STATUTORY INSTRUMENTS.

S.I. No. 298 of 2024

IRISH AVIATION AUTHORITY (OPERATIONS) ORDER, 2024

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IRISH AVIATION AUTHORITY (OPERATIONS) ORDER, 2024

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INVESTIGATION AND PREVENTION OF ACCIDENTS AND INCIDENTS IN CIVIL AVIATION

S.I. No. 298 of 2024

IRISH AVIATION AUTHORITY (OPERATIONS) ORDER, 2024

The Irish Aviation Authority in pursuance of sections 58 and 59 of the Irish Aviation Authority Act, 1993 (No. 29 of 1993), hereby orders as follows:

PART I
PRELIMINARY

Citation and commencement

1. (1) This Order may be cited as the Irish Aviation Authority (Operations) Order, 2024.

(2) This Order shall come into operation on the first day of July 2024.

Definitions

2. (1) In this Order:

"the Act" means the Irish Aviation Authority Act, 1993 (No. 29 of 1993) as amended;

"the Authority" means the Irish Aviation Authority;

"accelerate-stop distance available" (ASDA), means the length of the take-off run available plus the length of stopway, if provided;

"aerial work aircraft" means an aircraft, not being a commercial air transport aircraft, which is being flown for payment required to be made, or promised, to the operator of the aircraft in respect of the flight or of the purpose for which the flight is made;

"aerodrome" means a defined area, on land or on water, on a fixed, fixed offshore or floating structure, including any buildings, installations, and equipment thereon, intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft;

"aerodrome operating minima" means the limits of usability of an aerodrome for:

(a) take-off, expressed in terms of runway visual range (RVR) and/or visibility and if necessary, cloud conditions; or

(b) landing in 2D instrument approach operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and l; and

(c) landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision

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altitude/height (DA/H) as appropriate to the type and/or category of the operation;

“advanced aircraft” means an aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach or landing operation;

“aeroplane” means a power-driven heavier-than-air aircraft deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight;

“aircraft” means any machine that can derive support in the atmosphere from the reactions of the air other than the reaction of the air against the earth’s surface;

“aircraft operating manual” means a manual, acceptable to the state of the operator, containing normal, abnormal, and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft. This manual is part of the Operations Manual defined below;

“aircraft tracking” means a process, established by the operator, that maintains and updates, at standardized intervals, a ground-based record of the four-dimensional position of individual aircraft in flight;

“air operator’s certificate” (AOC) means a certificate authorising the operator to carry out specified commercial air transport operations;

“air traffic control” (ATC) ‘air traffic control (ATC) service’ means a service provided for the purpose of:

(a) preventing collisions:

— between aircraft, and

— in the manoeuvring area between aircraft and obstructions; and

(b) expediting and maintaining an orderly flow of air traffic;

“air traffic service” (ATS) as a generic term means, variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service);

“air transport undertaking” means an undertaking the business of which includes the carriage by air for hire or reward of passengers or cargo;

“alternate aerodrome or heliport” means an aerodrome or heliport (including the aerodrome or heliport of departure), which may be specified in a flight plan, to which an aircraft in flight may proceed when it becomes impossible or inadvisable to proceed to or to land at the aerodrome or heliport of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use; alternate aerodromes include the following:

“take-off alternate” means an alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure;

“en-route alternate” means an alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary Awhile en route;

"destination alternate" means an alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing;

"altimetry system error (ASE)" means the difference between the altitude indicated by the altimeter display assuming a correct altimeter barometric setting and the pressure altitude corresponding to the undisturbed ambient pressure;

"emergency locator transmitter" (ELT), used as a generic term, means an equipment which broadcast distinctive signals on designated frequencies and, depending on application, that may be automatically activated by impact or manually activated. It may be one of the following:

(i) an "Automatic fixed ELT" (ELT(AF)), designing an automatically activated ELT which is permanently attached to an aircraft; or

(ii) an "Automatic portable ELT" (ELT(AP)), designing an automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft; or

(iii) an "Automatic deployable ELT" (ELT(AD)), designing an ELT which is rigidly attached to an aircraft and which is automatically deployed and activated by impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided. Or

"Survival ELT" (ELT(S)), designing an ELT which is removable from an aircraft, stowed so as to facilitate its ready use in an emergency, and manually activated by survivors.

"appropriate authority" means, in relation to the State, the Authority and, in relation to any other state, the relevant authority of the state having sovereignty over the territory being overflown, and in the case of flight over the high seas, the relevant authority of the state in which the aircraft concerned is registered;

"appropriate person" means an authorised officer of the Authority as defined in the Act or a person authorised by the appropriate Authority for the purposes of this Order or the Chicago Convention;

"area navigation" (RNAV) means a method of navigation which permits aircraft operation on any desired flight path within the coverage of ground or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

"authorised officer" means an authorised officer of the Authority as defined in section 2 of the Act;

"basic aircraft" means an aircraft which has the minimum equipment required to perform the intended take-off, approach or landing operation;

"cabin crew member" means a crew member who performs, in the interest of the safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft but who shall not act as a flight crew member;

"certificate of airworthiness" means, save where the contrary intention appears, a certificate of airworthiness issued or validated under the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996;

"certificate of registration" means, save where the contrary intention appears, a certificate of registration issued under the Irish Aviation Authority (Nationality and Registration of Aircraft) Order, 2015 (S.I. No. 107 of 2015);

"checklist system" has the meaning assigned to it by Article 23 of this Order;

"the Chicago Convention" (in this Order referred to as "the Convention") has the meaning assigned to it by the Act;

"COMAT" means operator material carried on the operator's aircraft for the operator's own purposes;

"combined vision system" (CVS), means a system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS);

"commander" means the pilot- in-command designated by the operator for a specific flight, who may delegate responsibility to another pilot-in-command;

"commercial air transport aircraft" means an aircraft used or intended to be used by the operator for the purpose of carrying passengers or cargo for which purpose payment is required to be made or promised to the operator or, in a case where the carriage is effected by an air transport undertaking, whether for payment or not;

"commercial air transport operation" means an aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire;

"configuration deviation list" (CDL) means a list established by the organisation responsible for the type design, with the approval of the state of design, which identifies any external parts of an aircraft type which may be missing at the commencement of a flight and which contains, where necessary, any information on associated operating limitations and performance correction;

"congested area" means a densely populated area which is substantially used for residential, commercial, or recreational purposes and is without adequate safe landing areas;

"contaminated runway" means a significant portion of the runway surface area (whether in isolated areas or not) within the length and width being used is covered by one or more of the substances listed in the runway surface condition descriptors;

"(15a) 'contaminated runway'" means a runway whose surface area (whether in isolated areas or not) within the length and width being used is covered in significant part by one or more of the substances listed under the runway surface condition descriptors;

"Continuous descent final approach" (CDFA), means a technique, consistent with stabilized approach procedures, for flying the final approach segment (FAS) of an instrument non-precision approach (NPA) procedure as a continuous descent, without level-off, from an altitude/height at or above the final approach fix altitude/height to a point approximately 15 m (50 ft) above the

landing runway threshold or the point where the flare manoeuvre begins for the type of aircraft flown; for the FAS of an NPA procedure followed by a circling approach, the CDFA technique applies until circling approach minima (circling OCA/H) or visual flight manoeuvre altitude/height are reached:

“controlled flight” means any flight which is subject to an ATC clearance;

“controlled VFR flight” means a controlled flight conducted in accordance with the visual flight rules;

“crew member” means a person assigned by the operator to duty on an aircraft during a flight duty period;

“cruise relief pilot” means a flight crew member who is assigned to perform pilot tasks during cruise flight to allow the pilot-in-command or a co-pilot to obtain planned rest;

“cruising level” means a level maintained during a significant portion of a flight;

“dangerous goods” means articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions, when transported by air;

“decision altitude (DA) or decision height (DH)” means a specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established; (Note: DA is referenced to mean sea level and DH is referenced to the threshold elevation of the runway concerned);

“defined point after take-off or before landing” means, in the case of a multi-engine helicopter, the point before which (during or after take-off) or after which (during approach and landing) the helicopter’s ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;

“dry runway” means a runway which its surface is free of visible moisture and not contaminated within the area intended to be used;

“duty” means any task that flight or cabin crew members are required by the operator to perform, including, for example, flight duty, administrative work, training, positioning and standby when it is likely to induce fatigue;

“duty period” regarding a flight crew or a cabin crew member employed by or working for the holder of an air operator certificate means a period of time which starts when that person is required to report for or to commence a duty and ends when that person is free from all duties;

"the EASA Regulation" has, unless the contrary intention appears, the same meaning in these Regulations as it has in the European Communities (European Aviation Safety Agency) Regulations 2003 (as amended);

“electronic flight bag” (EFB), means an electronic information system, comprised of equipment and applications, for flight crew which allows for storing, updating, displaying, and processing of EFB functions to support flight operations or duties;

“elevated heliport” means a heliport located on a raised structure on land;

"engine" means a unit used or intended to be used for aircraft propulsion. It consists of at least those components and equipment necessary for functioning and control, but excludes the propeller/rotors (if applicable);

"Enhanced Ground Proximity Warning System (EGPWS)" means a ground proximity warning system with a forward-looking terrain avoidance function;

"enhanced vision system" (EVS), means a system to display electronic real-time images of the external scene achieved through the use of image sensors;

Note: EVS does not include night vision imaging systems (NVIS).

"extended diversion time operations" (EDTO), means any operation by an aeroplane with two or more turbine engines where the diversion time to an en-route alternate aerodrome is greater than the threshold time established by the State of the Operator

"EDTO critical duel" means the fuel quantity necessary to fly an en-route alternate aerodrome considering, at the most critical point on the route, the most limiting system failure;

"EDTO-significant system" means an aeroplane system whose failure or degradation could adversely affect the safety particular to an EDTO flight, or whose continued functioning is specifically important to the safe flight and landing of an aeroplane during an EDTO diversion;

"fatigue" means a physiological state of reduced mental or physical performance capability resulting from sleep loss, extended wakefulness, circadian phase, and/or workload (mental and/or physical activity) that can impair a person's alertness and ability to perform safety-related operational duties;

'final approach and take-off area (FATO)' means a defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by helicopters operated in performance class 1, the defined area includes the rejected take-off area available.

"flight crew member" means:

(a) in relation to an aircraft registered in the State, a flight crew member licensed or validated under the Irish Aviation Authority (Personnel Licensing) Orders, 2000 (S.I. No. 333 of 2000), or the EASA Regulation, and assigned to duty on an aircraft during flight time, or

(b) in relation to an aircraft registered in any other state, a flight crew member appropriately licensed or validated under the law of that state and charged with duties essential to the operation of an aircraft during a flight duty period;

"Flight Data Analysis" means a process of analysing recorded flight data to improve the safety of flight operations;

"flight duty time or period" means a period which commences when a flight or cabin crew member Is required to report for duty that includes a flight or a series of flights and which finishes when the aeroplane finally comes to rest and the

engines are shut down at the end of the last flight on which he or she is a crew member;

"flight manual" means a manual which is associated with a certificate of airworthiness and contains limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew members for the safe operation of the aircraft;

"flight operations officer/flight dispatcher" means a person designated by the operator to engage in the control and supervision of flight operations, whether licensed or not, suitably qualified in accordance with Annex 1 to the Convention, who supports, briefs and/or assists the pilot-in-command in the safe conduct of the flight, according to Article 50 of this Order;

"flight plan" means specified information provided to air traffic services units relative to an intended flight or portion of a flight of an aircraft;

"flight preparation form" has the meaning assigned to it by Article 29 of this Order;

"flight recorder" means any type of recorder installed in an aircraft for the purpose of complementing accident/incident investigation and includes flight data recorder (FDR) and cockpit voice recorders;

(i) "automatic deployable flight recorder" (ADFR), means a combination flight recorder installed on the aircraft which is capable of automatically deploying from the aircraft;

"flight safety documents system" means a set of inter-related documentation established by the operator, compiling, and organising information necessary for flight and ground operations and comprising, as a minimum, the operations manual and the operator's maintenance control manual;

"flight time" means, save where the contrary intention appears, the total time from the moment an aeroplane first moves for the purpose of taking off, under its own or external power, until the moment it finally comes to rest at the end of the flight; (this is also known as "block to block" or "chock to chock" time in general usage) or in the case of a helicopter, from the moment its rotor blades start turning until the moment the helicopter finally comes to rest at the end of the flight and its rotor blades have stopped;

"Fatigue Risk Management System" (FRMS), means data-driven means of continuously monitoring and managing fatigue-related safety risks, based upon scientific principles and knowledge as well as operational experience that aims to ensure relevant personnel are performing at adequate levels of alertness;

"Final Approach Segment" (FAS) means that segment of an instrument approach procedure in which alignment and descent for landing are accomplished;

"ground handling" means those services necessary for an aircraft's arrival at and departure from an airport, other than air traffic services;

"heliport" means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure, and surface movement of helicopters;

'Heliport elevation' means the elevation of the highest point of the FATO.

"head-up display" (HUD), means a display system that presents flight information into the pilot's forward external field of view;

"human factors principles" means principles which apply to aeronautical design, certification, training, operations, and maintenance of aircraft and which seek safe interface between the human and other system components by proper consideration of human performance;

"human performance" means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations;

"instrument approach operations" means an approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

(a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

(b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance;

[Note: Lateral and vertical navigation guidance refers to the guidance provided either by:

(1) a ground-based radio navigation aid; or

(2) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.]

"instrument flight rules (IFR)" means the applicable rules contained in the Standardised Rules of the Air, issued in accordance with the EASA Regulation;

"instrument meteorological conditions (IMC)" means meteorological conditions expressed in terms of visibility, distance from cloud and ceiling less than the minima for visual meteorological conditions;

"isolated aerodrome" means a destination aerodrome for which there is no destination alternate aerodrome suitable for a given aeroplane type;

"instrument approach procedure" (IAP), means a series of predetermined manoeuvres by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

(a) non-precision approach procedure (NPA), means an instrument approach procedure designed for 2D instrument approach operations Type A;

(b) approach procedure with vertical guidance (APV), means a performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A or B; and

(c) precision approach procedure (PA), means an instrument approach procedure based on navigation systems (ILS, MLS,

GLS and SBAS CAT I) designed for 3D instrument approach operations Type A or B.

"Part-145" means "EASA Regulation Part 145" and contains the requirements and procedures for the approval of an aircraft maintenance organisation for the maintenance release of a commercial air transport aircraft;

"landing distance available" (LDA), means the length of the runway which is declared available and suitable for the ground run of an aeroplane landing;

"load sheet" has the meaning assigned to it by Article 30(4)(c) of this Order;

"maintenance" means the performance of tasks required to ensure the continued airworthiness of an aircraft including any one or combination of overhaul, inspection, replacement, defect rectification and the embodiment of a modification or repair;

"maintenance control manual" means the operator's maintenance control manual and has the meaning assigned to it in Part VIII of the Order;

"maintenance programme" means a document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of the aircraft to which it relates;

"maintenance release" means a maintenance release issued under the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 (S.I. No. 324 of 1996) and is a release to service which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organisation's procedures manual or the operator's maintenance control manual or under an equivalent system;

"Master Minimum Equipment list (MMEL)" means a list established for a particular aircraft type by the organisation responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight and which may be associated with special operating conditions limitations or procedures for that flight;

"maximum diversion time" means the maximum allowable range, expressed in time, from a point on a route to an en-route alternate aerodrome;

"maximum mass" means the maximum certificated mass of an aircraft;

"maximum total mass authorised" (MTMA) means the maximum total mass of the aircraft and its contents at which the aircraft may take off in accordance with the certificate of airworthiness in force in respect of the aircraft and the associated flight manual limitations and regulated performance;

"minimum descent altitude/height (MDA/MDH)" means a specified altitude or height in a 2D instrument approach operation or circling approach operation below which descent must not be made without the required visual reference;

"Minimum Equipment List (MEL)" means a list which provides for the operation of an aircraft, subject to specified conditions, with particular

equipment inoperative, prepared by the aircraft operator in conformity with or more restrictive than the Master Minimum Equipment List (MMEL);

'navigation specification' means a set of requirements for aircraft and aircrew needed to support performance-based navigation operations within a defined airspace;

i. 'required navigation performance (RNP) X specification' means a navigation specification based on area navigation that includes the requirement for on-board performance monitoring and alerting, whereby 'X' refers to the lateral navigation accuracy in nautical miles or the operation type and required functionalities;

ii. 'area navigation (RNAV) X specification' means a navigation specification based on area navigation that does not include the requirement for on-board performance monitoring and alerting, whereby 'X' refers to the lateral navigation accuracy in nautical miles;

"obstacle clearance altitude (OCA) or obstacle clearance height (OCH)" means the lowest altitude or lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria;

"obstacle clearance limit (OCL)" means the height above the elevation of an aerodrome below which the minimum required vertical clearance cannot be maintained on approach or in the event of a missed approach;

"Operations Manual" has the meaning assigned to it by Article 23 of the Order;

"operations specifications" means the authorizations including specific approvals, conditions and limitations associated with the air operator certificate and subject to the conditions in the operations manual;

"operational control" means the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft, those on board and the regularity and efficiency of that flight;

"operational credit" means a credit authorized for operations with an advanced aircraft enabling a lower aerodrome operating minimum than would normally be authorized for a basic aircraft, based upon the performance of advanced aircraft systems utilizing the available external infrastructure;

"operational flight plan" means the operator's plan for the safe conduct of the flight based on considerations of aircraft performance, other operating limitations, and relevant expected conditions on the route to be followed and at the aerodromes concerned;

"operator" means the person, organisation or enterprise engaged in or offering to engage in an aircraft operation; and who or which, in relation to any particular aircraft, has at the relevant time the responsibility for the management of that aircraft; the operator of a commercial air transport aircraft is the holder of an air operator certificate from the state of the operator concerned; the operator of a private or an aerial work aircraft is the registered owner;

"operator's maintenance control manual" means a document which describes the operator's procedures necessary to ensure that all scheduled and unscheduled maintenance is performed on the operator's aircraft on time and in a controlled and satisfactory manner;

"the Order" means this Order;

"pilot- in-command" means the pilot designated by the operator or, in the case of a private category aircraft or an aerial work aircraft, designated by the registered owner, as being in command of that aircraft and charged with the safe conduct of a flight;

"performance-based aerodrome operating minimum" (PBAOM), means a lower aerodrome operating minimum, for a given take-off, approach or landing operation, than is available when using a basic aircraft;

"performance-based communication" (PBC), means communication based on performance specifications applied to the provision of air traffic services;

"performance-based navigation" (PBN) means area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace;

"performance-based surveillance" (PBS), means surveillance based on performance specifications applies to the provision of air traffic services;

"Performance Class 1" means, in relation to a helicopter, performance such that, in the case of critical power unit failure, it can land on the rejected take-off area or safely continue the flight to an appropriate landing area, depending on when the failure occurs;

"Performance Class 2" means, in relation to a helicopter, performance such that in the case of critical power unit failure, it can safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which case a forced landing may be required;

"Performance Class 3" means, in relation to a helicopter, performance such that, in the case of power unit failure at any point in the flight profile, a forced landing must be performed;

"point of no return" means the last possible geographic point at which an aircraft can proceed to the destination aerodrome as well to an available en route alternate aerodrome for a given flight;

"prescribed" means prescribed by a direction given by the Authority and the expression "prescribe" shall be construed accordingly;

"pressure altitude" means an atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere as defined in Annex 8 to the Chicago Convention;

"private aircraft" means an aircraft which is neither a commercial air transport aircraft nor an aerial work aircraft;

"proficiency check" means a demonstration of skill to revalidate or renew a flight crew licence rating and including such oral examination as the examiner may require;

“psychoactive substances” means alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded;

“repair” means the restoration of an aeronautical product to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements for the issuance of the type certificate for the respective aircraft type, after it has been damaged or subjected to wear;

“rest period” means any period of time on the ground during which a flight crew member is relieved of all duties by the operator;

“runway visual range” (RVR) means the range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line;

“required communication performance specifications” (RCP) means a set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based communication;

Required surveillance performance (RSP) specification. A set of requirements for air traffic service provision and associated ground equipment, aircraft capability, and operations needed to support performance-based surveillance.

“safety management system” (SMS) means a systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies, and procedures;

“state of registry” means the state on whose register the aircraft is entered;

“state of the operator” means the state in which the operator’s principal place of business is located or, if there is no such place of business, the operator’s permanent residence;

‘surface-level heliport’ means a heliport located on the ground or on a structure on the surface of the water.

