equipment for flight

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

(a) the balloon is operated in accordance with the MEL, if established; or

(b) the balloon is subject to a permit to fly issued in accordance with the applicable airworthiness requirements.

NCO.IDE.B.110Operating lights

Balloons operated at night shall be equipped with:

(a) position lights;

(b) a means to provide adequate illumination for all instruments and equipment essential to the safe operation of the balloon;

(c) an independent portable light; and

(d) for hot air airships the following:

(1) a landing light; and

(2) an anti-collision light.

NCO.IDE.B.115Operations under VFR — flight and navigational instruments and associated equipment

Balloons operated under VFR by day shall be equipped with the following:

(a) a means of displaying drift direction; and

(b) a means of measuring and displaying:

(1) time in hours, minutes and seconds;

(2) vertical speed, if required by the AFM; and

(3) pressure altitude, if required by the AFM, if required by airspace requirements or when altitude needs to be controlled for the use of oxygen.

NCO.IDE.B.120First-aid kit(a)

Balloons shall be equipped with a first-aid kit.

(b)The first-aid kit shall be:

(1) readily accessible for use; and

(2) kept up-to-date.

NCO.IDE.B.121Supplemental oxygen

Balloons operated at pressure altitudes above 10 000 ft shall be equipped with an oxygen storage and dispensing apparatus carrying enough breathing oxygen to supply:

(a) crew members for any period in excess of 30 minutes when the pressure altitude will be between 10 000 ft and 13 000 ft; and

(b) all crew members and passengers for any period that the pressure altitude will be above 13 000 ft.

NCO.IDE.B.125Hand fire extinguishers(a)

Balloons shall be equipped with at least one hand fire extinguisher, if required by the applicable certification specifications.

(b)

The type and quantity of extinguishing agent for the required fire extinguishers shall be suitable for the type of fire likely to occur in the balloon where the extinguisher is intended to be used and to minimise the hazard of toxic gas concentration for the occupants of the balloon.

NCO.IDE.B.130Flight over water

The pilot-in-command of a balloon operated over water shall determine the risks to survival of the occupants of the balloon in the event of a ditching, based on which he/she shall determine the carriage of:

(a) a life-jacket for each person on board, or equivalent individual floatation device for each person on board younger than 24 months, that shall be worn or stowed in a position that is readily accessible from the station of the person for whose use it is provided;

(b) when carrying more than 6 persons, an emergency locator transmitter (ELT) capable of transmitting simultaneously on 121,5 MHz and 406 MHz;

(c) when carrying up to 6 persons, an ELT or a personal locator beacon (PLB), carried by a crew member or a passenger, capable of transmitting simultaneously on 121,5 MHz and 406 MHz; and

(d) equipment for making the distress signals.

NCO.IDE.B.135Survival equipment

Balloons operated over areas in which search and rescue would be especially difficult shall be equipped with such signalling devices and life-saving equipment as appropriate to the area overflown.

NCO.IDE.B.140Miscellaneous equipment(a)

Balloons shall be equipped with protective gloves for each crew member.

(b)Hot-air balloons and mixed balloons shall be equipped with:

(1) an alternative source of ignition;

(2) a means of measuring and indicating fuel quantity;

(3) a fire blanket or fire resistant cover; and

(4) a drop line of at least 25 metres (m) in length.

(c)

Gas balloons shall be equipped with a knife

NCO.IDE.B.145Radio communication equipment(a)

Where required by the airspace being flown, balloons shall be equipped with radio communication equipment capable of conducting two-way communication with those aeronautical stations or those frequencies to meet airspace requirements.

(b)

Radio communication equipment, if required by (a), shall provide for communication on the aeronautical emergency frequency 121,5 MHz.

NCO.IDE.B.150Transponder

When required by the airspace being flown, balloons shall be equipped with a secondary surveillance radar (SSR) transponder with all the required capabilities.

(**1**) OJ L 224, 21.8.2012, p. 1.

**Changes to legislation:**
There are currently no known outstanding effects for the Commission Regulation (EU) No 800/2013.