“synthetic training device (STD)” means any one of the following types of apparatus in which flight conditions are simulated on the ground:

(c) a synthetic training device which provides accurate representation of the flight-deck of a particular aircraft type to the extent that the mechanical, electrical, electronic, and other aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of the type of aircraft are realistically simulated,

(d) a flight procedures simulator which provides a realistic flight-deck environment, and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, and other aircraft systems, and the performance and flight characteristics of aircraft of a particular class, or

(e) a basic instrument flight trainer which is equipped with appropriate instruments, and which simulates the flight-deck

environment of an aircraft in flight in instrument flight conditions;

"synthetic vision system" (SVS), means a system to display data-derived synthetic images of the external scene from the perspective of the flight deck;

"target level of safety (TLS)" means a generic term representing the level of risk which is considered acceptable in particular circumstances;

"Technical Instructions" means the Technical Instructions for the Safe Transport of Dangerous Goods by Air published by the International Civil Aviation Organisation (ICAO) as Document No. 9284;

"threshold time" means the range, expressed in time, established by the Authority to an en-route alternate aerodrome, whereby any time beyond requires an EDTO approval from the Authority;

"total cosmic radiation" means the total of ionising and neutron radiation of galactic and solar origin;

"total vertical error (TVE)" means the vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level);

"transition altitude/level" means the altitude below which the vertical position of an aircraft is controlled by reference to altitudes instead of flight levels;

"visual flight rules (VFR)" means the applicable rules contained in the Standardised Rules of the Air, issued in accordance with the EASA Regulation;

"visual meteorological conditions (VMC)" means meteorological conditions expressed in terms of visibility, distance from cloud and ceiling equal to or better than the minima specified in the Standardised Rules of the Air, issued in accordance with the EASA Regulation.

"wet runway" means a runway which its surface is covered by any visible dampness or water up to and including 3 mm deep within the intended area of use;

(2) In this Order a reference to an enactment or order shall, unless the context otherwise requires, be construed as a reference to the enactment or order as amended, as extended by or under any subsequent enactment or order.

Revocation

3. (1) The Irish Aviation Authority (Operations) Order, 2006 (S.I. No. 61 of 2006) and the Irish Aviation Authority (Air Operator Certificates) Order, 1999 (S.I. No. 420 of 1999), are hereby revoked.

(2) Notwithstanding the revocation of the Irish Aviation Authority (Operations) Order, 2006, any direction given under those Orders and in force at the commencement of this Order shall continue in force and shall be deemed for all purposes to have been given under this Order.

Application of Order and exemption from Order

4. (1) Subject to paragraphs (2) and (3) of this Article, this Order shall, unless the contrary intention appears or is stated, apply to all aircraft registered in the State, wherever such aircraft may be, unless such an aircraft is subject to a delegation of oversight responsibility to another state under Article 83 bis to the Convention and shall also apply to all aircraft operated by a commercial air transport operator under an air operator's certificate issued by the Authority and, with respect to Article 6(1) and Article 6(2), Article 9(2), Article 11, Article 18(1) and clauses (iv) and (v) of subparagraph (a) of Article 18(3), Article 19(1), Article 26(4), Article 48(2)(c) and (e), Article 51, Article 54(1), Article 56(3)(a) and (c) and Article 61(2) shall also apply to aircraft registered in any other state when such aircraft are in or over the State.

(2) The Authority may direct that such provisions of this Order as may be specified in the direction shall apply to such aircraft, not being aircraft registered in the State, which are for the time being under the management of a person who is qualified to hold a legal or beneficial interest by way of ownership of an aircraft registered in the State, as may be so specified.

(3) An aircraft being used solely for:

(a) the purpose of training any person or persons carried therein (other than the crew member thereof) to perform duties in an aircraft, or

(b) the carriage of persons for the purpose of undergoing instruction in flying,

shall not be a commercial air transport aircraft for the purposes of this Order but the requirements of paragraphs (1), (2) and (3) of Article 30 and paragraphs (2) and (6) of Article 61 of this Order shall apply to such an aircraft unless otherwise prescribed or unless it is an aircraft owned by or operated under an arrangement entered into by a flying club or it is an aerial work aircraft, when it shall be registered in the State and the appropriate requirements of Articles 29 and 62 shall apply to it.

(4) The Authority may exempt a person or an aircraft from a provision of this Order subject to such conditions as the Authority determines necessary to ensure an equivalent level of safety in respect of such an exemption and which conditions shall be complied with by the person to whom or regarding the aircraft to which the exemption relates.

(5) The provisions of this Order shall not apply to an aircraft to the extent that the applicable provisions of the EASA Regulation have force of law in the State and apply to that aircraft.

Application to unregistered aircraft

5. If an aircraft which is not registered flies in contravention of Article 13 of the Irish Aviation Authority (Nationality and Registration of Aircraft) Order, 2015, this Order shall apply to that aircraft, when in or over the State, in like manner as it applies to aircraft registered in the State and the liability of that

aircraft, when so flying, shall be the same in all respects as the liability under this Order of aircraft registered in the State.

Detention of Aircraft and Access to Aircraft, Organisations and Persons

6. (1) Whenever it appears, either to the Authority or to an authorised officer, that an aircraft has been, is intended to be or is likely to be flown from any place within the State in such circumstances that the flight was or would be in contravention of the Act or any of the Orders or Directions thereunder, including this Order, or was or would be a cause of danger to persons or property therein or elsewhere, the Authority or the authorised officer may investigate those circumstances or any incident concerned and may give to the operator of that aircraft or the person acting as or designated by the operator to act as pilot-in-command of that aircraft instructions, not to make a further flight and may take such steps by way of detention of that aircraft or otherwise as appear to the Authority or that officer to be necessary in order to prevent such a flight. A person instructed by the Authority or an authorised officer not to make a flight shall comply with such an instruction.

(2) For the purpose of paragraph (1) of this Article or for any other purpose under the Act and the Orders or Directions thereunder, an authorised officer may enter and inspect an aircraft and may exercise the powers of section 65(2) of the Act for the purposes of the detention of an aircraft or of any investigation necessary.

(3) The Authority or an authorised officer shall, on request, be granted access by the operator to that operator's organisation and to any person who has duties under this Order in respect of the operation or maintenance of an aircraft by that organisation.

Directions

7. (1) The Authority may give such directions in respect of such matters and things as may be specified in this Order for carrying out the purposes of this Order and the Schedules thereto as may be necessary and appropriate.

(2) Directions under this Order may be given in the form of Notices to Airmen (otherwise known as "NOTAMS"), Notices to Aircraft Operators, Notices to Aircraft Owners and Aircraft Engineers (otherwise known as "Aeronautical Notices"), or Aeronautical Information Circulars, any, or all of which may be posted on the Authority's website, or by notice sent by registered post to the person affected.

(3) Where compliance with the relevant the EASA Regulation is required by this Order or by a Direction under this or any other Order or by virtue of a Regulation of the European Communities and a provision of that EASA Regulation conflicts or may be interpreted to conflict with a corresponding provision of this Order, that provision of the applicable EASA Regulation shall take precedence over the corresponding provision of this Order unless otherwise prescribed by the Authority in a particular case.

PART II

GENERAL

Operator's responsibility for employees' knowledge of laws and regulations

8. (1) The operator of a commercial air transport aircraft shall comply with the applicable EASA Regulation and shall ensure that in respect of the operation of each aircraft for which that operator is responsible:

(a) all employees of the operator concerned with an aircraft operation, including all flight and cabin crew members, are aware that, when in or over the territory of the State or of another state, they are obliged to comply with the laws, regulations, and procedures in force in that state;

(b) the pilot-in-command of an aircraft is familiar with the regulations and procedures in force pertinent to the performance of his or her duties in respect of:

(i) the areas to be traversed, and

(ii) the aerodromes or heliports to be used and, where applicable, the air navigation facilities relating to them;

(c) other flight crew members of that aircraft are familiar with such of the regulations and procedures referred to in subparagraph (b) of this paragraph as are pertinent to the performance of their respective duties in the operation of the aircraft.

(d) the flight crew members have demonstrated the ability to speak and understand the language used for communications as specified in Annex 1 to the Convention

(a) The pilot-in-command of an aircraft shall comply with the relevant laws, regulations, and procedures of the states in which that aircraft is operated.

(b) The pilot-in-command shall not conduct operations for which a specific approval is required unless such approval has been issued by the State of Registry. Specific approvals shall follow the layout and contain at least the information listed in Appendix 2.4 of Annex 6, Part II to the Convention.

Responsibility of the operator

9. (1) The pilot- in-command of an aircraft, and the operator of a commercial air transport aircraft, shall be responsible for the operation and safety of the aircraft and for the safety of all persons on board during flight time.

(2) The operator of an aircraft shall not engage in commercial air transport operations with that aircraft unless that operator is in possession of a valid air operator's certificate issued by the state of the operator, in accordance with

Annex 6 to the Convention or, the EASA Regulation, authorising that operator to conduct commercial air transport operations in accordance with such conditions and limitations as may be specified for that operator.

(3) The operator of a commercial air transport aircraft shall be responsible for the operational control of each aircraft operated by that operator and shall ensure the safety of all persons who board an aircraft so operated with the intention of making a flight therein and shall comply with the appropriate requirements of this Order and the EASA Regulation in respect of the operation of that aircraft.

(4) The operator of a commercial air transport aircraft shall ensure that there is on board that aircraft for every flight a checklist of procedures to be followed in searching for a bomb in case of suspected aircraft sabotage and for inspecting aircraft for concealed weapons, explosives, or other dangerous devices when a well-founded suspicion exists that any such might be present on board that aircraft. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least-risk bomb location specific to the aircraft.

(5) (a) The operator of a commercial air transport aircraft shall establish and maintain a safety management system for the aircraft operations under the operator's control. In the case of an aircraft with a certificated take- off mass of more than 27,000 kg, the operator shall establish and maintain a flight data analysis programme as part of its safety management system which shall contain adequate safeguards to protect the identity of persons involved in relation to the sources of the data in accordance with Appendix 3 to Annex 19 to the Convention.

(b) The operator of a commercial air transport aircraft shall establish a flight safety documents system as part of its safety management system for the use and guidance of operational personnel which shall be so organised as to provide easy access to flight and ground operations information within that system as well as to effectively manage the distribution and revision of operational documents.

(6) The operator of a commercial air transport aircraft, who is the holder of a current air operator's certificate issued by the Authority, shall comply with all the appropriate requirements of the Order and the provisions of the EASA Regulations.

(7) An aircraft, wherever registered, shall not be used within the State for aerial work without the permission of the Authority.

Aircraft Tracking

10. (a) The Operator of a commercial air transport aircraft shall establish an aircraft tracking capability to track aeroplanes throughout its area of operation.

(b) The Operator of a commercial air transport aircraft shall track the position of an aeroplane through automated reporting at least

every 15 minutes for the portion(s) of the in-flight operation(s) that is planned in an oceanic area(s) under the following conditions:

i. the aeroplane has a maximum certificated take-off mass of over 45 500 kg and a seating capacity greater than 19; and

ii. where an ATS unit obtains aeroplane position information at greater than 15-minute intervals.

(c) Notwithstanding the preceding provisions, the Authority may, based on the results of an approved risk assessment process implemented by the operator, allow for variations to automated reporting intervals. The process shall demonstrate how risks to the operation, resulting from such variations, can be managed and shall include at least the following:

i. capability of the operator's operational control systems and processes, including those for contacting ATS units;

ii. overall capability of the aeroplane and its systems;

iii. available means to determine the position of, and communicate with, the aeroplane;

iv. frequency and duration of gaps in automated reporting;

v. human factors consequences resulting from changes to flight crew procedures; and

vi. specific mitigation measures and contingency procedures.

Pilot -in-command's duties in certain emergencies

11. (1) Where an emergency occurs during flight time which endangers the safety of an aircraft or of any person therein and necessitates the taking of action involving a violation by any crew member of regulations or procedures in force in the airspace in which that aircraft is flying, the pilot-in-command shall notify the appropriate authority, without delay, of the violation, and shall submit a written report on the violation and the reason therefor to the Authority in all cases and also to the appropriate authority of the state in or over which the violation occurs, if that state requires such a report.

(2) A copy of a report referred to in paragraph (1) of this Article shall be submitted to the Authority by the pilot-in-command concerned as soon after the occurrence of the emergency as may be reasonably practicable and where possible within ten days of such occurrence.

(3) (a) Subject to subparagraph (b) of this paragraph, if an aircraft in flight (or such of its equipment as is necessary for the airworthiness of the aircraft) sustains a defect affecting the safety of the aircraft, the aircraft shall land at the earliest safe opportunity and shall not fly again unless a certificate of release to service relating to the rectification of the defect has been issued under the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996;

(b) Where, in the case of an aircraft having more than two engines, any engine loses power or has to be shut down, the pilot- in-command of that aircraft:

(i) may, instead of landing at the earliest safe opportunity, decide to land at a suitable convenient aerodrome, and

(ii) shall report, as soon as practicable after the occurrence, to the appropriate air traffic control unit the loss of power and his or her decision to land at a suitable aerodrome and shall thereafter keep air traffic control fully informed of the progress of the flight;

(c) The pilot-in-command of an aircraft shall not decide to land at a suitable convenient aerodrome instead of landing at the earliest safe opportunity unless he or she is satisfied that the course adopted is as safe as landing at the earliest safe opportunity and he or she has taken into account factors which may affect the safety of the aircraft including:

(i) the nature of the malfunction of the engine which caused the loss of power,

(ii) any possible mechanical difficulties which may result from the continuation of the flight,

(iii) the altitude and mass of the aircraft,

(iv) the amount of fuel remaining in the aircraft,

(v) the weather conditions en route and at any suitable convenient aerodrome,

(vi) the density of the air traffic in and about any suitable convenient aerodrome,

(vii) the nature of the terrain to be overflown, and

(viii) the familiarity of the flight crew with conditions in and about any suitable convenient aerodrome;

(d) Whenever a pilot- in-command of an aircraft lands that aircraft at a suitable convenient aerodrome instead of at the earliest safe opportunity, he or she shall, as soon as is reasonably practicable, furnish the operator, or if there is otherwise no operator, the Authority, with a report in writing stating the reasons for the decision to land at the selected aerodrome rather than at the earliest safe opportunity;

(e) Whenever the operator is furnished with a report pursuant to subparagraph (d) of this Article, the operator shall, within ten days of the receipt of the report, furnish the Authority with a copy of the report together with any observations the operator may wish to make on the report.

Carriage of explosives and dangerous goods

12. (1) The carriage of explosive substances and other dangerous goods in an aircraft shall be conducted generally in accordance with the Standards and Recommended Practices of Annex 18 to the Convention and its associated Technical Instructions and in compliance with the provisions of this Order, the Air Navigation (Carriage of Munitions of War, Weapons and Dangerous Goods) Orders, 1973 and 1979 and any applicable Directions under those Orders and, for a commercial air transport operator certificated by the Authority, in accordance with the EASA Regulations.

(2) The operator of a commercial air transport aircraft and, in respect of subparagraph (a) of this paragraph, the pilot–in-command of an aircraft shall:

(a) ensure that dangerous goods are not carried in an aircraft cabin occupied by passengers or on the flight deck of an aircraft except in circumstances permitted by the provisions of the National Civil Aviation Security Programme (NCASP) and Technical Instructions referred to in paragraph (1) of this Article;

(b) provide the pilot-in-command as early as practicable before departure of the aircraft carrying such goods with written information as specified in the technical instructions referred to in paragraph (1) of this Article;

(c) provide such information in the Operations Manual as will enable the flight crew to carry out its responsibilities regarding the carriage of dangerous goods and shall provide instructions as to the action to be taken in the event of emergencies arising involving dangerous goods;

(d) in the event of an aircraft accident or incident, provide information without delay to emergency personnel responding to the accident or incident about the dangerous goods on board as shown on the written information to the pilot-in-command;

(e) promulgate information to intending passengers in such a manner that they are warned as to the types of dangerous goods which a person is forbidden from transporting aboard an aircraft as provided for in the Technical Instructions as referred to in paragraph (1) of this Article; and

(f) ensure that all personnel, including third-party personnel, involved in the acceptance, handling, loading, and unloading of cargo are informed of the operator's specific approval and limitations with regard to the transport of dangerous goods.

Information on search and rescue services

13. (1) The pilot-in-command shall have available on the aircraft or shall determine all essential information concerning all search services and all rescue services in the area over which the aircraft will be flying.

(2) In the case of a commercial air transport aircraft, the operator shall ensure that such information is made available to the pilot-in-command, either in the

Operations Manual, or by such other means as the Authority considers appropriate or as required by the EASA Regulations.

Carriage of passengers on test flights prohibited

14. (1) The operator of a commercia l transport aircraft and the pilot-in-command of an aircraft shall ensure that a person (other than a required flight crew member or a person authorised by the Authority) is not carried in an aircraft engaged on a test flight unless the carriage of that person is necessary or desirable for the purpose of, or in connection with, the test flight and is authorised by the operator and by the pilot- in-command.

(2) In this article "test flight" means a flight for the purpose of proving the airworthiness of an aircraft or of its equipment.

Smoking in aircraft

15. (1) The pilot- in-command of an aircraft or the operator of a commercial air transport aircraft shall take reasonable steps to ensure that smoking is prohibited in that aircraft as follows:

(a) if and in so far as smoking is prohibited by the certificate of airworthiness or the flight manual of such aircraft;

(b) in any circumstances when smoking might endanger the safety of the aircraft;

(c) in order to comply with an ICAO recommendation endorsed by the State.

(2) The pilot- in-command of an aircraft or the operator of a commercial air transport aircraft shall take reasonable steps to ensure that instructions indicating when smoking is prohibited in any compartment of that aircraft are conveyed to all persons in that compartment.

(3) A person shall not smoke in a compartment of an aircraft when smoking is prohibited in that compartment by an instruction to that effect given by or on behalf of the pilot-in-command.

(4) A person who is not authorised by the pilot- in-command or the operator of an aircraft shall not tamper with or interfere with smoke or fire detection or fire extinguishing equipment in an aircraft compartment.

Keeping of logbooks and records

16. (1) The operator of a commercial air transport aircraft shall keep a logbook, in this Order referred to as a journey logbook, and shall comply with the EASA Regulation in respect of the keeping of such a logbook which shall contain the particulars set out in paragraph 1 of the Second Schedule to this Order and shall preserve such records for a period of not less than six months beginning on the date of the last entry or such other period as may be required by the EASA Regulation.

(2) The operator of a commercial air transport aircraft shall, in respect of any flight by that aircraft during which it may fly to an altitude of more than 49,000 feet, maintain records so that the total cosmic radiation dose received by each crew member over a period of twelve consecutive months can be estimated or determined. The operator shall also preserve such records in each case for twelve months after a crew member has left the operator's organisation.

Keeping of entries

17. An entry made in a journey logbook, or any other record required to be kept under this Order shall be indelible and shall be kept up to date and in accordance with the EASA Regulation.

Alteration of entries or making false entries

18. A person shall not:

(1) mutilate, alter, or render illegible any journey logbook or other record, required to be kept under this Order or any entry made in any such logbook or record, or destroy any such logbook or record during the period for which it is required under this Order to be preserved;

(2) wilfully make, or procure to be made, or assist in the making of any false entry in, or material omission from, any journey logbook or any other record kept, or required to be kept, under this Order.

Documents to be carried on aircraft

19. (1) An aircraft shall not fly unless it has on board the documents which are required to be on board under the law of the state in which it is registered and which shall include, in the case of an aircraft registered elsewhere than in the State, the documents specified in this Article under sub-paragraph (3)(a) for any aircraft and for a commercial air transport aircraft the documents (or their equivalents) required by Annex 6 to the Convention under sub-paragraph (3)(b), and for an aerial work aircraft, the documents specified in subparagraph (3)(c)(ii).

(2) An aircraft shall, when in flight, have on board documents in accordance with paragraph (3) of this Article; provided that, if the flight is intended to begin and end at the same aerodrome or heliport without passing over the territory of any other state, the documents specified in subparagraph (a) of the said paragraph (3) may be kept at that aerodrome or heliport.

(3) Subject to the proviso in paragraph (2) of this Article, it shall be necessary to have on board:

(a) an aircraft when in-flight the following documents, that is to say:

(i) the certificates of registration and of airworthiness in force in respect of the aircraft,

(ii) valid licences, with appropriate current ratings, for the flight crew members of the aircraft,

(iii) the flight manual for the aircraft, or other documents acceptable to the Authority as equivalent to the flight manual,

(iv) when cargo is carried, the cargo manifest or such other documents as may be prescribed from time to time as acceptable in lieu thereof,

(v) in the case of an aircraft to which requirements for noise certification by the appropriate authority of a state are applicable, a document in English or with an English translation attesting compliance with such requirements,

(vi) a document specifying the procedures prescribed in Annex 2 to the Chicago Convention for pilots- in-command of intercepted aircraft, and

(vii) a radio station licence.

(b) a commercial air transport aircraft when in flight, the following documents:

(i) the documents specified in subparagraph (a) of this paragraph,

(ii) a copy of the Operations Manual, or relevant parts thereof (including all amendments thereto) for the aircraft,

(iii) a copy of the maintenance release in force in respect of the aircraft,

(iv) a copy of the load sheet required by Article 30 of this Order in respect of the flight,

(v) the technical log required by Article 20 of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996,

(vi) the journey logbook or other record required by Article 15 of this Order,

(vii) checklists of procedures to be used by crew members during and after all phases of operations and in the event of an emergency and of the procedures to be followed in searching the aircraft in the event of suspected sabotage,

(viii) the operational flight plan,

(ix) the air operator's certificate,

(x) the record of emergency and survival equipment carried; and

(xi) where that aircraft is operated by the operator certificated by the Authority, the documents required by the EASA Regulation.

(c) an aerial work aircraft when in flight, the following documents, that is to say

(i) the documents specified in subparagraph (a) and in clauses (iii) and (v) of subparagraph (b) of this paragraph;

(ii) a copy of the appropriate permission given by the Authority as required by this Order and any exemptions issued in accordance with the Irish Aviation Authority (Standardised Rules of the Air) Order, 2019;

(iii) such other documents as the Authority may require to be carried on a particular flight or flights.

(4) An aeroplane, when operating under an Article 83 bis agreement entered into between the State and the State of the Operator, shall carry a certified true copy of the agreement summary, in either an electronic or hard copy format. When the summary is issued in a language other than English, an English translation shall be included.

Production of documents

20. (1) The pilot-in-command of an aircraft shall, when required to do so by the appropriate person, produce or cause to be produced to that person such of the documents required by Article 18 of this Order to be on board the aircraft in flight as that person requests to be produced.

(2) The owner or operator of an aircraft registered in the State shall, after being required to do so by the appropriate person, produce or cause to be produced to that person for inspection by that person such of the following documents as that person requests to be produced:

(a) any certificates, logbooks, other records, or other documents relating to the aircraft which are required under this Order or under the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996, to be in force, carried on board the aircraft or kept or preserved; and

(b) any other documents and information in the possession or under the control of the operator which the appropriate person may require for the purpose of determining whether the logbooks or records referred to in subparagraph (a) of this paragraph are complete and accurate.

(3) Where an aeroplane is operating under an Article 83 bis agreement, the agreement summary required under Article 18 (4) shall be accessible to a civil aviation safety inspector to determine which functions and duties are transferred under the agreement by the State to the State of the Operator, when conducting surveillance activities such as ramp checks.

PART III FLIGHT OPERATIONS

Operating considerations and facilities

21. (1) The operator of a commercial air transport aircraft and the pilot-in-command of an aircraft shall ensure that a flight shall not be commenced by that

aircraft unless it has been previously ascertained by the use of every reasonable means available that the ground facilities and water facilities available, including communication facilities and navigation aids, directly required for such flight for the safe operation of the aircraft and the protection of the passengers, are adequate for the type of operation to be conducted.

(a) The operator of a commercial air transport aircraft shall ensure that a flight will not commence or continue as planned unless it has been ascertained by every reasonable means available that the airspace containing the intended route from aerodrome of departure to aerodrome of arrival, including the intended take-off, destination, and en-route alternate aerodromes, can be safely used for the planned operation. When intending to operate over or near conflict zones, a threat and risk assessment shall be conducted, and appropriate risk mitigation measures taken to ensure a safe flight.

Assessment of the level of rescue and firefighting service

22. The operator of a commercial air transport aircraft shall, as part of its SMS, assess the level of rescue and firefighting service (RFFS) protection available at any aerodrome intended to be specified in the operational flight plan in order to ensure that an acceptable level of protection is available for the aeroplane intended to be used. Information related to the level of RFFS protection that is deemed acceptable by the operator should be contained in the operations manual.

(2) In this Article:

"reasonable means" means information available at the point of departure to the operator or pilot-in-command, either through official information published by the aeronautical information service of the state or states concerned or readily obtainable from other sources;

(3) Whenever during operations undertaken by the operator, facilities or aids are encountered which that operator considers to be inadequate, the operator shall report the inadequacy to the person or authority immediately responsible for those facilities.

Taxiing of Aircraft

23. An aircraft to which this Order applies shall not be taxied on the movement area of an aerodrome unless the person at the controls has been duly authorised by the operator, if a commercial air transport aircraft, or the owner of any other aircraft or, in the case where it is leased, the lessee or a designated agent, and is competent to do so and to use the radio equipment if communications are required, and has received instruction from a competent person in respect of the aerodrome layout and, where appropriate, information on routes, signs, marking, lights, ATC signals and instructions phraseology and procedures and is able to conform to the operational standards required for safe aircraft movement at the aerodrome. A helicopter rotor shall not be turned under power without a qualified pilot at the controls.

Operator's duties regarding supervision of flight operations

24. (1) The operator of a commercial air transport aircraft shall comply with the EASA Regulation in respect of operational procedures and the supervision of flight operations including ground handling and shall:

(a) establish and maintain a method (which shall be subject to the approval of the Authority) of supervision of flight operations, and shall appoint a suitably qualified person, acceptable to the Authority, as a flight operations officer, with overall responsibility for the supervision of flight operations and, where necessary, additional suitably qualified person(s) as flight operations officer(s) to implement control of flight operations;

(b) ensure that a person employed by that operator in accordance with paragraph (a) of this Article shall have attained a standard of technical competence acceptable to the Authority and shall:

(i) prior to such employment, demonstrate satisfactorily to the operator knowledge of and ability to perform the duties assigned to him or her in the geographical areas where he or she is authorised to exercise flight supervision including a knowledge of the contents of the operator's Operations Manual, the performance characteristics and limitations of radio and navigation equipment of each aircraft type in use, the seasonal meteorological conditions with the sources of that information and their effects on radio reception in the aircraft used and the aircraft loading instructions;

(ii) prior to such employment, have made within the preceding twelve months a qualification flight in the cockpit of an aeroplane over any area in which that individual will be authorised to exercise flight supervision including landings at as many aerodromes as practicable;

(iii) during the period of employment as a flight operations supervisor, maintain complete familiarisation with all operational matters pertaining to his or her duties; and

(iv) if he or she is absent from such duties for more than twelve consecutive months, demonstrate his or her knowledge and ability as aforesaid prior to again being employed on the duties of a flight operations supervisor.

(c) ensure that a person appointed by that operator with overall responsibility for the supervision of flight operations in accordance with paragraph (a) of this Article shall, while so appointed, have responsibility and independent authority to exercise control over the flight operations concerned and over any other flight operations officers also appointed by the operator.

(3) A person, whether or not employed by or working for the operator concerned, shall not, in relation to flight operations, purport to act for, interfere with or impose upon the person appointed in accordance with sub-paragraph (a)

of paragraph (1) of this Article to exercise supervision over those flight operations.

Operations Manual

25. The operator of a commercial air transport aircraft shall comply with the requirements of this Order and the provisions of the EASA Regulation in respect of Operations Manuals, Operations personnel and checklists and shall:

(1) (a) provide for the use and guidance of the flight crew and cabin crew members and operations personnel concerned a document which shall be known and in this Order is referred to as the Operations Manual which may comprise one or more than one volume and shall contain the particulars set out in paragraph 2 of the Second Schedule to this Order,

(b) provide a copy of the Operations Manual, together with all the amendments and revisions which may be made to it from time to time, to the Authority for acceptance or any necessary approvals;

(2) ensure that the Operations Manual is revised as may be necessary:

(a) by reason of any change affecting the operation of the aircraft or its equipment,

(b) to ensure that the information contained therein is the most recent information available, or

(c) if required by the Authority;

(3) ensure that all revisions made in the Operations Manual pursuant to paragraph (2) of this Article are supplied to each holder of the Operations Manual;

(4) (a) ensure that all flight crew and cabin crew members and operations personnel are fully instructed as to their respective duties and responsibilities and as to the relationship to the operation as a whole of their respective duties and responsibilities;

(b) ensure and so instruct flight crews and operations personnel that, when passengers are being carried, emergency situations affecting the flight characteristics of the aircraft shall not be simulated;

(5) establish a checklist system which shall be used by the flight crew during all phases of operations, and in the case of emergency, for the purpose of ensuring that the operating procedures, specified in the aircraft operating manual and in the flight manual or other documents associated with the certificate of airworthiness and acceptable to the Authority as equivalent to the flight manual, and otherwise in the Operations Manual, are complied with. The design and utilisation of the checklists shall observe human factors principles.

Minimum flight altitudes

26. (1) The operator of a commercial air transport aircraft shall comply with the EASA Regulation in respect of minimum flight altitudes for any flight and shall:

(a) in respect of scheduled flights and routes in frequent use in operations other than scheduled flights, establish and specify in the Operations Manual, in accordance with Article 25 of this Order, altitudes referred to as minimum flight altitudes for each route flown; and

(b) in respect of routes not in frequent use in operations other than scheduled flights, establish and specify in the Operations Manual a method by which minimum flight altitudes for each route to be flown shall be determined where these have not been determined by the appropriate authority.

(2) A minimum flight altitude established or determined in accordance with this Article:

(a) shall not be lower than any corresponding minimum flight altitude established by the appropriate authority save where the appropriate authority specifically approves such a deviation,

(b) shall not be lower than the minimum level for Instrument Flight Rules (IFR) flights as specified in the Standardised Rules of the Air issued under the EASA Regulation.

(3) The pilot- in-command of an aircraft shall observe the minimum flight altitudes, if any, established by the appropriate authority of the state over which the aircraft is flying.

Establishment of minimum flight altitudes and approval by Authority

27. (1) The operator of a commercial air transport aircraft shall comply with the EASA Regulation when establishing minimum flight altitudes and the method by which minimum flight altitudes shall be determined and shall take into consideration all relevant factors affecting the safety of the operation concerned, including:

(a) the accuracy and reliability with which the position of the aircraft can be determined;

(b) the probable inaccuracies in the indications given by the altimeters used;

(c) the characteristics of the terrain along the route, with particular reference to any abrupt changes in elevations;

(d) the probability of encountering unfavourable meteorological conditions and the likelihood of severe turbulence and descending air currents;

(e) possible inaccuracies in aeronautical charts; and

(f) airspace restrictions.

(2) Minimum flight altitudes or the method by which minimum flight altitudes are determined, shall, in the case of flights by a commercial air transport aircraft subject to this Order, be approved by the Authority.

Determination of aerodrome or heliport operating minima

28. (1) The operator of a commercial air transport aircraft shall comply with the EASA Regulation for the determination and specification of aerodrome or heliport operating minima and shall:

(a) in respect of scheduled flights, determine and specify in the Operations Manual minimum conditions, in this Order referred to as aerodrome or heliport operating minima;

(b) in respect of operations other than scheduled flights, establish and specify in the Operations Manual a method by which aerodrome or heliport operating minima shall be determined, for each aerodrome or heliport on the routes to be flown which will be, or is likely to be, used in those operations as an aerodrome or heliport of intended landing or as an alternate aerodrome or heliport which, being suitable, may require to be used in an emergency, provided that:

(i) if a route is in frequent use, the aerodrome or heliport operating minima for each such aerodrome on that route shall be determined by the operator and specified in the Operations Manual,

(ii) the method by which it is proposed to determine the aerodrome or heliport operating minima shall be submitted to the Authority for approval and shall not be specified in the Operations Manual unless so approved, and

(iii) for instrument approach and landing operations, aerodrome or heliport operating minima shall not be authorised below 800m visibility unless RVR information is available at the aerodrome or heliport concerned, or, in the case of a helicopter operation, an alternative accurate measurement or observation of visibility to RVR is provided.

(2) When determining values of aerodrome or heliport operating minima to apply in any particular circumstances or establishing a method by which aerodrome or heliport operating minima shall be determined, the operator shall take into consideration all relevant factors, including:

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

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

(c) the dimensions and characteristics of runways used;

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

(e) the equipment available in the aircraft for the purpose of navigation and control of the flight path during the approach to landing and in a missed approach;

(f) the obstacles in the approach, missed approach and take-off areas and the obstacle clearance limit for the instrument approach procedure;

(g) the means used to measure and report meteorological conditions;

(h) the obstacles in the climb out area and necessary clearance margins.

(3) The aerodrome or heliport operating minima determined for any aerodrome or heliport in accordance with this Article shall not be lower than the aerodrome or heliport operating minima (if any) established for that aerodrome or heliport by the appropriate authority unless the aerodrome or heliport operating minima so determined have been expressly approved by that appropriate authority.

(4) The operator of a commercial air transport aircraft who is not the operator certificated by the Authority shall not operate that aircraft within the State unless that operator shall have provided to the Authority any information which it may from time to time require relating to that operator's aerodrome or heliport operating minima within the State; and if the Authority requires any changes in those minima, such the operator shall not operate such aircraft until those changes have been effected.

(5) The operator shall establish operational procedures designed to ensure that an aircraft being used to conduct precision approaches crosses the runway threshold by a safe margin with the aircraft in the landing configuration and attitude.

(6) The pilot- in-command of an aircraft shall not operate that aircraft to or from an aerodrome or heliport using operating minima lower than those which may be established for that aerodrome or heliport by the state in which it is located except with the specific approval of the appropriate authority of that state.

(7) Instrument approach operations shall be classified based on the designed lowest operating minima below which an approach operation shall only be continued with the required visual reference as follows:

(a) Type A: a minimum descent height or decision height at or above 75 m (250 ft); and

(b) Type B: a decision height below 75 m (250 ft). Type B instrument approach operations are categorized as:

1) Category I (CAT I): a decision height not lower than 60 m (200 ft) and with either a visibility not less than 800 m or a runway visual range not less than 550 m;

2) Category II (CAT II): a decision height lower than 60 m (200 ft) but not lower than 30 m (100 ft) and a runway visual range not less than 300 m;

3) Category III (CAT III): a decision height lower than 30 m (100 ft) or no decision height and a runway visual range less than 300 m or no runway visual range limitations.

Notes:

(i) Where decision height (DH) and runway visual range (RVR) fall into different categories of operation, the instrument approach operation would be conducted in accordance with the requirements of the most demanding category (e.g. an operation with a DH in the range of CAT III but with an RVR in the range of CAT III would be considered a CAT III operation or an operation with a DH in the range of CAT II but with an RVR in the range of CAT I would be considered a CAT II operation). This does not apply if the RVR and/or DH has been approved as operational credits.

(ii) The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach operation, the required visual reference is the runway environment.

(iii) Guidance on approach classification as it relates to instrument approach operations, procedures, runways, and navigation systems is contained in the Manual of All-Weather Operations (ICAO Doc 9365).]

(8) Category II and Category III instrument approach operations shall not be authorized unless RVR information is provided.

(9) The operating minima for 2D instrument approach operations using instrument approach procedures shall be determined by establishing a minimum descent altitude (MDA) or minimum descent height (MDH), minimum visibility and, if necessary, cloud conditions.

(10) The operating minima for 3D instrument approach operations using instrument approach procedures shall be determined by establishing a decision altitude (DA) or decision height (DH) and the minimum visibility or RVR.

Fuel and oil records

29. (1) The operator of a commercial air transport aircraft shall maintain such records of fuel and oil as will satisfy the Authority that for each flight the requirements of Articles 33 to 37 of this Order have been complied with.

(2) The operator shall maintain oil records to enable the Authority to ascertain that trends for oil consumption are such that an aeroplane has sufficient oil to complete each flight.

(3) Records under this paragraph shall be preserved by the operator for a period of at least three months beginning on the date of the flight to which they relate or as otherwise required by the EASA Regulation.

Crew members and passengers

30. (1) The operator of a commercial air transport aircraft shall comply with the provisions of the EASA Regulation in respect of crew members and passengers and shall:

(a) for each flight designate one pilot to act as pilot-in-command or commander of the aircraft;

(b) maintain and submit to the Authority on request records of the flight time, flight duty periods, duty time and rest periods of each flight crew and cabin crew member and these records shall be preserved by the operator for a period of not less than fifteen months beginning on the completion of the flight time, flight duty period or rest period to which the record relates;

(c) not cause or permit an aircraft to make a flight unless that operator has formulated and included in the Operations Manual a scheme of rules, approved by the Authority, limiting the flight time, flight duty periods and overall duty time of the flight crew members and cabin crew members of the aircraft being operated, providing for adequate rest periods for those personnel and ensuring that fatigue will not occur to any such person, either on a flight or successive flights or accumulated over a period of time by reason of the tasks connected (either directly or indirectly) with such flight or flights, such as to endanger the safety of a flight. The Authority may approve flight time limitations of a general or specific nature which shall be complied with by the operator formulating such rules and by the persons to whom they apply. The Authority may approve the operator's FRMS in accordance with the requirements set out in the EASA Regulations the operator;

i. Where the operator implements an FRMS to manage fatigue-related safety risks, the operator shall, as a minimum, incorporate scientific principles and knowledge withing the FRMS, identify fatigue-related safety hazards and the resulting risks on an ongoing basis, ensure that the remedial actions – necessary to effectively mitigate the risks associated with the hazards – are implemented promptly, provide for continuous monitoring and regular assessment of the mitigation of fatigue risks achieved by such actions and provide for continuous improvement to the overall performance of the FRMS.

(d) ensure that, except as may be otherwise prescribed by the Authority, seat belts or harnesses shall be made available for each crew member;

(e) establish compliance by each person flying in an aircraft as a crew member of that aircraft with the applicable flight time limitations rules approved by the Authority under sub-paragraph (c) of this paragraph and shall report any detected non-compliances to the Authority and shall ensure that the rostering of flight and cabin crew for duty does not result in conflict with those rules in the case of any flight crew or cabin crew member.

(f) not cause or permit any person to fly therein as a member of its crew if the operator knows or has reason to believe, whether based on the judgement of a pilot- in-command of an aircraft in a particular case or otherwise, that the person is suffering from, or having regard to the circumstances of the flight be undertaken, is likely to suffer from fatigue.

(2) The operator of a commercial air transport aircraft shall ensure that all passengers on board that aircraft are briefed in accordance with the EASA Regulation, and the pilot-in-command of an aircraft shall ensure that:

(a) (i) all passengers are made familiar with the position and method of use of seat belts or safety harnesses, emergency exits, life jackets, passenger oxygen dispensing equipment and other emergency equipment provided on board an aircraft for individual use, including passenger briefing cards,

(ii) all passengers are informed of the location and general manner of use of the principal emergency equipment carried for collective use;

(b) The operator shall ensure that in an emergency during flight, all passengers are instructed in the emergency action which they should take as appropriate to the circumstances;

(c) prior to and during each take-off and each landing and whenever, by reason of turbulent air conditions or any emergency during flight, the precaution is considered necessary, all passengers on board an aircraft are secured in their seats by means of the seat belts or safety harnesses provided.

(4) In this Article "harness" includes a seat belt which may be used independently and includes shoulder restraint.

(5) A helicopter which is intended to be flown over water shall be equipped for ditching as specified in the First Schedule to this Order.

Flight preparation

31. (1) An aircraft shall not commence a flight unless and until the pilot- in-command has satisfied himself or herself that:

(a) the flight can be safely made, taking into consideration the latest information available as to route and aerodromes or heliports to be used, the weather reports and forecasts available, and any

alternative course of action which can be adopted in case the flight cannot be completed as planned;

(b) the aircraft is airworthy, the appropriate certificates (i.e. airworthiness, registration) are on board the aeroplane, and any necessary maintenance work has been performed in accordance with Part VIII of this Order;

(c) the instruments, equipment and safety devices required by Part V of this Order for the operation to be undertaken are installed and are adequate for the flight and that the communication and navigation equipment required by Part VI of this Order is in working order;

(d) the mass of the aircraft and its centre-of-gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected and any load carried is properly distributed and safely secured;

(e) Part IV of this Order is or will be complied with in respect of the Operating Limitations for the flight to be undertaken;

(f) the view of the pilot-in-command is not interfered with by any obstruction not forming part of the structure of the aircraft and is not obscured by any discoloration of, damage to, or deposit on any of the windows, windscreens, or side screens of the aircraft; provided that nothing in this subparagraph shall preclude the use of screens or other devices in aircraft used for training in instrument flying;

(g) sufficient fuel and oil are carried for the proposed flight;

(h) the supply of electricity is adequate for the operation of such of the electrical equipment installed in the aircraft as will be used on the flight;

(i) a flight to be planned or expected to operate in suspected or known ground icing conditions shall not take off unless the aircraft has been inspected for icing and, if necessary, has been given appropriate de-icing or anti- icing treatment. An accumulation of ice or other naturally occurring contaminants on the aircraft shall be removed so that the aircraft is kept in an airworthy condition prior to take-off.

(2) The commander of a commercial air transport aircraft shall not commence a flight unless and until documents which shall be known, and in this Order are referred to, as flight preparation forms have been completed certifying that the pilot-in-command has satisfied himself or herself:

(a) with regard to the matters specified in paragraph (1) of this Article;

(b) that a maintenance release as required by Article 18 of the Irish Aviation Authority (Airworthiness of Aircraft) Orders, 1996 is in force in respect of the aircraft and will not normally cease to be in force during the intended flight;

(c) that the quantities of fuel and oil have been computed in accordance with Articles 33 to 37 of this Order, as applicable;

(3) The commander of a commercial air transport aircraft shall not commence a flight unless the requirements of Article 31 of this Order have been complied with.

Loading of aircraft and cargo compartment safety

32. (1) The operator of a commercial air transport aircraft shall not cause or permit it to be loaded for a flight or shall not cause or permit any load to be suspended from such aircraft except in compliance with the EASA Regulation and under the supervision of a suitably trained person whom that operator has caused to be furnished with written instructions, which shall be approved by the Authority, as to the distribution and securing of the load so as to ensure that:

(a) the load may safely be carried on the flight; and

(b) any conditions subject to which the certificate of airworthiness in force in respect of the aircraft was issued or rendered valid (being conditions relating to the loading of the aircraft) are complied with.

(2) The instructions referred to in paragraph (1) of this Article shall indicate:

(a) the mass of the aircraft prepared for service, that is to say, the aggregate of the mass of the aircraft, as shown in the mass schedule referred to in Article 23 of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 and the mass of such additional items in or on the aircraft as the operator thinks fit to include;

(b) any additional items included in the mass of the aircraft prepared for service; and

(c) the position of the centre of gravity of the aircraft at that mass.

(3) The operator of a commercial air transport aircraft shall not cause or permit that aircraft to be loaded in contravention of the instructions referred to in paragraph (1) of this Article.

(4) The Operator of a commercial air transport aircraft shall provide a summary of the demonstrated cargo compartment fire protection certification standards in the aeroplane flight manual or other documentation supporting the operation of an aeroplane.

(5) The Operator of a commercial air transport aircraft shall establish policy and procedures that address the items to be transported in the cargo compartment. These shall ensure to a reasonable certainty that in the event of a fire involving those items, it can be detected and sufficiently suppressed or contained by the elements of the aeroplane design associated with cargo compartment fire protection, until the aeroplane makes a safe landing.

(6) The Operator establishes policy and procedures for the transport of items in the cargo compartment, which include the conduct of a specific safety risk assessment. The risk assessment shall include at least the:

(a) hazards associated with the properties of the items to be transported;

(b) capabilities of the operator;

(c) operational considerations (e.g. area of operations, diversion time);

(d) capabilities of the aeroplane and its systems (e.g. cargo compartment fire suppression capabilities);

(e) containment characteristics of unit load devices;

(f) packing and packaging;

(g) safety of the supply chain for items to be transported; and

(h) quantity and distribution of dangerous goods items to be transported.

(7) The pilot-in-command of a commercial air transport aircraft shall not fly or attempt to fly unless:

(a) the written instructions, referred to in paragraph (1) of this Article, in respect of the aircraft are available to the person superintending the loading of that aircraft;

(b) the loading of the aircraft for the proposed flight has been completed in accordance with such instructions;

(c) the person superintending the loading of the aircraft for the proposed flight has prepared, certified, and dated a document in duplicate which shall be known, and in this Order is referred to, as a load sheet containing the particulars specified in paragraph (5) of this Article; and

(d) the load sheet has been submitted to the pilot-in-command of the aircraft and has been examined by him or her for the purpose of complying with subparagraph (d) of paragraph (1) of Article 29 of this Order.

(8) The load sheet prepared in accordance with this Article shall contain:

(a) the nationality and registration marks of the aircraft;

(b) sufficient information to enable the particular flight to be readily identified;

(c) particulars of the several masses from which the total mass of the aircraft as loaded has been computed; and

(d) a certificate by the person superintending the loading of the aircraft that the load has been distributed in accordance with the instructions referred to in clause (a) of paragraph (4) of this Article and approved by the Authority in respect of the aircraft.

(9) The particulars referred to in paragraph (5)(c) of this Article shall be computed in a manner acceptable to the Authority or as required by the EASA Regulation.

(10) One copy of the load sheet shall be preserved by the operator for a period of six months beginning on the completion of the flight to which the load sheet relates or as otherwise specified in the EASA Regulation.

(11) In this Article "the person superintending the loading of the aircraft" means the person who collates all mass information for the preparation of the load sheet and determines the mass of the aircraft and the distribution of the load for the purpose of compliance with subparagraph (d) of paragraph (1) of Article 29 of this Order.

(12) The operator shall ensure that all baggage carried onto an aircraft and taken into the passenger cabin is adequately and securely stowed during flight.

Operational flight plan and alternate aerodromes or heliports

33. (1) A document, which shall be known and in this Order is referred to as an operational flight plan, shall be completed in respect of every intended flight by a commercial air transport aircraft for the purpose of indicating that the flight can be conducted with safety and that Articles 32 to 37 of this Order have been complied with.

(2) The operational flight plan shall be approved and certified by the pilot-in-command and also certified, where applicable, by a flight operations officer employed by or working for that operator and a copy of it shall be deposited with the operator, the operator's agent or the aerodrome authority or, where this is not possible, shall be deposited in such a place at the point of departure as to be readily available if required.

(3) (a) The operational flight plan, and the flight plan where one is required in accordance with the Standardised Rules of the Air issued under to the EASA Regulation, shall, whenever any part of the flight has to be made in weather conditions necessitating compliance with instrument flight rules, include the name of at least one alternate aerodrome or heliport unless the aerodrome or heliport of intended landing is isolated, and no suitable alternate aerodrome or heliport is available;

(b) Unless specified in the Operations Manual or in other suitable documents carried on the flight, the operational flight plan of a commercial air transport aircraft engaged in an operation other than scheduled flights shall include, in addition to the matter specified in subparagraph (a) of this paragraph:

(i) the minimum flight altitudes for the route to be flown, and

(ii) the aerodrome or heliport operating minima for the aerodrome or heliport to be used and for any alternate aerodrome or heliport designated in the operational flight plan.

(4) (a) A take-off alternate aerodrome shall be selected and specified in the operational 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) A take-off alternate aerodrome shall be located within a distance from the aerodrome of departure equivalent to not more than one hour flight time for a twin-engine aeroplane or two hours for an aeroplane with three or more engines, both at the one-engine inoperative cruise speed;

(c) A take-off alternate aerodrome shall be selected such that the available information indicates that, at the estimated time of use the conditions will be at or above the aerodrome operating minima for the operation;

(d) An en-route alternate aerodrome or aerodromes as required by Article 43 for extended range operations for aeroplanes with twin turbine power units shall be selected and specified in the operational and air traffic services (ATS) flight plans;

(e) At least one destination alternate aerodrome for aeroplane operations or alternate heliport for helicopter operations shall be selected and specified in the operational and air traffic services (ATS) flight plans for a flight to be conducted in accordance with instrument flight rules unless:

(i) the duration of the flight and the meteorological conditions prevailing are such that there is a reasonable certainty that, at the estimated time of arrival at the aerodrome or heliport of intended landing and for a reasonable time before and after such time, the approach and landing may be made under visual meteorological conditions;

(ii) the aerodrome or heliport of intended landing is isolated and there is no suitable destination alternate aerodrome available provided that a point of no return shall be determined for helicopter operations, or

(iii) suitable offshore alternate heliports are specified for helicopter operations subject to the following criteria:

- the offshore alternates will be used only after a point of no return. Prior to the point of no return, onshore alternates shall be used,
- the mechanical reliability of critical control systems and components on the helicopter shall be considered and taken into account when determining the suitability of alternate heliports,
- the ability of the helicopter to safely land with one engine inoperative shall be attainable prior to its arrival at the alternate heliport,
- helicopter deck availability shall be guaranteed at the alternate heliport,

- accurate and reliable weather information must be available.

Meteorological conditions – All Aircraft

34. (1) An aircraft shall not commence a flight, except one of purely local character in visual meteorological conditions, which is to be conducted in accordance with VFR, unless the meteorological information, including meteorological reports or a combination of current reports and forecasts most recently available from the appropriate meteorological office, indicates that the meteorological conditions along the route or that part of the route to be flown under the VFR, will, at the appropriate time, be such as to make it possible for the flight to be conducted in accordance with VFR.

(2) A flight to be conducted in accordance with instrument flight rules shall not be commenced unless the available information indicates that conditions at the aerodrome or heliport of intended landing and at least one destination alternate aerodrome or heliport will, at the estimated time of arrival, be at or above the aerodrome operating minima.

(3) A flight to be conducted in accordance with instrument flight rules to an aerodrome when no alternate aerodrome or heliport is required shall not be commenced unless:

(a) a standard instrument approach procedure is prescribed for the aerodrome or heliport of intended landing; and

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

(i) a cloud base of at least 300m (1,000 ft) for an aeroplane and 120m (400 ft) for a helicopter above the minimum associated with an instrument approach procedure, and

(ii) visibility of at least 5.5 km, or of 4 km more than the minimum associated with the procedure for an aeroplane and at least 1.5 km more than the minimum associated with the procedure for a helicopter.

(4) A flight shall not be continued towards the aerodrome or heliport of intended landing unless the latest available meteorological information indicates that conditions at that aerodrome, or at least one destination alternate aerodrome or heliport will, at the estimated time of arrival, be at or above the specified aerodrome operating minima.

(5) An aircraft shall not continue its approach to land, except in the case of emergency, beyond a point at which the limits of the aerodrome or heliport operating minima would be infringed.

(6) An aircraft shall not commence a flight which would be operating in known or expected icing conditions unless the aircraft is equipped and certificated to operate within those conditions.

(7) At least one destination alternate aerodrome or an alternate heliport shall be selected and specified in the flight plan for a flight to be conducted in accordance with Instrument Flight Rules, unless:

(a) the duration of the flight and the meteorological conditions prevailing are such that there is reasonable certainty that, at the estimated time of arrival at the aerodrome or heliport of intended landing and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions; or

(b) the aerodrome or heliport of intended landing is isolated and there is no suitable destination alternate aerodrome or alternate heliport available.

Fuel and oil requirements – all aircraft

35. The pilot- in-command of an aircraft shall ensure that:

(1) a flight shall not be commenced unless, taking into account the meteorological conditions and any delays that may reasonably be expected in flight, the aircraft has on board sufficient fuel and oil to ensure that it can complete the flight in safety.

and

(2) in addition to the fuel and oil required under paragraph (1) of this Article, a reserve supply of fuel and oil shall be carried in order to provide for contingencies and when an alternate aerodrome or heliport is included in the operational flight plan in accordance with Article 31 of this Order, to enable the aircraft to reach the alternate aerodrome or heliport.

Inflight fuel management – all aircraft

36. The pilot-in-command shall:

(1) continually ensure that the amount of usable fuel remaining on board is not less than the fuel required to proceed to an aerodrome where a safe landing can be made with the planned final reserve fuel remaining upon landing;

(2) declare a situation of fuel emergency by broadcasting MAYDAY MAYDAY MAYDAY FUEL, when the calculated usable fuel predicted to be available upon landing at the nearest aerodrome where a safe landing can be made is less than the planned final reserve fuel; and

(3) advise ATC of a minimum fuel state by declaring MINIMUM FUEL when, having committed to land at a specific aerodrome, the pilot calculates that any change to the existing clearance to that aerodrome may result in landing with less than the planned final reserve fuel.

Fuel and oil requirements – commercial air transport aircraft and all helicopters

37. (1) An aeroplane shall carry a sufficient amount of usable fuel to complete the planned flight safely and to allow for deviations from the planned operation.

(a) The amount of usable fuel to be carried shall, as a minimum, be based on:

(a) the following data:

1. current aeroplane-specific data derived from a fuel consumption monitoring system, if available; or

2. if current aeroplane-specific data are not available, data provided by the aeroplane manufacturer; and

(b) the operating conditions for the planned flight including:

1. anticipated aeroplane mass;

2. Notices to Airmen (NOTAM);

3. current meteorological reports or a combination of current reports and forecasts;

4. air traffic services procedures, restrictions, and anticipated delays; and

5. the effects of deferred maintenance items and/or configuration deviations.

(b) The pre-flight calculation of usable fuel required shall include:

(a) taxi fuel, which shall be the amount of fuel expected to be consumed before take-off, taking into account local conditions at the departure aerodrome and auxiliary power unit (APU) fuel consumption;

(b) trip fuel, which shall be the amount of fuel required to enable the aeroplane to fly from take-off, or the point of inflight re-planning, until landing at the destination aerodrome taking into account the operating conditions laid out in Article 35 (2) (b) of this Order;

(c) contingency fuel, which shall be the amount of fuel required to compensate for unforeseen factors. It shall be five per cent of the planned trip fuel or of the fuel required from the point of in-flight re-planning based on the consumption rate used to plan the trip fuel but, in any case, shall not be lower than the amount required to fly for five minutes at holding speed at 450 m (1 500 ft) above the destination aerodrome in standard conditions;

(d) destination alternate fuel, which shall be:

1. where a destination alternate aerodrome is required, the amount of fuel required to enable the aeroplane to:

(i) perform a missed approach at the destination aerodrome;

(ii) climb to the expected cruising altitude;

(iii) fly the expected routing;

(iv) descend to the point where the expected approach is initiated; and

(v) conduct the approach and landing at the destination alternate aerodrome; or

2. where two destination alternate aerodromes are required, the amount of fuel, as calculated in 4.3.6.3 d) 1), required to enable the aeroplane to proceed to the destination alternate aerodrome which requires the greater amount of alternate fuel; or

3. where a flight is operated without a destination alternate aerodrome, the amount of fuel required to enable the aeroplane to fly for 15 minutes at holding speed at 450 m (1 500 ft) above destination aerodrome elevation in standard conditions; or

4. where the aerodrome of intended landing is an isolated aerodrome:

(i) for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes plus 15 per cent of the flight time planned to be spent at cruising level, including final reserve fuel, or two hours, whichever is less; or

(ii) for a turbine-engined aeroplane, the amount of fuel required to fly for two hours at normal cruise consumption above the destination aerodrome, including final reserve fuel;

(e) final reserve fuel, which shall be the amount of fuel calculated using the estimated mass on arrival at the destination alternate aerodrome, or the destination aerodrome when no destination alternate aerodrome is required:

1. for a reciprocating engine aeroplane, the amount of fuel required to fly for 45 minutes, under speed and altitude conditions specified by the State of the Operator; or

2. for a turbine-engined aeroplane, the amount of fuel required to fly for 30 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions;

(f) additional fuel, which shall be the supplementary amount of fuel required if the minimum fuel calculated in accordance with 4.3.6.3 b), c), d) and e) is not sufficient to:

1. allow the aeroplane to descend as necessary and proceed to an alternate aerodrome in the event of engine failure or loss of pressurization, whichever requires the greater amount of fuel based on the assumption that such a failure occurs at the most critical point along the route;

(i) fly for 15 minutes at holding speed at 450 m (1 500 ft) above aerodrome elevation in standard conditions; and

(ii) make an approach and landing;

2. allow an aeroplane engaged in EDTO to comply with the EDTO critical fuel scenario as established by the Authority;

3. meet additional requirements not covered above;

(g) discretionary fuel, which shall be the extra amount of fuel to be carried at the discretion of the pilot-in-command.

(c) A flight shall not commence unless the usable fuel on board meets the requirements in 4.3.6.3 a), b), c), d), e) and f) of Annex 6, Part 1 if the Convention, if required and shall not continue from the point of in-flight re-planning unless the usable fuel on board meets the requirements in 4.3.6.3 b), c), d), e) and f) of Annex 6, Part 1 if the Convention, if required.

(d) Notwithstanding the provisions in 4.3.6.3 a), b), c), d) and f) of Annex 6, Part 1 if the Convention,, the Authority may, based on the results of a specific safety risk assessment conducted by the operator which demonstrates how an equivalent level of safety will be maintained, approve variations to the pre-flight fuel calculation of taxi fuel, trip fuel, contingency fuel, destination alternate fuel, and additional fuel. The specific safety risk assessment shall include at least the:

(a) flight fuel calculations;

(b) capabilities of the operator to include:

1. a data-driven method that includes a fuel consumption monitoring programme; and/or

2. the advanced use of alternate aerodromes; and

(c) specific mitigation measures.

(e) The use of fuel after flight commencement for purposes other than originally intended during pre-flight planning shall require a re-analysis and, if applicable, adjustment of the planned operation.

In-flight fuel management – commercial air transport

38. (1) The operator shall establish policies and procedures, approved by the Authority, to ensure that inflight fuel checks and fuel management are performed.

(a) In addition to the requirements of Article 2.2.4.8 of Annex 6, Part 2, to the Convention, the pilot-in-command shall request delay information from ATC when unanticipated circumstances may result in landing at the destination aerodrome with less than the final reserve fuel plus any fuel required to proceed to an alternate aerodrome or the fuel required to operate to an isolated aerodrome.

Refuelling with passengers on board

39. (1) An aeroplane shall not be refuelled when passengers are embarking, on board or disembarking unless it is properly attended by qualified personnel ready to initiate and direct an evacuation of the aeroplane by the most practical and expeditious means available.

(2) When refuelling with passengers embarking, on board or disembarking, two-way communication shall be maintained by the aeroplane's inter-communication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the aeroplane.

Fuel and oil requirements – aircraft other than commercial air transport aircraft

40. In the case of an aircraft which is not a commercial air transport aircraft, such an aircraft shall not commence a flight to be conducted in accordance with the Instrument Flight Rules (IFR), unless the quantity of fuel and oil carried on board is sufficient to enable the aircraft to fly to the aerodrome to which the flight is planned, and thence to a destination alternate aerodrome and thereafter for a period of 45 minutes, or when a destination alternate aerodrome is not required, to fly to the aerodrome to which the flight is planned and thereafter for a period of 45 minutes.

Fuel and oil requirements – contingency factors – all aircraft

41. In computing the fuel and oil required to comply with Article 33 of this Order, at least the following factors shall be taken into consideration by the pilot-in-command of the aircraft concerned:

(a) the meteorological conditions forecast;

(b) expected air traffic control routing and traffic delays;

(c) for IFR flight, making one instrument approach, including a missed approach, at the destination aerodrome or heliport;

(d) the procedures included in the Operations Manual in the case of the loss of pressurisation, where applicable, or the failure of one or more power units en route; and

(e) any other conditions that may delay the landing of the aircraft or increase the fuel or oil consumption.

Fuel and oil requirements – amendment of operational flight plan

42. Nothing in Articles 33, 34, 35 and 36 of this Order shall preclude an amendment of an operational flight plan while the aircraft is in flight in order to re-plan the flight to another aerodrome, provided that, from the point at which the flight is re-planned, the provisions of Articles 33, 34, 35 and 36 of this Order, as applicable to the flight concerned, are complied with.

Oxygen supply – commercial air transport aircraft

43. In the case of a commercial air transport aircraft, the operator shall ensure compliance on all flights with the EASA Regulation regarding oxygen supply and:

A flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments will be less than 700 hPa shall not be commenced unless sufficient stored breathing oxygen is carried to supply:

a) all crew members and 10 per cent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hPa and 620 hPa; and

b) the crew and passengers for any period that the atmospheric pressure in compartments occupied by them will be less than 620 hPa.

A flight to be operated with a pressurized aeroplane shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 hPa. In addition, when an aeroplane is operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa and cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, there shall be no less than a 10-minute supply for the occupants of the passenger compartment.

Safeguarding of cabin crew members and passengers in the event of loss of pressurisation

44. The operator of a pressurised commercial air transport aircraft shall ensure that:

(a) crew members assigned to duty in a passenger compartment are safeguarded so that there is a reasonable probability of their

retaining consciousness during an emergency descent which may be necessary in the event of loss of pressurisation;

(b) cabin crew members have such means of protection as may enable them to administer first aid to passengers during stabilised flight following an emergency;

(c) passengers are safeguarded by such devices or operational procedures as will ensure reasonable probability of their surviving the effects of hypoxia in the event of loss of pressurisation.

Use of oxygen – all aircraft

45. (1) All flight crew members, when engaged in performing duties essential to the safe operation of an aircraft in flight, shall use continuously the breathing oxygen supplied for their use whenever:

(a) in the case of an unpressurised aircraft, the circumstances specified in paragraph 5 (6) of the First Schedule to this Order prevail for which an oxygen supply is required to be provided for their use; or

(b) in the case of a pressurised aircraft, the pressure in any compartments occupied by them is less than 700 hectopascals.

(2) At all times, when a pressurised aircraft is flying above a flight altitude of 25,000 feet (an atmospheric pressure of less than 376 Hpa) all flight crew members on duty shall have available at their flight duty stations quick-donning oxygen masks which will readily supply oxygen upon demand.

(3) All crew members shall use the oxygen system in accordance with procedures approved by the Authority as appropriate to the aircraft flown and set forth in the flight manual or operating manual for that aircraft.

(4) An aircraft may not be flown above the altitude limits specified in the flight manual.

(5) The operator of a commercial air transport aircraft shall ensure compliance with the EASA Regulation in respect of the supply and use of supplemental oxygen by the passengers and crew on that aircraft.

Oxygen supply – other than commercial air transport aircraft

46. In the case of an aircraft other than a commercial air transport aircraft, the pilot- in-command shall ensure that breathing oxygen is available to crew members and passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crew members or harmfully affect passengers.

Inflight procedures – aerodrome or heliport operating minima – all aircraft

47. (1) The pilot- in-command of an aircraft shall not continue a flight towards the aerodrome or heliport of intended landing using aerodrome or

heliport operating minima lower than those which may be established for that aerodrome or heliport by the appropriate authority of the state in which the aerodrome or heliport is located, except with the approval of that authority or, for a heliport located outside the territory of any state, of the responsible authority.

(2) (a) The pilot-in-command of an aircraft shall not continue an instrument approach below 300m (1000 ft) above the aerodrome or heliport elevation or into the final approach segment unless the reported visibility or controlling RVR is at or above the aerodrome operating minima.

(b) If, after entering the final approach segment or after descending below 300m (1000 ft) above the aerodrome elevation the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to the decision altitude or height (DA/H) or to the minimum descent altitude or height (MDA/H), as the case may be, for that approach.

(c) In either case of (a) or (b) of this paragraph, the pilot-in-command of an aircraft shall not continue its approach to land at an aerodrome or heliport beyond a point at which the limits of the aerodrome or heliport operating minima established for that aerodrome or heliport, and applicable to the approach, would be infringed.

(d) In this paragraph, controlling RVR means the reported values of one or more RVR reporting locations (touchdown, mid-point, and stop-end) used to determine whether operating minima are or are not met. Where RVR is used, the controlling RVR is the touchdown RVR, unless otherwise specified by the appropriate authority of the state in which the aerodrome is located.

(e) An aircraft to which this Order applies shall comply with the instrument flight approach and take-off procedures approved for the aerodrome or heliport concerned by the appropriate authority of the state in which the aerodrome or heliport is located, or, by the appropriate authority of the state, which is responsible, for a heliport located outside the territory of any state.

(f) An approach to land shall not be continued below 300 m (1 000 ft) above aerodrome elevation unless the pilot-in-command is satisfied that, with the runway surface condition information available, the aeroplane performance information indicates that a safe landing can be made.

Inflight procedures – aerodrome or heliport operating minima – commercial air transport aircraft

48. (1) In the case of commercial air transport aircraft, a flight shall not be continued towards the aerodrome or heliport of intended landing except in accordance with the EASA Regulation and unless the latest available information indicates that conditions at that aerodrome or heliport, or at least one

destination alternate aerodrome or alternate heliport, will, at the expected time of arrival, be such that a landing can be made in compliance with the aerodrome or heliport operating minima established in accordance with Article 26 of this Order.

(2) In the case of a flight by a commercial air transport aircraft on scheduled flights, the aerodrome or heliport operating minima used shall be those which are specified in the Operations Manual in accordance with Article 26(1)(a) of this Order.

(3) In the case of a flight by a commercial air transport aircraft on other than scheduled flights, aerodrome or heliport operating minima used shall be those determined by the method specified in the Operations Manual in accordance with Article 26(1)(b) of this Order.

(4) An aeroplane with two turbine power units shall not be operated on a route where the flight time at single engine cruise speed to an adequate en-route alternate aerodrome exceeds 60 minutes unless the operation has been specifically approved by the Authority, having regard to the type of aircraft, the route to be flown, the anticipated operating conditions, the location of adequate en-route alternate aerodromes and, in the case of a commercial air transport aeroplane, the EASA Regulation.

(5) A flight to be conducted in accordance with the preceding sub-paragraph (4) of this Article shall not be commenced, unless, during the possible period of arrival thereat, the required en-route alternate aerodrome or aerodromes will be available, and the available information indicates that conditions at that or at those aerodromes will be at or above the aerodrome operating minima approved for the operation.

Observations and reports in flight

49. (1) The pilot-in-command of an aircraft to which this Order applies shall report to the appropriate aeronautical communications station, as soon as possible, any hazardous flight conditions encountered during a flight.

(2) A report under paragraph (1) of this Article shall include such details as may be pertinent to the safety of other aircraft.

(3) The pilot-in-command of an aircraft shall provide meteorological reports to the nearest ATS Unit as required or when weather conditions are encountered which are likely to affect the safety of other aircraft.

(4) The pilot-in-command shall report the runway braking action special air-report (AIREP) when the runway braking action encountered is not as good as reported.

Note.— The procedures for making special air-reports regarding runway braking action are contained in the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444), Chapter 4 and Appendix 1, Instructions for air-reporting by voice communication.

Fitness of flight crew members

50. (1) The pilot- in-command of an aircraft shall be responsible for ensuring that a flight:

(a) will not be commenced if, in his or her judgement, any flight crew member is rendered incapable of performing his or her duties by injury, sickness, fatigue, the effects of physcoactive substances or any other cause;

(b) will not be continued beyond an aerodrome at which there is the earliest safe opportunity to land when a flight crew member's capacity to perform his or her functions is significantly impaired by fatigue, sickness, lack of oxygen or any other cause.

(2) The pilot-in-command or a crew member of an aircraft shall not undertake his or her duty while incapable of performing that duty due to the effects of injury, sickness, fatigue or the effects of psychoactive substances and shall comply with the EASA Regulation in respect of fitness, fatigue, drugs or alcohol and the pilot- in-command shall, furthermore, ensure that such duty is undertaken only within the restrictions of the applicable flight time limitation rules contained in the operator's Operations Manual or prescribed by the Authority and subject to the exercise of judgement by the pilot- in-command, where necessary in a particular case, as required in accordance with subparagraph (a) of paragraph (1) of this Article.

(3) The pilot-in-command or a flight crew member of an aircraft shall ensure, in complying with the flight time limitations rules as specified in paragraph (2) of this Article, that, in computing the aggregate of total flight time for a particular flight duty period or series of flight duty periods, due account is taken of any flight time as a flight crew member or pilot in an aircraft by that person while not on duty with the operator responsible for the flight time limitations rules concerned.

Flight crew members at duty stations

51. (1) During take-off and landing, each flight crew member required to be on duty on the flight deck of an aeroplane shall be at his or her station.

(2) Whilst en route, each flight crew member required to be on duty on the flight deck of an aircraft shall remain at his or her station, except when his or her absence is necessary for the performance of duties in connection with the operation of the aircraft or for physiological needs.

(3) Each flight crew member shall wear and fasten his or her seat belt when at his or her station. During take-off and landing (and whenever required by the pilot- in- command) each flight crew member at his or her station shall wear and fasten his or her safety harness or seat belt, whichever is required by Section 52, except that each flight crew member other than the pilot-in-command and co-pilot may wear and fasten his or her seat belt only, if the harness straps interfere with the performance of his or her duties.

(4) In an aircraft being used for flight instruction or acrobatic flight, the occupants of seats for which safety harness or shoulder straps are provided shall

wear and fasten such safety harness or shoulder straps at all times during such flights.

Notification of flight plan change

52. (1) An operational instruction from the operator of a commercial air transport aircraft to that aircraft while in flight and which involves a change in the flight plan shall, when practicable, be notified to, and made in agreement with, the appropriate air traffic services unit before transmission to the aircraft. Operational instructions received shall not relieve the pilot-in-command of the aircraft concerned of the responsibility for obtaining an appropriate air traffic control clearance, if applicable, before making a change in flight plan.

(2) In this Article "air traffic services unit" has the meaning assigned to it by the Standardised Rules of the Air issued under the EASA Regulation.

(3) An aircraft operated in accordance with instrument flight rules (IFR) shall, when approaching and landing at an aerodrome or heliport, comply with the appropriate instrument approach procedures approved by the appropriate authority of the state in which that aerodrome or heliport is located.

(4) Aircraft operating procedures for noise abatement specified by the operator shall, as far as practicable, be the same for all aerodromes or heliports used by that operator's aircraft.

Duties of pilot -in-command

53. (1) The pilot-in-command of a commercial air transport aircraft shall, in addition to the requirements specified in Article 45 of this Order, comply with the EASA Regulation in respect of his or her duties during flight time.

(2) The pilot- in-command of an aircraft shall also be responsible for the following:

(a) the safety of all crew members, passengers and cargo on board when the doors are closed and, for an aeroplane, its operation and safety from the moment it is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine or engines used as primary propulsion unit are finally shut down or, for a helicopter, its operation and safety from the moment the engine or engines are started until the helicopter finally comes to rest at the end of the flight with the engine(s) shut down and the rotor blades stopped;

(b) (i) in an emergency during flight, taking all reasonable steps to ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances,

(ii) ensuring that the checklist system and checklists specified to in Articles 23 and 52 are complied with in detail by the flight crew;

(c) reporting occurrences which may represent a significant risk to aviation safety, and which fall into the categories set out in Article

4 of Regulation (EU) 376/2014, through the mandatory occurrence reporting systems pursuant to that Regulation;

(d) notify without delay the Air Accident Investigation Unit (AAIU) of any occurrence of an accident or serious incident, in which they were involved, or of which they have knowledge, in accordance with Article 9 of Regulation (EU) 996/2010.

(e) reporting at the termination of a flight all known or suspected defects to the operator of that aircraft in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996;

(f) reporting to the appropriate authority, without delay, any act of unlawful interference.

(3) The Authority may cause such investigations or inspections as it deems appropriate to be made in respect of an incident or other occurrence which caused or could have caused a hazardous effect on the operation of an aircraft and may, for the purposes of such investigation or inspection, detain an aircraft, remove and detain any aircraft equipment, take copies of or extracts from any documents or records (including the records in any flight recorder) have access to any place or premises and obtain from any person such information as may reasonably be required.

Authority of the pilot -in-command

54. (1) The pilot-in-command of an aircraft shall have all authority necessary to enable him or her to discharge the responsibilities specified in Article 48 of this Order and as required by the EASA Regulation and a person, including the operator, shall not interfere with, impose upon, or penalise the pilot- in-command in the exercise of that authority.

(2) A person in an aircraft registered in the State shall obey all lawful commands which the pilot-in-command of the aircraft may give for the purpose of securing the safety of the aircraft and of persons or property carried therein, or the safety, efficiency, or regularity of air navigation.

Duties of a flight operations officer/flight dispatchers

55. (1) A flight operations officer/flight dispatcher, when employed by the operator of a commercial air transport aircraft in conjunction with a method of control and supervision in accordance with Article 22 of this Order shall:

(a) assist the pilot(s)- in-command of an aircraft or aircraft in flight preparation and provide the relevant information;

(b) assist the pilot(s)-in-command of an aircraft or aircraft in preparing the operational flight plan, and in filing the flight plan with the appropriate air traffic services unit;

(c) furnish the pilot(s)-in-command while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight(s);

(d) notify the appropriate air traffic services unit when the position of the aeroplane cannot be determined by an aircraft tracking capability, and attempts to establish communication are unsuccessful;

(e) in the event of an emergency, initiate such procedures as outlined in the Operations Manual and convey safety-related information to the pilot(s)-in-command that may be necessary for the safe conduct of the flight, including information related to any amendments to the flight plan that become necessary in the course of the flight.

(2) In performing his or her duties, a flight operations officer/flight dispatcher shall not take any action which would conflict with the requirements of this Order or the provisions of the EASA Regulations or procedures established by the air traffic services.

Additional requirements for operations by aeroplanes with turbine engines beyond 60 minutes to an en-route alternate aerodrome including extended diversion time operations (EDTO)

56. (1) Operators conducting operations beyond 60 minutes from a point on a route to an en-route alternate aerodrome shall ensure that:

(a) for all aeroplanes:

1. en-route alternate aerodromes are identified; and

2. the most up-to-date information is provided to the flight crew on identified en-route alternate aerodromes including operational status and meteorological conditions;

(b) for aeroplanes with two turbine engines, the most up-to-date information provided to the flight crew indicates that conditions at identified en-route alternate aerodromes will be at or above the operator's established aerodrome operating minima for the operation at the estimated time of use.

(2) In addition to the requirements in (1), all operators shall ensure that the following are taken into account and provide the overall level of safety intended by the provisions of Annex 6, Part I to the Convention:

(a) operational control and flight dispatch procedures

(b) operating procedures; and

(c) training programmes.

(3) Unless the operation has been specifically approved by the Authority, an aeroplane with two or more turbine engines shall not be operated on a route where the diversion time from any point on the route, calculated in ISA and still air conditions at the one-engine inoperative cruise speed for aeroplanes with two turbine engines and at the all-engine operating cruise speed for aeroplanes with more than two turbine engines, to an en-route alternate aerodrome exceeds a threshold time established for such operations by that State.

(4) The maximum diversion time, for an operator of a particular aeroplane type engaged in extended diversion time operations shall be approved by the Authority.

(5) When approving the appropriate maximum diversion time for an operator for a particular aeroplane type engaged in extended diversion time operations, the State of the Operator shall ensure that:

(a) for all aeroplanes: the most limiting EDTO significant system time limitation, if any, indicated in the Aeroplane Flight Manual (directly or by reference) and relevant to that particular operation is not exceeded; and

(b) for aeroplanes with two turbine engines: the aeroplane is EDTO certified.

(6) For aeroplanes engaged in EDTO, the additional fuel required by 4.3.6.3 f) 2) shall include the fuel necessary to comply with the EDTO critical fuel scenario as established by the State of the Operator.

(7) A flight shall not proceed beyond the threshold time in accordance with 4.7.2.1 unless the identified en-route alternate aerodromes have been re-evaluated for availability and the most up-to-date information indicates that, during the estimated time of use, conditions at those aerodromes will be at or above the operator's established aerodrome operating minima for the operation. If any conditions are identified that would preclude a safe approach and landing at that aerodrome during the estimated time of use, an alternative course of action shall be determined.

PART IV

AIRCRAFT OPERATING LIMITATIONS

Conditions of operation

57. (1) An aircraft shall be operated:

(a) in compliance with the terms of its certificate of airworthiness; and

(b) within the operating limitations specified in the aircraft flight manual or in other documents acceptable to the Authority as equivalent to the flight manual. Placards, lists, instrument markings or combinations thereof containing operating limitations prescribed by the Authority for visual presentation shall be displayed in the aircraft; and

(c) in the State, in compliance with the provisions of the Irish Aviation Authority (Noise Certification and Limitation) Order, 2015, and the applicable noise certification standards in Annex 16 (Vol 1) to the Convention or the EASA Regulation, if different and, elsewhere, in compliance with Annex 16 to the Convention or with such requirements for noise certification as may be prescribed by the appropriate authority.

(2) (a) A commercial air transport aircraft shall be operated in accordance with the appropriate operating requirements relating to mass and performance of the EASA Regulation or as otherwise prescribed by the Authority or, subject to the agreement of the Authority, with all of the appropriate requirements for the time being in force, relating to mass and performance, of:

(i) where applicable, the Federal Aviation Administration, in the United States of America, or

(ii) where applicable, the Civil Aviation Authority in the United Kingdom, or

(iii) where applicable, the state which issued the original certificate of airworthiness for the type of aircraft concerned, provided that such requirements meet the applicable standards of Annex 6 to the Convention;

(b) A commercial air transport aircraft, when conducting international flights, shall, in addition to the requirements of paragraph (2)(a) above, be operated in accordance with such appropriate operating requirements relating to mass and performance as may be prescribed by the applicable standards of Annex 6 to the Convention.

(c) a commercial air transport aeroplane shall not be operated by a single pilot under Instrument Flight Rules (IFR) or at night unless that operation is approved by the Authority and unless in respect of that aeroplane:

(i) the flight manual does not require a flight crew of more than one pilot;

(ii) it is propeller driven;

(iii) the maximum approved passenger seating configuration is nine or less;

(iv) the maximum certificated take-off mass does not exceed 5,700 kg;

(v) it is equipped as described in sub-paragraph 5(1)(p) of the First Schedule to this Order; and

(vi) the pilot- in-command has satisfied the requirements of experience, training, checking, and recency described in the EASA Regulation.

(3) (a) A single-engine aircraft shall only be operated in conditions of weather and light and over such routes and diversions therefrom that permit a safe forced landing to be executed in the event of an engine failure or as otherwise prescribed by the Authority. The conditions of this paragraph shall also apply to helicopters operated in Performance Class 3 and in Performance Class 2 prior to the defined point after take-off and after the defined point before landing or as required by the EASA Regulation;

(b) Only a helicopter operated in Performance Class 1 shall be permitted to operate from elevated heliports in congested areas.

(4) Account shall be taken of the loss, if any, of runway length due to the alignment of the aircraft prior to take-off in determining the length of runway available.

(5) A commercial air transport flight shall not be commenced unless the performance information in the aircraft flight manual or the relevant approved aircraft operating manual indicates that the requirements of the EASA Regulation will be complied with. Where such information is not available as such, a commercial air transport operation shall comply with the requirements of paragraph 2 of this Article.

(6) Account shall be taken by the operator of charting accuracy in respect of obstacle data provided to permit compliance with take-off, initial climb, approach, and landing flightpaths.

(7) Account shall be taken by the operator, where appropriate to the area of operation, of the effects of extreme environmental conditions, for example low air or surface temperatures, on the calibration and performance of aircraft instrumentation and systems.

PART V

AIRCRAFT INSTRUMENTS, EQUIPMENT AND SAFETY DEVICES

Carriage of instruments, equipment, and safety devices

58. (1) The instruments and equipment required by this Article shall be installed or carried in an aircraft, as appropriate, in addition to the instruments and equipment necessary for the issuance of a certificate of airworthiness, according to the aircraft use and to the circumstances under which the flight is to be conducted.

(2) (a) The operator of a commercial air transport aircraft shall include in the Operations Manual a minimum equipment list (MEL), accepted or approved by the Authority, which will enable the pilot-in-command to determine whether a flight may be commenced or continued from any intermediate stop should any instruments equipment or systems become in-operative;

(b) Where an aircraft to which this paragraph applies is registered in a state other than the State, the operator concerned shall ensure that the minimum equipment list submitted for approval to the Authority does not affect the aircraft’s compliance with the airworthiness requirements applicable in the state of registry of that aircraft.

(3) The operator of a commercial air transport aircraft shall provide operations staff and flight crew with an aircraft operating manual for each aircraft type operated containing the normal, abnormal, and emergency procedures relating to the operation of the aircraft. The manual shall include

details of the aircraft systems and of the checklists to be used. The design of the manual shall reflect human factors principles.

(4) An aircraft shall be equipped with instruments which will enable flight crew members to control the flight path of the aircraft, effect any required procedural manoeuvre, and observe the operating limitations of the aircraft in the expected operating conditions.

(5) (a) The instruments, equipment and safety devices to be carried and maintained in a condition fit for flight and available for immediate use and the devices to be used and the precautionary measures to be taken, for the purpose of securing the safety of the aircraft and of persons therein, shall include those specified in the First Schedule to this Order or prescribed as provided therein and shall also include any additional instruments, equipment and safety devices which the Authority may require to be carried in a particular case or on a particular flight;

(b) An instrument or item of equipment referred to in sub-paragraph (a) of this paragraph shall, unless included amongst those specified in subparagraph (c) of this paragraph, be of an approved type and shall be installed or stowed in the aircraft in a manner which shall be approved, which ensures satisfactory functioning and which ensures that it can be used effectively by the person by whom it is intended to be used, as appropriate to the aircraft concerned and to the circumstances under which the flight is to be conducted. In this sub- paragraph, "approved" means approved by the Authority or by the state of registry of the aircraft concerned if different;

(c) The following instruments and equipment, which may be of any type suitable for the purpose, shall be securely installed or stowed in a manner which will not prevent their most effective use when required and will ensure that they cannot be displaced during flight in such a way as to interfere with the safe operation of the aircraft:

(i) navigational and plotting instruments necessary for a particular flight as determined by the pilot- in-command,

(ii) maps, charts, timepieces, and chart tables,

(iii) sea anchors,

(iv) torches,

(v) whistles, and

(vi) mooring devices, or anchoring devices;

(d) The fire extinguishers required by the First Schedule to this Order shall be of an approved size and shall not be of a type which would cause dangerous contamination of the air in crew compartments or passenger compartments;

(e) The first aid kit referred to in subparagraph (1) of paragraph 5 of the First Schedule to this Order shall be related in content to the

total number of persons for whom seats are provided in the aircraft, shall include the items set out in clause (h) of the said subparagraph (1) and shall be carried in a sealed container in such a manner that the seals can be readily inspected by a person designated by the operator;

(f) Where portable EFBs are used on board an aeroplane, the pilot-in-command and/or the operator/owner shall;

(i) ensure that they do not affect the performance of the aeroplane systems, equipment, or the ability to operate the aeroplane;

(ii) assess the safety risk(s) associated with each EFB function;

(iii) establish and document the procedures for the use of, and training requirements for, the device and each EFB function; and

(iv) ensure that, in the event of an EFB failure, sufficient information is readily available to the flight crew for the flight to be conducted safely.

(g) The flight recorders referred to in paragraph 5 (1)(i) of the First Schedule to this Order shall be of approved types and shall be:

(i) so constructed, located, and installed as to afford maximum practicable protection in order that the recorded data may be preserved, recovered, and transcribed. Flight recorders shall also meet the industry crashworthiness and fire protection requirements as prescribed in the appropriate standards,

(ii) maintained in operation during flight time,

(iii) de-activated, if practicable, after an accident or serious incident involving the aircraft in which they are installed and shall not be re- activated prior to retrieval for examination of the recorded data, in accordance with Annex 13 to the Convention;

(iv) subject to operational checks and evaluations, notably of their recordings, to ensure their continued serviceability;

(h) (i) a flight data recorder shall be capable of retaining the information recorded during at least the last 25 hours of its operation, or such other period as may be prescribed,

(ii) a cockpit voice recorder (CVR) shall retain the information recorded during at least the last 2 hours of its operation,

(iii) all aeroplanes of a maximum certificated take-off mass of over 27 000 kg shall be equipped with a CVR which shall retain the information recorded during at least the last 25 hours of its operation,

(iv) All aeroplanes that are required to be equipped with CARS, and for which the individual certificate of airworthiness is

first issued on or after 1 January 2025, shall be equipped with a CARS which shall retain the information recorded during at least the last two hours of their operation,

(v) the aforementioned cockpit voice recorder shall be equipped with an alternate power source which shall automatically engage and provide 10 minutes, plus or minus one minute, of operation whenever aeroplane power to the recorder ceases, either by normal shutdown or by any other loss of power. This alternate power source shall power the CVR and its associated cockpit area microphone components. The CVR shall be located as close as practicable to the alternate power source,

(vi) all aeroplanes of a maximum certificated take-off mass of over 27 000 kg and authorized to carry more than nineteen passengers for which the application for type certification is submitted to the Authority, shall be equipped with a means approved by the Authority, to recover flight recorder data and make it available in a timely manner,

(vii) operational checks and evaluations of recordings from the flight data and cockpit voice recorder systems shall be conducted as prescribed to ensure the continued serviceability of the recorders,

(viii) an aircraft equipped to utilise data link communication, and which is required to carry a cockpit voice recorder (CVR), shall, where so prescribed, record on a flight data recorder all data link communications to and from the aircraft. The minimum recording duration of such data link messages shall be equal to that of the CVR and shall be correlated to the recorded cockpit audio. Sufficient information to derive the content of the data link communication message and, whenever practical, the time the message was displayed to or generated by the crew shall also be recorded.

[Note: Data link communications include, but are not limited to, automatic dependent surveillance – contract (ADS-C), controller-pilot data link communications (CPDLC), data link-flight information services (D- FIS) and aeronautical operational control (AOC) messages].

(ix) All aeroplanes which use any of the data link communications applications referred to in 5.1.2 of Appendix 8 of Annex 6 to the Convention and are required to carry a CVR, shall record the data link communications messages on a crash-protected flight recorder.

(x) All aeroplanes that are required to carry a CVR and are modified on or after 1 January 2016 to use any of the data link communications applications referred to in 5.1.2 of Appendix 8 of Annex 6 to the Convention, shall record the data link communications messages on a crash-protected

flight recorder, unless the installed data link communications equipment is compliant with a type certificate issued or aircraft modification first approved prior to 1 January 2016.

(xi) All aeroplanes of a maximum take-off mass of over 27 000 kg for which the application for type certification is submitted to the Authority shall be equipped with a crash-protected flight recorder which shall record the information displayed to the flight crew from electronic displays, as well as the operation of switches and selectors by the flight crew as defined in Appendix 8 of Annex 6 to the Convention. The minimum recording duration for such flight crew-machine interface shall be at least for the last two hours and shall be able to be correlated to the recorded cockpit audio.

(xii) For all aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 2023, a flight crew-operated erase function shall be provided on the flight deck which, when activated, modifies the recording of a CVR and AIR so that it cannot be retrieved using normal replay or copying techniques. The installation shall be designed to prevent activation during flight. In addition, the probability of an inadvertent activation of an erase function during an accident shall also be minimized.

(6) (a) If an instrument, indicator or gauge required by the First Schedule to this Order to be provided and fitted in an aircraft is not, to the satisfaction of the Authority, conveniently visible to a crew member for the performance of his or her duties from that crew member's normal place of duty, a further such instrument, indicator or gauge, so placed as to be conveniently visible to that crew member, shall be provided and installed in the aircraft;

(b) Independently operating systems shall be provided when duplicate instruments are required, the said independently operating systems being such that no one fault, which might impair the operation of one such instrument, can impair the operation of both such instruments;

(c) Those instruments that are used by any one pilot shall be so arranged as to permit that pilot to see them readily from his or her station with the minimum practicable deviation from the position and line of vision which he or she normally assumes when looking forward along the flight path;

(d) A flight crew member, when exercising the privileges of a licence issued or validated under the Irish Aviation Authority (Personnel Licensing) Order, 2000, subject to the condition that he or she wears suitable correcting lenses, shall have a spare set of such lenses readily available to him or her when exercising those privileges;

(e) Where equipment additional to that required in pursuance of paragraph (1) of this Article is installed, it shall either be approved by the Authority as in sub- paragraph (5)(b) of this Article or it shall be demonstrated to the satisfaction of the Authority that the said additional equipment as installed is neither a source of danger nor prejudicial to the proper functioning of the essential services in the aircraft, and does not in any way reduce the airworthiness of the aircraft;

Markings of break-in-areas

(f) If areas of the aircraft fuselage suitable for break-in by rescue crews are marked externally, the break-in-areas shall be rectangular in shape and shall be marked by right-angled corner markings, each arm of which shall be 9 centimetres in length along its outer edge and 3 centimetres in width and the colour of the markings shall be red or yellow and where, in any case in which the colour of the adjacent background is such as to render red markings not readily visible, be outlined in white or some other contrasting colour in such a manner as to render them visible;

(g) If the corner markings are more than two metres apart intermediate markings consisting of rectangles nine centimetres long by three centimetres wide shall be inserted so that there is not more than two metres between adjacent markings.

List of emergency and survival equipment

(7) The operator of a commercial air transport aircraft shall comply with the EASA Regulation in respect of emergency and survival equipment on board the aircraft and shall at all times have available for immediate communication to rescue co-ordination centres lists containing information regarding the emergency and survival equipment carried on board each of the operator's aircraft engaged on a flight which includes passage over the territory of any state other than the State.

(8) The information required pursuant to paragraph (7) of this Article shall include such of the following information as is appropriate in each case, that is to say, the number, colour and type of life-rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

(9) In this Article "approved" means approved by the Authority.

Autonomous Distress Tracking (ADT) Systems

As of 1 January 2025, all aeroplanes of a maximum certificated take-off mass of over 27 000 kg for which the individual certificate of airworthiness is first issued on or after 1 January 2024, shall autonomously transmit information from which

a position can be determined by the operator at least once every minute, when in distress, in accordance with Appendix 9.

Exits and Internal Doors

59. (1) This Article shall apply in relation to commercial air transport aircraft only.

(2) The operator shall comply with the EASA Regulation and shall demonstrate to the satisfaction of the Authority that for each flight the number of exits from the aircraft available for use in an emergency is sufficient for all persons on board on that flight to vacate the aircraft within such period of time as may be prescribed or as required under the certification basis for that aircraft or aircraft type.

(3) Whenever an aircraft is used for the carriage of passengers, all exits and internal doors shall be in working order, and shall, during take-off or landing or any emergency, be free from obstruction and not fastened in any way which would prevent, hinder, or delay their use by passengers, provided that:

(a) if such an exit is not required for use by passengers, it may, in accordance with arrangements approved by the Authority, be obstructed by cargo;

(b) a door between the flight crew compartment and any adjacent compartment accessible to passengers shall be fastened so as to prevent access to the flight crew compartment by passengers, unless the pilot-in-command determines otherwise in a particular case;

(c) nothing in this paragraph shall apply to any internal door which, if it is not in working order would not prevent, hinder, or delay the exit of passengers from the aircraft in an emergency.

(4) If one exit from an aircraft becomes inoperative when the aircraft is at a place where repair or replacement is not reasonably practicable, nothing in this Article shall prevent the aircraft from carrying passengers until it next lands at a place where the exit can be repaired or replaced: provided that, the number of passengers and the position of the seats occupied by them are in accordance with arrangements approved by the Authority, and that such arrangements include those for the fastening of the exit and the marking of it to indicate that it is inoperative.

PART VI

AIRCRAFT COMMUNICATION AND NAVIGATION AND SURVEILLANCE EQUIPMENT

Communications and navigation equipment to be carried

60. (1) An aircraft shall not fly unless it is provided with communications and navigation equipment to such extent and in such manner as may be required by the law of the state in which the aircraft is registered.

(2) An aircraft registered in the State shall not fly unless it is provided with such communications and navigation equipment as may be prescribed. A commercial air transport aircraft shall be equipped with communications and navigation equipment in accordance with the EASA Regulation.

(3) An aircraft to be operated:

(a) in accordance with Instrument Flight Rules;

(b) as a controlled VFR flight;

(c) at night, when so prescribed;

(d) on a flight in the course of which it may be at a distance over water more than fifty nautical miles from land suitable for an emergency landing; or

(e) over undeveloped land areas, shall be provided with radio communications equipment capable of:

(i) conducting two-way communication for aerodrome or heliport control purposes,

(ii) receiving meteorological information at any time during flight,

(iii) conducting two-way communication at any time during the flight with at least one aeronautical station and with such other aeronautical stations, and on such radio frequencies, as may be directed by the Authority,

(iv) communications on the aeronautical emergency frequency 121.5 MHz

(4) For operations where communication equipment is required to meet an RCP specification for performance-based communication (PBC), an aeroplane shall, in addition to the requirements specified in Article 54 (3),

(a) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP specification(s),

(b) have information relevant to the aeroplane RCP specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of Design or State of Registry,

(c) have information relevant to the aeroplane RCP specification capabilities included in the Minimum Equipment List (MEL).

(5) An aircraft operating on a route on which navigation is not or cannot be accomplished under VFR by visual reference to landmarks at least every sixty nautical miles, or when operated in accordance with the Instrument Flight Rules, shall be provided with navigation equipment which will enable the aircraft to proceed in accordance with:

(a) the appropriate flight plan, which in the case of commercial air transport aircraft shall be the operational flight plan referred to in Article 31;

(b) the requirements of the air traffic services.

(6) (a) An aircraft registered in the State or wherever registered and operated by the operator holding a valid air operator's certificate issued by the Authority shall, in addition to the requirements of paragraph (4) of this Article:

(i) be provided with navigation equipment which will enable it to be operated in accordance with the prescribed navigation specification(s) for operations where a navigation specification for PBN has been prescribed by the appropriate authority and shall be authorised by the Authority for such operations,

(ii) be equipped with navigation equipment which continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track for flights in defined portions of airspace where, based on a Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed by the appropriate authority and shall be authorised by the Authority for MNPS operations in such airspace,

(iii) for flights in defined portions of airspace where, based on a Regional Air Navigation Agreement a Reduced Vertical Separation Minimum (RVSM) of 300 m (1000 ft) is applied between flight level 290 and flight level 410 inclusive and the aircraft is authorised by the Authority for operation in such airspace, be provided with equipment which is capable of:

— indicating to the flight crew the flight level being flown,

— automatically maintaining a selected flight level,

— providing an alert to the flight crew when a deviation occurs above or below the selected flight level by more than ± 90 m (300 ft),

— automatically reporting the pressure altitude of the aircraft.

(b) the equipment required by (i), (ii) and (iii) of sub-paragraph (a) shall have a vertical navigation performance capability which satisfies the requirements specified in Appendix 4 to Part I of Annex 6 to the Convention and shall be approved by and installed and maintained in a manner approved by the Authority and shall be subject to appropriate continued airworthiness procedures, practices and programmes in respect of maintenance and repair and the operating procedures for that equipment shall be acceptable to the Authority for operation in RVSM airspace and the equipment itself shall be operated in accordance with those accepted procedures while the aircraft is flying in the defined RVSM portions of airspace concerned.

(7) On flights in which it is intended to approach to land in instrument meteorological conditions (IMC), an aircraft shall be provided with radio equipment capable of receiving signals providing guidance to a point from which a visual landing can be effected. The said equipment shall be capable of providing such guidance at each aerodrome or heliport at which it is intended to land in instrument meteorological conditions and at any designated alternate aerodromes or heliports.

(8) An aircraft shall be provided with sufficient navigation equipment to ensure that in the event of failure of one item of equipment at any stage of the flight, the equipment remaining will enable the aircraft to proceed in accordance with paragraphs (4) and (5) of this Article.

(9) The equipment installation in the aircraft shall be such that the failure of any single unit required for either communication or navigation purposes, or both, will not result in the failure of another unit required for communication or navigation purposes.

(10) When compliance with paragraph (2) of this Article requires that more than one unit of communications equipment be provided, each such unit shall be independent from the other or others to the extent that a failure in any one unit will not result in the failure of any other.

(11) The requirements of this Article shall be deemed to be fulfilled:

(a) if the ability to conduct the communications specified therein is established during radio propagation conditions which are normal for the route concerned; and

(b) if flights are planned and conducted at such altitude as will enable the communications and navigation capabilities specified therein to be effective.

(12) A commercial air transport aircraft shall be equipped with a flight crew interphone system, including headsets and microphones, not of a handheld type, for use by all members of the flight crew. Flight crew members on the flight deck of an aircraft shall be equipped with and shall communicate though boom or throat microphones below the transition level.

Surveillance equipment

61. (1) An aeroplane shall be equipped with surveillance equipment which will enable it to operate in accordance with the requirements of air traffic services.

(a) For operations where surveillance equipment is required to meet an RSP specification for performance-based surveillance (PBS), an aeroplane shall, in addition to the requirements specified in 7.3.1:

(a) be provided with surveillance equipment which will enable it to operate in accordance with the prescribed RSP specification(s);

(b) have information relevant to the aeroplane RSP specification capabilities listed in the flight manual or other aeroplane documentation approved by the State of Design or State of Registry; and

(c) have information relevant to the aeroplane RSP specification capabilities included in the MEL.

Installation and approval of equipment

62. The equipment installation shall be such that the failure of any single unit required for communication, navigation or surveillance purposes or any combination thereof will not result in the failure of another unit required for communication, navigation, or surveillance purposes. Aircraft radio and navigation equipment shall be of a type approved by the Authority in relation to the purpose for which it is to be used and shall be installed in a manner approved by the Authority. The operator of a commercial air transport aircraft shall not employ electronic navigation data products that have been processed for application in the air or on the ground unless that operator employs procedures approved by the Authority for ensuring that the process applied and the products delivered have met acceptable standards of integrity, that the products are compatible with the intended function of the equipment that will use them and that the operator continues to monitor both process and products in service.

PART VII

AIRCRAFT CREW

Aircraft Crew Composition and Standards

63. (1) The operator of a commercial air transport aircraft shall assign to each crew member on that aircraft the duties appropriate to his or her functions in both normal and emergency operations.

(2) The operator of a commercial air transport aircraft shall not assign or continue to assign for duty, as an aircraft crew member on that aircraft, a person who fails to reach standards as specified in the EASA Regulation and as stated by that operator and acceptable to the Authority in relation to competency in the performance of his or her normal duties and of the functions assigned to him or her in an emergency.

(3) (a) An aircraft shall not fly or attempt to fly unless its flight crew is of the number and description required by the law of the state in which the aircraft is registered;

(b) In the case of a commercial air transport aircraft, the number and description of the flight crew shall be as required by the provisions of the EASA Regulation and shall be specified in the Operations Manual and in the case of such an aircraft registered in the State, shall be approved by the Authority;

(c) The operator, or in the case of an aircraft which is not a commercial air transport aircraft, the pilot- in-command, shall ensure that the licences of each flight crew member have been issued or rendered valid by the state in which the aircraft is registered, and are properly rated and of current validity and the operator or pilot-in-command, as the case may be, shall be satisfied that the flight crew members have maintained their competency.

(4) The flight crew carried in an aircraft shall not be less than the number specified in the certificate of airworthiness of the aircraft or the flight manual of the aircraft or other documents acceptable to the Authority as equivalent to the flight manual.

(5) Whenever the carriage of flight crew members in addition to the minimum number referred to in paragraph (4) of this Article is necessitated by considerations related to the type of aircraft used, the type of operation involved and the duration of the flight between points at which flight crews are changed, the flight crew carried in an aircraft shall include such additional flight crew members as are required and in compliance with the EASA Regulation.

(6) The operator shall not operate a commercial air transport aircraft without a second pilot if that aircraft has a passenger seating configuration, excluding any pilot seat, of 10 seats or more.

(7) Where an aircraft is engaged on a flight necessitating the carriage of radio transmitting equipment, the flight crew shall include at least one member who is entitled under the Irish Aviation Authority (Personnel Licensing) Order, 2000 to operate the type of equipment to be used.

(8) When a separate flight engineer's station is incorporated in the design of the aircraft, the flight crew shall include at least one flight engineer licensed under the Irish Aviation Authority (Personnel Licensing) Order, 2000, and especially assigned to that station, or a flight crew member otherwise approved by the Authority for that purpose.

(9) The operator of a commercial air transport aircraft and the pilot-in-command of an aircraft which is not a public transport aircraft, shall, where that aircraft is equipped with an airborne collision avoidance system (ACAS), ensure that each flight crew member has been appropriately trained to competency in the use of the ACAS equipment and the avoidance of collisions.

Flight Crew Member training programme

64. The operator of a commercial air transport aircraft shall comply with the EASA Regulation regarding flight crew training and shall to the satisfaction of the Authority:

(1) establish and maintain a programme of ground and flight training to ensure that each flight crew member is adequately trained to perform his or her assigned duties and for this purpose shall provide or arrange for ground and flight training facilities and properly qualified instructors;

(2) provide training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, charting, human performance including threat and error management;

(3) ensure that the training programme consists of ground and flight training in the type or types of aircraft in which the flight crew member serves, and that the training programme includes proper flight crew co-ordination and multi-crew co-operation (MCC) training in all types of emergency or abnormal situations or procedures such as may be caused by engine, airframe or systems malfunctions, fire, unlawful interference, or other abnormal occurrences. The training programme shall also include upset prevention and recovery training and training in knowledge and skills related to human performance and in crew resources management (CRM) and training in the transport of dangerous goods;

(4) ensure that the training of each flight crew member includes the imparting of knowledge of the functions for which that flight crew member is responsible and the relationship of these functions to the functions of other flight crew members, in particular those functions relating to abnormal or emergency procedures;

(5) arrange that the training programme is given on a recurrent basis, and includes an examination of the flight crew members to ensure that the required level of competency is maintained: provided that the recurrent flight training in a particular type of aircraft may be considered to be fulfilled by:

(a) the use of appropriate and approved synthetic training devices, or

(b) the completion within the appropriate period of the proficiency check required by Article 58 (8) of this Order in the aircraft type concerned;

(6) establish, conduct, and maintain a training programme which will enable flight crew members to act in the most appropriate manner to prevent or minimise the consequences of acts of unlawful interference.

Qualifications of Flight Crew

65. (1) This Article shall apply to commercial air transport aircraft only. The operator of a commercial air transport aircraft shall comply with the EASA Regulation in respect of the qualifications of flight crew in addition to the requirements herein:

Recent Experience of Flight Crew

(2) (a) A flight crew member, before he or she is assigned to flight duties in a capacity or in a type of aircraft, after a period during which he or she has not acted in that capacity or in that type of aircraft, shall be required to re-establish his or her competency in a manner acceptable to the Authority. The said period shall be in the case of any flight crew member a period greater than 90 days;

(b) The operator shall not assign a pilot to act as a pilot-in-command or a co-pilot of an aircraft unless, within the preceding 90 days, that pilot has made at least three take-offs and landings on the same type of aircraft or in a synthetic training device approved for the purpose by the Authority.

(c) The operator shall not assign a co-pilot to serve at the flight controls during take-off and landing unless, on the same type of aircraft within the preceding 90 days, that co-pilot has operated the flight controls, as pilot-in-command or as co-pilot during three take-offs and landings or has otherwise demonstrated competence to act as co-pilot on a synthetic training device approved for the purpose.

Route and Airport or Heliport Familiarisation

(3) The operator shall not permit a pilot to act as pilot-in-command of an aircraft on a route or portion of a route for which he or she has not been previously qualified unless that pilot has demonstrated to the operator in such manner as the Authority may require:

(a) that he or she has adequate knowledge of the route to be flown and of the aerodromes or heliports which are to be used, including knowledge of the following matters associated with that route:

(i) the terrain and the minimum safe altitudes,

(ii) the seasonal meteorological conditions,

(iii) the meteorological, communications and air traffic facilities, services, and procedures,

(iv) the search and rescue procedures, and

(v) the navigational facilities;

(b) that he or she has adequate knowledge of:

(i) procedures applicable to flight paths over congested areas, and areas of high air traffic density,

(ii) obstructions en route and in the vicinity of aerodromes or heliports to be used,

(iii) the physical layout, lighting, approach aids, and arrival, departure, holding and instrument approach procedures and applicable aerodrome or heliport operating minima relevant to the aerodromes or heliports to be used.

(4) That portion of the demonstration required pursuant to paragraph (3) of this Article relating to arrival, departure, holding and instrument approach procedures may be accomplished in a synthetic training device which has been approved by the appropriate authority as adequate for the purpose.

(5) The pilot-in-command shall have made an actual approach into each aerodrome or heliport of landing on the route, either accompanied by a pilot who

has qualified for the said aerodrome or heliport, or as a member of the flight crew, or as an observer on the flight deck, unless:

(a) the approach to the aerodrome or heliport is not over difficult terrain and the instrument approach procedures and aids available to the pilot are similar to those with which he or she is familiar, and a margin approved by the Authority has been added to the normal aerodrome or heliport operating minima, or there is reasonable certainty that the approach and landing can be made in visual meteorological conditions (VMC); or

(b) the descent from the initial approach altitude can be made by day in visual meteorological conditions (VMC) i.e. by day/VFR only; or

(c) the operator has ensured that the pilot- in-command is qualified to land at the aerodrome or heliport concerned by means of familiarisation with an adequate pictorial presentation; or

(d) the aerodrome or heliport concerned is adjacent to another aerodrome or heliport at which the pilot-in-command is qualified to land.

(6) The operator shall keep in a form and manner approved of by the Authority, records of the qualifications under this Article of each pilot-in-command flying for that operator and of the manner in which the qualifications have been achieved.

(7) (a) The operator shall not continue to utilise a pilot as pilot-in-command on a route or within an area specified by the operator and approved by the Authority unless, within the preceding 12 months that pilot has made at least one trip as a pilot member of the flight crew or as a check pilot, or as an observer in the flight crew compartment:

(i) within that specified area; and

(ii) if appropriate, on any route where procedures associated with that route or with any aerodrome intended to be used for take-off or landing require the application of special skills or knowledge;

(b) In the event that more than a period of 12 months elapses during which a pilot- in-command has not made a flight on a route in close proximity to and over similar terrain within such a specified area, route or aerodrome and has not practiced such procedures in a training device which is adequate for the purpose, prior to again serving as pilot-in-command within that area or on that route, that pilot shall be requalified by complying with the qualification provisions of paragraphs (3) and (5) of this Article.

(8) (a) The operator shall ensure, in the case of each pilot flying for that operator, that the competency of the pilot in piloting technique and ability to execute emergency procedures is demonstrated by proficiency checks. Where operations may be conducted under instrument flight rules, the operator shall ensure that the

competency of each pilot to comply with such rules is demonstrated either to an examiner authorised by the Authority or to an authorised officer of the Authority;

(b) Proficiency checks pursuant to subparagraph (a) of this paragraph shall be performed twice within any period of one year. Any two such checks which are similar, and which occur within a period of four consecutive months shall not alone satisfy this requirement unless otherwise specified by the EASA Regulation;

(c) Synthetic Training Devices, if of a type approved by the appropriate authority, may be used for such parts of the proficiency checks as have been expressly approved therefor by the Authority or as permitted by the EASA Regulation.

(9) The operator of a commercial air transport aeroplane shall ensure that for single pilot operations under Instrument Flight Rules (IFR) or at night the pilot-in-command is qualified as required by the EASA Regulation.

Cabin crew members – required numbers and training

66. In the case of a commercial air transport aircraft carrying passengers, the operator shall comply with the requirements of the EASA Regulation in relation to cabin crew and shall, to the satisfaction of the Authority:

(1) ensure that the aircraft crew members include the minimum number of cabin crew required for each type of aircraft based on the minimum number of cabin crew used in demonstrating the emergency evacuation of the said type of aircraft and on the seating capacity of the aircraft, in order to carry out a safe and expeditious evacuation of the aircraft and the necessary functions to be performed in an emergency or in a situation requiring emergency evacuation;

(2) ensure that the number of cabin crew members carried shall be at least one for every fifty (or part of fifty) passengers carried in an aircraft;

(3) ensure that the cabin crew members shall not be members of the flight crew and shall be provided with seats in the passenger compartment;

(4) ensure that each cabin crew member is instructed that he or she shall be seated with safety harnesses fastened during take-off or landing and whenever the pilot- in- command so directs;

(5) Establish and maintain a training programme, approved by the Authority for cabin crew, which shall be completed annually by each cabin crew member who is assigned emergency functions in compliance with paragraph (1) of this Article and which will ensure by examination that each such cabin crew member:

(a) is competent to execute those safety duties and functions which may be assigned to him or her in the event of an emergency in accordance with paragraph (1) of this Article,

(b) is drilled and capable in the use of emergency and life-saving equipment required to be carried, including life jackets, life rafts, evacuation slides, emergency exits, portable fire extinguishers, oxygen equipment, first aid and universal precaution kits,

pressure breathing equipment (PBE) and automated external defibrillators;

(c) when serving in an aircraft operating above 3,000 metres (10,000 ft), has a knowledge of the effect of lack of oxygen, and, in the case of pressurised aeroplanes, of the physiological phenomena accompanying a loss of pressurisation,

(d) is given adequate training in the treatment of the effects of decompression and in the recognition and treatment of the effect of lack of oxygen and is examined at least once every year on his or her knowledge of the information imparted during such training,

(e) is given instruction on survival at sea, in undeveloped territory and in extreme climatic conditions,

(f) is made aware of other crew members' assignments and functions in the event of an emergency insofar as it is necessary for the fulfilment of his or her own individual duties,

(g) is aware of the types of dangerous goods which may and may not be carried in a passenger cabin and has completed the operator's dangerous goods training programme as required by the Authority,

(h) is knowledgeable about human performance as related to passenger cabin safety duties, including flight crew and cabin crew members co-ordination.

PART IX

INVESTIGATION AND PREVENTION OF ACCIDENTS AND INCIDENTS IN CIVIL AVIATION

Flight and cabin crew members, emergency, and survival training

67. (1) The operator of a commercial air transport aircraft shall arrange that periodic training and examination of flight and cabin crew members is conducted on an annual basis in accomplishing the functions required by Article 56(1) in relation to emergency operations and is a part of the training programme required by Articles 57 and 59 which shall include:

(a) instruction in the use of all emergency and life-saving equipment required to be carried;

(b) drills in the emergency evacuation of the aircraft; and

(c) instruction on survival at sea, in undeveloped territory and in extreme climatic conditions.

(2) The operator shall establish, conduct, and maintain a training programme acceptable to the Authority which:

(a) enables crew members to act in the most appropriate manner to prevent or minimise the safety consequences of acts of unlawful interference;

(b) acquaints appropriate employees including crew members with preventive measures and techniques in relation to passengers, baggage, cargo, ma il, equipment, stores and supplies intended for carriage on an aircraft so that they may contribute to the prevention of acts of sabotage or other forms of unlawful interference which may hazard the aircraft or its occupants.

PART VIII

AIRCRAFT MAINTENANCE

General

68. (1) (a) The provisions of this Part of the Order shall not apply to an aircraft to the extent that the applicable provisions of EASA Regulations have force of law in the State;

(b) A reference to an aircraft in this Part of the Order shall be deemed to include a reference to the components, power units, propellers, instruments, equipment, accessories, and materials relating to that aircraft."

(2) The operator of a commercial air transport aircraft and the owner of a private or an aerial work aircraft or, where it is leased, the lessee of that aircraft, to which this Order applies, shall ensure that, in accordance with procedures acceptable to the state of the operator and the state of registry:

(a) the aircraft in operation is maintained in an airworthy condition;

(b) the operational and emergency equipment necessary for an intended flight is serviceable and accessible;

(c) the certificate of airworthiness for the aircraft in operation remains valid;

(d) the maintenance of the aircraft is performed in accordance with a maintenance programme approved by the Authority or by the state of registry of that aircraft if not registered in the State;

(e) that an aircraft shall not be operated unless it is maintained and released to service under a system acceptable to the Authority or the state of registry if not registered in the State;

(f) a maintenance release or a certificate of release to service is issued by an organisation approved for aircraft maintenance by the Authority or a person otherwise qualified in that behalf, as appropriate in accordance with this Article or Article 62 of the Order;

(g) a maintenance release, or in the case of an aircraft which is not a commercial aircraft, a certificate of release to service, shall

contain a certification which includes basic details of the maintenance carried out (including for a commercial aircraft detailed references of the approved data used), the date it was completed, the identity of the approved maintenance organisation (where applicable) and of person or persons signing the release.

(3) The operator of a commercial air transport aircraft, who holds an air operator's certificate issued by the Authority, shall provide sufficient technical personnel and resources to comply with the relevant provisions of the EASA Regulation and shall appoint a person within the operator's organisation, who is acceptable to the Authority, and in accordance with the EASA Regulation, who has overall responsibility to ensure that all maintenance required on the operator's aircraft is carried out by a maintenance organisation approved by the Authority under Part-145 in accordance with the operator's approved maintenance programme and maintenance control manual or, where applicable, a Maintenance Management Exposition required under the EASA Regulation, such as to maintain the aircraft in an airworthy condition when in use.

(4) The registered owner of a commercial air transport aircraft registered in the State which is leased to the operator who does not hold an air operator's certificate issued by the Authority but who is authorised as the operator of that aircraft by another ICAO member state, in accordance with the relevant provisions of Annex 6 to the Convention, shall ensure that such arrangements as are agreed with the Authority in respect of the maintenance of such an aircraft are put in place by the operator concerned and shall ensure that it is maintained and released to service by a maintenance organisation approved by the appropriate authority in accordance with the provisions of Annex 6, in order to ensure that all maintenance work, overhauls, repairs, modifications and replacements to or in such aircraft which affect airworthiness are effected as required by, or prescribed under, the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996.

(5) (a) This paragraph shall apply in relation to a commercial air transport aircraft only unless otherwise prescribed;

(b) The operator shall provide for the use and guidance of persons concerned in the maintenance of aircraft, a book which shall be known, and in this Order is referred to, as the operator's maintenance control manual (or a maintenance management exposition required under the EASA Regulation) The operator shall also provide a maintenance programme, approved by the state of registry of the aircraft concerned, which shall contain the particulars specified in paragraph 4 of the Second Schedule to this Order in respect of the aircraft used or as required by the EASA Regulation and the design and application of which shall respect human factors principles;

(c) The operator shall ensure that the maintenance control manual and the maintenance programme are revised or amended, as may be necessary, by reason of any change in any of the matters specified in paragraph 4 of the Second Schedule to this Order, or to comply with the EASA Regulation, or as may otherwise be necessary in order to ensure that the information in the

maintenance control manual and the maintenance programme is the most recent available information or as may be required by the Authority, and that any revisions or amendments made in the maintenance control manual or in the maintenance programme under this paragraph are supplied to all persons to whom the maintenance control manual and the maintenance programme have been issued;

(d) A copy of the operator's maintenance control manual and the maintenance programme for the time being in use by the operator shall be provided to the Authority and to the state of registry of an aircraft, if different, together with all amendments or revisions to it and incorporating such mandatory material as required by the Authority.

(6) The operator of a commercial air transport aircraft shall ensure that:

(a) all persons employed by that operator and concerned in the maintenance of such an aircraft are adequately trained in the maintenance methods to be employed, in particular when a new or unfamiliar aircraft is introduced into service;

(b) each person charged with the responsibilities of certifying as to the airworthiness of an aircraft by a maintenance release or a certificate of release to service is designated by that operator's approved maintenance organisation or otherwise designated by an organisation approved for aircraft maintenance by the Authority in accordance with the requirements of the Irish Aviation Authority (Personnel Licensing) Order, 2000 and the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 and in accordance with the EASA Regulations;

(c) all modifications and repairs comply with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 and those procedures established to ensure that substantiating data supporting compliance with the airworthiness requirements are recorded and retained;

(d) a maintenance release is issued in respect of all maintenance work in accordance with Article 18 of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996;

(e) maintenance and operational experience and in-service defects with respect to continuing airworthiness of an aircraft type are monitored, assessed with respect to airworthiness and reported in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 or as prescribed thereunder;

(f) continuing airworthiness information and recommendations available from the organisation responsible for the type design are obtained and assessed on a routine basis and resulting actions implemented as considered necessary and as required by the EASA Regulation, according to a procedure acceptable to the Authority.

Responsibilities of Owners and Lessees

69. (1) In the case of an aircraft which is not a commercial air transport aircraft, the owner, or in the case where the aircraft is leased, the lessee, shall be responsible for its maintenance in an airworthy condition while it is in use and shall be responsible for ensuring that:

(a) all maintenance, overhaul, alterations, modifications, and repairs which affect airworthiness are performed in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 and that substantiating data supporting compliance with the airworthiness requirements are recorded and retained;

(b) maintenance personnel make appropriate entries in the aircraft maintenance records certifying that the aircraft is airworthy;

(c) a certificate of release to service is signed and issued by a person qualified to do so in accordance with the Irish Aviation Authority (Personnel Licensing) Order 2000 to certify that the maintenance work has been completed satisfactorily in accordance with the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996;

(d) a person charged with the responsibility of certifying as to the airworthiness of an aircraft by a certificate of release to service is qualified in accordance with the provisions of the Irish Aviation Authority (Personnel Licensing) Order 2000 or directions issued thereunder or is, alternatively, be designated by an organisation approved for the maintenance of that aircraft type by the Authority;

(e) in the case of an aeroplane with a maximum take-off mass of more than 5,700 kg, or a helicopter of more than 3,180 kg, maintenance and operational experience and in-service defects with respect to continuing airworthiness of an aircraft type are reported in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 or as prescribed thereunder.

Keeping and preservation of logbooks

70. (1) In the case of a commercial air transport aircraft, the operator, and in the case of an aircraft which is not a commercial air transport aircraft, the owner, shall keep and preserve logbooks or equivalent records in accordance with the requirements of the Irish Aviation Authority (Airworthiness of Aircraft) Order, 1996 and the EASA Regulation.

(2) The operator of a commercial air transport aircraft and in the case of an aircraft which is not a commercial air transport aircraft, the owner, shall ensure that the following records are held in respect of each aircraft in operation for the periods specified or as generally required by the EASA Regulation or as otherwise required by paragraph (4) of this Article:

(a) the total time in service (hours, cycles, calendar time, as appropriate) for each aircraft and all life limited components;

(b) the current status of compliance with all mandatory continuing airworthiness information;

(c) appropriate details of modifications and repairs to the aircraft and its major components;

(d) the time in service (hours, calendar time, cycles, as appropriate) of the aircraft or its components subject to a mandatory overhaul life;

(e) the current aircraft status of compliance with the maintenance programme;

(f) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(3) The owner of an aircraft, other than a commercial air transport aircraft or, in the case that an aircraft has been leased, the lessee of that aircraft, shall keep a record of the following with respect to that aircraft:

(a) the current empty mass and the location of the centre of gravity when empty; the addition or removal of equipment, the kind and extent of maintenance, alteration or repair performed and the time in service and date when the work was performed and a chronological list of compliance with airworthiness directives and the methods of such compliance;

(b) in respect of the major components:

(i) the total time in service,

(ii) the date of the last overhaul,

(iii) the time in service since the last overhaul,

(iv) the date of the last inspection;

(c) in respect of those instruments and equipment, the serviceability and operating life of which are determined by their time in service, such records of the time in service as are necessary to determine their serviceability or to compute their operating life and the date of the last inspection in each case.

(4) The records referred to in paragraphs (2)(a) to 2(e), inclusive and (3) above shall be held by the operator, owner, or lessee for a period of 90 days after the end of the operating life of the unit to which they refer and those at paragraph 2(f) for a period of one year after the signing of the maintenance release concerned.

Investigation and Prevention of Accidents and Incidents in Civil Aviation

71. The following natural persons shall report safety occurrences through the ECCAIRS 2 system within 72 hours of becoming aware of the occurrence, unless exceptional circumstances prevent this:

(a) the pilot in command, or, in cases where the pilot in command is unable to report the occurrence, any other crew member next in the chain of command of an aircraft registered in a Member State or an aircraft registered outside the Union but used by an operator for which a Member State ensures oversight of operations, or an operator established in the Union;

(b) a person engaged in designing, manufacturing, continuous airworthiness monitoring, maintaining, or modifying an aircraft, or any equipment or part thereof;

(c) a person who signs an airworthiness review certificate, or a release to service in respect of an aircraft or any equipment or part thereof;

(d) a person who performs a function as a staff member of an air traffic service provider entrusted with responsibilities related to air navigation services or as a flight information service officer;

(e) a person who performs a function connected with the safety management of an airport;

(f) a person who performs a function connected with the installation, modification, maintenance, repair, overhaul, flight-checking, or inspection of air navigation facilities;

(g) a person who performs a function connected with the ground handling of aircraft, including fuelling, loadsheet preparation, loading, de-icing, and towing at an airport.

FIRST SCHEDULE

Article 57

Instruments, Equipment and Safety Devices for Aircraft

1. Paragraphs 2, 3 and 4 of this Schedule shall not apply to Annex 1 aircraft, as defined in the EASA Regulations, and aircraft that have been exempted from the provisions of the EASA Regulations in accordance with Art. 2(8)(a) of the EASA Regulation, unless otherwise prescribed by the Authority in a particular case or specified herein.

2. An aircraft on any flight – shall be provided with:

   (1) Flight and navigation instruments:

      (a) a magnetic compass or its equivalent,

      (b) an accurate timepiece indicating time in hours, minutes, and seconds,

      (c) a sensitive pressure altimeter,

      (d) an airspeed indicator,

      (e) other instruments or equipment as prescribed.

   (2) Power units, instruments, and equipment - reciprocating engines - for each engine -

      (a) fuel content indicator(s);

      (b) oil content indicator(s); there must be a stick gauge or equivalent means to indicate the quantity of oil in each tank. If an oil transfer or reserve oil supply system is installed, there must be a means to indicate to the flight crew in flight the quantity of oil in each tank;

      (c) oil pressure indicator;

      (d) oil temperature indicator, unless it can be proved that the operational limitations of the engine do not make the indicator essential;

      (e) tachometer (crankshaft rotational speed indicator);

      (f) manifold pressure indicator, where this indicator is necessary for the proper control of the engine;

      (g) ignition switches;

      (h) coolant outlet temperature indicator for liquid cooled engines;

      (i) for aircraft equipped with three or more engines, an instrument or device for indicating the loss of power where such loss of power is not readily determinable by the pilot from the natural response of the aircraft;

      (j) other instruments or equipment as prescribed.

(3) Power unit instruments and equipment - turbine engines - for each engine:

(a) an exhaust gas temperature indicator;

(b) fuel quantity indicators;

(c) oil pressure indicators if an oil pressure system is used;

(d) oil quantity indicator; there must be a stick gauge or equivalent means to indicate the quantity of oil in each tank. If an oil transfer or reserve oil supply system is installed, there must be a means to indicate to the flight crew, in flight, the quantity of oil in each tank;

(e) oil temperature indicator;

(f) tachometer(s) to indicate revolutions per minute of compressor, turbine, and propeller for each engine, as applicable;

(g) an instrument or device for indicating the loss of power where such loss of power is not readily determinable by the pilot from the natural response of the aircraft;

(h) other instruments or equipment as prescribed.

(4) Place holder for electrical / alternative power

(5) Miscellaneous instruments, equipment, or safety devices:

(a) a portable fire extinguisher of a type which, when discharged, shall not cause dangerous contamination within the aircraft and readily accessible to the pilot in the pilot's compartment and in each passenger compartment not readily accessible to the pilot;

(b) a seat for every occupant over 3 years of age, other than any occupant carried in a berth or on a stretcher, and a safety belt or safety harness for every seat, berth, and stretcher;

(c) an accessible first aid kit;

(d) such other instruments, equipment or safety devices as are prescribed.

(6) Current maps and charts to cover the whole of the route which it is proposed to fly, together with current maps and charts of any route to which the pilot-in-command of the aircraft may reasonably expect to be diverted.

(7) The ground/air signal codes for search and rescue purposes.

(8) Information to which the pilot-in-command of the aircraft may need to refer while in flight in order to comply with the Standardised Rules of the Air issued under the EASA Regulation, and with the air traffic control procedures for the time being in force.

(9) Spare electrical fuses for all electrical circuits essential to safety contained in the aircraft the fuses of which can be replaced in flight.

The number of fuses to be carried shall be 25% of the number required for each rating or three of each rating whichever number is the greater.

(10) In aircraft designed to manoeuvre on the water, equipment for making from the surface of the water efficient sound signals at intervals of not more than a minute.

(11) A list of visual signals and procedures for use by intercepting and intercepted aircraft as specified in Annex 2 to the Chicago Convention.

(12) Such instruments as the Authority may prescribe for aircraft in areas where search and rescue would be difficult.

(13) The aircraft flight manual or such other documentation and information as required to implement the requirements of Article 56 in respect of operating limitations.

(14) A flight recorder or recorders in such aircraft and recording such information as prescribed by the Authority or as required by the EASA Regulation. Documentation pertaining to such a recorder, or recorders shall also be provided and maintained by the operator concerning parameter allocation, conversion equations, periodic calibration and other serviceability inspection or maintenance information, sufficient to ensure that accident investigation agencies will have the necessary information to read out the recorder data in engineering units.

(15) A ground proximity warning system (GPWS), or, where prescribed, an enhanced ground proximity warning system (EGPWS), for all aeroplanes of maximum total authorised mass greater than 5,700 kilograms or authorised to carry more than 9 passengers and for such other aircraft as may be prescribed, which shall provide automatically a timely and distinctive warning to the flight crew when the aircraft is in potentially hazardous proximity to the earth's surface, and shall as a minimum provide warnings of excessive descent rate, excessive terrain closure rate, excessive altitude loss after go-around or take-off, unsafe terrain clearance while not in the landing configuration, i.e. while the landing gear is not locked down or flaps not in landing position and excessive descent below an instrument glide path. To this extent, the operator shall implement database management procedures that ensure the timely distribution and update of current terrain and obstacle data to the ground proximity warning system;

(16) A ground proximity warning system (GPWS) which provides the warnings of 6.15.7 a) and c), warning of unsafe terrain clearance and a forward-looking terrain avoidance function for all turbine-engined aeroplanes of a maximum certificated take-off mass of 5 700 kg or less and authorized to carry more than five but not more than nine passengers for which the individual certificate of airworthiness is first issued on or after 1 January 2026;

(17) When operating within controlled airspace, a pressure-altitude reporting transponder operating in accordance with the relevant provisions of Annex 10, Volume IV to the Chicago Convention. All aeroplanes should be equipped with a data source that provides pressure-altitude information with a resolution of 7.62 m (25 ft), or better.

(18) A runway overrun awareness and alerting system (ROAAS) for all turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 2026.

(19) For commercial air transport at least one automatic ELT for aeroplanes authorized to carry 19 passengers or less. Aeroplanes authorized to carry more than 19 passengers shall be equipped with either:

(a) at least two ELTs, one of which shall be automatic; or

(b) at least one ELT and a capability that meets the requirements of 6.18.

[Note: In the case where the requirements for 6.18 are met by another system no automatic ELT is required.]

(20) For non-commercial air transport, all aeroplanes shall be equipped with at least one automatic ELT.

(21) Non-deployable flight recorder containers shall: be painted a distinctive orange colour.

(22) Non-deployable crash-protected flight recorder containers shall:

(i) carry reflective material to facilitate their location; and

(ii) have securely attached an automatically activated underwater locating device operating at a frequency of 37.5 kHz. At the earliest practicable date, but not later than 1 January 2018, this device shall operate for a minimum of 90 days.

(23) Automatic deployable flight recorder containers shall:

(a) be painted a distinctive orange colour, however the surface visible from outside the aircraft may be of another colour:

(b) carry reflective material to facilitate their location; and

(c) have an integrated automatically activated ELT.

(24) The flight recorder systems shall be installed so that:

(a) the probability of damage to the recordings is minimized;

(b) there is an aural or visual means for pre-flight checking that the flight recorder systems are operating properly; and

(c) if the flight recorder systems have an erasure device, the installation shall be designed to prevent operation of the device during flight time or crash impact; and

(d) for aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 2023, a flight crew-operated erase function shall be provided on the flight deck which, when activated, modifies the recording of a CVR and AIR so that it cannot be retrieved using normal replay or copying techniques. The installation shall be designed to prevent activation during flight. In addition, the probability of an inadvertent activation of an erase function during an accident shall also be minimized.

(25) The crash-protected flight recorders shall be installed so that they receive electrical power from a bus that provides the maximum reliability for operation of the flight recorders without jeopardizing service to essential or emergency loads.

(26) The lightweight flight recorders shall be connected to a power source having the characteristics which ensure proper and reliable recording in the operational environment.

3. In addition to the requirements of paragraph 2:

(1) In all aircraft for flight by night:

(a) equipment for displaying the appropriate lights required to be displayed by the Standardised Rules of the Air issued under the EASA Regulation;

(b) adequate illumination for all instruments and equipment that are essential for the safe operation of the aircraft;

(c) the instruments and equipment specified in subparagraph (3) of this paragraph;

(d) an accurate timepiece indicating the time in hours, minutes, and seconds;

(e) a landing light;

(f) lights in all passenger compartments;

(g) an independent portable light for each crew member station.

(2) (a) A helicopter shall be equipped with a safety harness for each flight crew member's seat, comprising shoulder strap(s) and a seat belt, which may be used independently;

(b) In aircraft used for flight instruction, a safety harness or shoulder strap(s) in conjunction with the seat belt for every pilot's seat and for any seat situated alongside a pilot's seat or a seat otherwise provided for a person under instruction;

(c) In aircraft used for aerobatic flight manoeuvres - a safety harness for every seat in use by a person on board.

(3) For an aircraft when operated in accordance with instrument flight rules, or when the aircraft cannot be maintained in a desired attitude without reference to one or more flight instruments:

(a) a gyroscopic rate of turn indicator combined with an integral slip-skid indicator except that only a slip-skid indicator is required when a third attitude instrument system usable through flight attitudes of 360° of pitch and roll is installed in accordance with paragraph 5 (1)(c) of this Schedule;

(b) two attitude indicators (artificial horizon), one of which may be replaced by (a) above in the case of an aeroplane (only);

(c) a gyroscopic heading indicator;

(d) means of indicating whether the power supply to the gyroscopic instruments is working satisfactorily;

(e) two sensitive pressure altimeters;

(f) an accurate timepiece indicating the time in hours, minutes, and seconds;

(g) a rate of climb and descent indicator;

(h) appropriate approach charts for each aerodrome specified in the flight plan;

(i) a means of indicating in the flight crew compartment the outside air temperature;

(j) an airspeed indicating system with means of preventing malfunctioning due to either condensation or icing;

(k) in an aeroplane, the maximum total authorised mass of which exceeds 5,700 kgs, two airspeed indicating systems each equipped with a means of preventing malfunctioning due to either condensation or icing;

(l) for a rotorcraft, a stabilisation system, unless it has been demonstrated satisfactorily to the Authority that the aircraft, by virtue of its design, has adequate stability without such a system;

(m) for a rotorcraft, a slip indicator;

(n) a magnetic compass.

(4) An aircraft on a VFR flight which is operated as a controlled flight (including a special VFR flight) – shall be equipped in accordance with the requirements of paragraph 3 (3) of this Schedule or with at least the following instruments:

(a) a turn and slip indicator, or a gyroscopic bank and pitch indicator with a gyroscopic direction indicator, and a means of indicating whether the power supply to the gyroscopic instruments is working satisfactorily;

(b) a sensitive altimeter adjustable for changes in barometric pressure;

(c) an accurate timepiece indicating the time in hours, minutes, and seconds;

(d) a pressure-altitude reporting transponder as prescribed or otherwise required for flight in designated airspaces."

(5) For flights which involve manoeuvres on the water by an aircraft:

(a) one life jacket, or equivalent individual flotation device for each person on board, stowed in a position easily accessible from the person's seat or berth. Each life jacket and equivalent flotation device shall be equipped with a whistle and a waterproof torch or other equally suitable means of electric illumination for the purpose of facilitating the location of persons;

(b) in the case of a commercial air transport aircraft, leaflets for distribution to each passenger stating the precise location and method of use of the life jackets;

(c) equipment of a marine type for making from the surface of the water the sound signals and pyrotechnical signals of distress specified in the Collision Regulations (Ships and Watercraft on the Water) Orders, 1984 to 1993;

(d) equipment for mooring or for anchoring appropriate to the maximum total mass authorised of the aircraft.

Note - a life belt is not considered an equivalent individual flotation device for the purpose of this Order.

(6) For flights which involve manoeuvres on the water by aircraft the maximum total authorised mass of which exceeds 2,370 kgs:

(a) the equipment specified in subparagraph (5) of this paragraph;

(b) one sea anchor;

(c) such apparatus as is required to facilitate the manoeuvring of the aircraft on the water under its engine power and as is appropriate to its mass, size, and handling characteristics and, where such apparatus is not controlled by the pilot, a communication system enabling him or her to instruct the operator thereof.

(7) A helicopter intended to be flown over water, unless designed for landing on water, shall be fitted with a permanent or rapidly deployable means of flotation so as to ensure a safe ditching of the helicopter when:

(a) flying over water at a distance from land corresponding to more than 10 minutes at normal cruising speed in the case of helicopters operating in Performance Classes 1 or 2; or

(b) flying over water beyond autorotational or safe forced landing distance from land in the case of a helicopter operating in Performance Class 3.

4. In addition to the requirements laid out in an Chapter 2, Part II, of Annex 6 to the Convention, a non-commercial air transport aeroplane shall be equipped with:

   (1) an accessible first-aid kit;

   (2) an FDR capable of recording at least the 82 parameters listed in Table A2.3-1 of Appendix 2.3 of Annex 6, Part II to the Convention when having a take-off mass of over 5 700 kg;

5. A commercial air transport aircraft shall be equipped with the appropriate instruments and equipment in compliance with the requirements of the EASA Regulation or as otherwise prescribed by the Authority.

6. (1) For a commercial air transport aircraft there shall be provided:

   (a) accessible and adequate medical supplies;

   (b) a safety harness with a single point release for every flight crew member and for every forward or rearward facing seat used by a crew member and the harness for flight crew members shall contain a device to restrain the occupant in the event of rapid deceleration;

   (c) in the case of a helicopter - three attitude indicators (artificial horizons), one of which may be replaced by a gyroscopic turn indicator;

   (d) in the case of an aeroplane of maximum total authorised mass exceeding 5,700 kgs or a helicopter operated in Performance Classes 1 or 2, a standby attitude indicator which operates continuously and is provided with an independent power source, which shall operate automatically on failure of the main electrical power supply, provide illumination to the standby attitude indicator, and continue in operation for at least 30 minutes. A clear indication shall be given on the instrument panel that the standby attitude indicator is being operated by emergency power;

   (e) means of indicating to the passengers when safety seat belts or safety harness should be fastened except where the pilot and passenger compartments are not separately enclosed;

   (f) at least one portable fire extinguisher of a type which, when discharged/in use, will not cause dangerous contamination of the air within the aeroplane. At least one shall be located in;

      (1) the pilot’s compartment; and

      (2) each enclosed passenger compartment that is separate from the pilot’s compartment and that is separate from the pilot’s compartment and not readily accessible to the flight crew, provided that the total number of fire extinguishers shall be in relation to the total compartment capacity, as directed by the Authority, and except that any fire extinguishers which are carried in compliance with the issue of a certificate of

airworthiness shall count against those required by this subparagraph;

(g) means of ensuring that information and instructions are conveyed to passengers regarding the location and method of opening of the emergency exits;

(h) means of ensuring that information and instructions on restrictions on smoking, when and how oxygen equipment is to be used if the carriage of oxygen is required, location and use of life jackets or equivalent individual flotation devices where their carriage is required, and location and method of opening emergency exits are conveyed to passengers;

(i) fire warning indicators;

(j) (i) for all flights, an accessible and adequate first-aid kit, including materials for treating minor injuries including burns, artificial plastic airways, splints which may be inflatable, scissors, analgesics, ammonia inhaler, handbook on first aid,

(ii) for flights over the ocean or over areas where search and rescue operations would be difficult, one or more emergency medical kits containing in addition to the items listed in clause (i) of this subparagraph, insect repellent, emollient eye drops, sunburn cream, salt tablets, water miscible antiseptic skin cleanser, materials for the treatment of extensive burns, haemostatic forceps, haemostatic bandage or tourniquet, narcotic in injection form;

(k) all aeroplanes which are equipped with a flight crew compartment door, this door shall be capable of being locked, and means shall be provided by which cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.

(l) an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorized persons. This door shall be capable of being locked and unlocked from either pilot's station for all passenger-carrying aeroplanes:

(1) of a maximum certificated take-off mass in excess of 54 500 kg; or

(2) of a maximum certificated take-off mass in excess of 45 500 kg with a passenger seating capacity greater than 19; or

(3) with a passenger seating capacity greater than 60.

(m) means of protecting the flight crew compartment from unauthorised access and the flight crew from unlawful interference; where an aeroplane is equipped as required by Annex 6 to the Convention, with a flight crew compartment

door that is designed to resist small arms fire, grenade shrapnel and forcible intrusion by unauthorised persons, such a door and its installation shall be of an approved type and shall be capable of being locked or unlocked from either pilot's station in the flight crew compartment only and means shall be provided by which the cabin crew can discreetly communicate with the flight crew where events in the cabin may render that necessary or desirable; where means is provided in an aeroplane as required by Annex 6 to the Convention, to monitor from the flight deck the door area outside the flight crew compartment, such a monitoring system shall be of an approved type;

(n) such emergency equipment as may be prescribed, which may include axes, megaphones, means of emergency evacuation, interior marking and lighting of emergency exits, emergency exit operating handles, emergency exit access, exterior exit and escape route markings and lighting, floor level exits and additional exits;

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

(p) a forward or rearward facing seat, within 15 degrees of the longitudinal axis of the aircraft, fitted with a safety harness for the use of each cabin crew member required to satisfy the provisions of Article 59 of this Order and located near a floor level or other emergency exit or as required by the Authority or as otherwise required by the EASA Regulations;

(q) an airborne collision avoidance system (ACAS) and pressure-altitude reporting transponder as prescribed by the Authority or as required by the EASA Regulations;

(r) in the case of a turbine engine aeroplane of maximum total authorised mass greater than 5,700 kilograms or authorised to carry more than 9 passengers, a wind-shear warning system or as otherwise prescribed by the Authority;

(s) in the case of an aeroplane operated by a single pilot under the Instrument Flight Rules or at night, a serviceable autopilot with at least altitude and heading select modes, a headset with a boom microphone or equivalent and a means of displaying charts that enables them to be readable in all ambient light conditions.

(t) Aircraft protection measures while parked in a security restricted area or in an area other than a security restricted area.

(2) For flights of a commercial air transport aeroplane or any single engine aeroplane over water beyond gliding distance from coast or shore, and for flights of a commercial air transport aeroplane or any helicopter operating in Performance Classes 2 or 3, when taking off or landing over a substantial body of water, such that in the event of an emergency arising there would be a likelihood of ditching – there shall be provided:

(a) the equipment and leaflets specified in subparagraph (5)(a) and 5(b) of paragraph 3 of this Schedule;

(b) an electric torch;

(3) For flights over water in the course of which an aircraft may at any time be at a distance greater than the following away from an aerodrome or land suitable for a safe forced landing:

(a) a distance of 50 nautical miles (93 km) for aeroplanes and beyond autorotational or safe forced landing distance for helicopters operating in Performance Class 3:

- there shall be provided the equipment and leaflets specified in sub- paragraph (5)(a) and (5)(b), as applicable, of paragraph 3 of this Schedule;

(b) a distance corresponding to 120 minutes at cruising speed or 740 km (400 NM), whichever is the lesser, away from land suitable for making an emergency landing in the case of aircraft operated in accordance with 5.2.9 or 5.2.10, and 30 minutes or 185 km (100 NM), whichever is the lesser, for all other aeroplanes, there shall be provided:

(i) the equipment and leaflets as required in subparagraphs (5)(a) and (5)(b), as applicable, of paragraph 3 of this Schedule,

(ii) suitably equipped life-saving rafts in sufficient numbers to accommodate all occupants of the aircraft stowed so as to permit their ready use in an emergency and provided with such life-saving equipment, including means for sustaining life, as is appropriate for the flight to be undertaken,

(iii) on all aeroplanes of a maximum certificated take-off mass of over 27 000 kg, a securely attached underwater locating device operating at a frequency of 8.8 kHz. This automatically activated underwater locating device shall operate for a minimum of 30 days and shall not be installed in wings or empennage,

(iv) permanently or rapidly deployable means of flotation for helicopters so as to allow safe ditching, if necessary,

(v) each life-saving raft shall be equipped with:

means for maintaining buoyancy,

sea anchor,

life lines and means of attaching one life raft to another,

paddles, or other means of propulsion,

weather protection equipment,

waterproof torch,

means of making sea water drinkable,

marine type equipment for making the pyrotechnical distress signals,

first-aid equipment,

such supplies of food and water as would be reasonably required to meet an emergency.

Note (1) Routine maintenance and inspection of life-saving rafts and their equipment shall be carried out to ensure that they are maintained in a serviceable condition.

Note (2) The location, method of stowage and method of launching of life-saving rafts shall be such as to ensure the most expeditious and efficient use of them in the event of a forced landing of the aircraft on water. At least half the number of life rafts provided on a rotorcraft in accordance with the provisions of this sub-paragraph shall be deployable by remote control. A life raft provided on a rotorcraft which is not deployable by remote control, and which has a mass of more than 40kg shall be equipped with a means of mechanically assisted deployment.

Note (3) Equipment specified in item (v) of subparagraph (3) shall be contained in a pack and one such pack shall be stowed with each life-saving raft so that it is immediately available when the life-saving raft is launched.

(vi) portable radio equipment for use as survival beacons, in type, numbers and locations as prescribed or accepted by the Authority.

(4) For flights by aircraft over undeveloped land areas where search and rescue could be especially difficult, there shall be provided portable radio equipment for use as survival beacons to be carried in type, numbers, and locations as prescribed or accepted by the Authority and such additional signalling devices and lifesaving or life sustaining equipment as may be appropriate to the area overflown.

(5) For flights at night by commercial air transport aircraft – there shall be provided:

(a) two landing lamps or, if accepted by the Authority in the case of an aeroplane, a single landing lamp with two separately energised filaments and, in the case of a helicopter, one of these lights shall be trainable in the vertical plane;

(b) cabin lights in all passenger compartments;

(c) in the case of such aircraft as may be prescribed, or as required by the EASA Regulation, an emergency lighting system

independent of the main lighting system to provide illumination in the passenger compartment sufficient to facilitate the evacuation of the aircraft, notwithstanding the failure of the main lighting system;

(d) the instruments and equipment specified in subparagraph (3) of paragraph 3 of this Schedule;

(e) equipment for displaying the lights required by the Standardised Rules of the Air issued under the EASA Regulation;

(f) illumination for all instruments and equipment essential for the safe operation of the aircraft and used by the flight crew;

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

(6) An aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 Hpa in personnel compartments shall be equipped with oxygen storage and dispensing equipment capable of storing and dispensing the oxygen supplies as follows:

(a) a supply of oxygen for continuous use by all crew members and by 10% of the passengers for the whole time in excess of 30 minutes during which the aircraft is required to fly at an altitude above 10,000 feet (a pressure of less than 700 Hpa) but not above 13,000 feet (a pressure of less than 620 Hpa;

(b) a supply of oxygen for continuous use by all crew members and passengers for the whole time during which the aircraft is required to fly above an altitude of 13,000 feet (a pressure of less than 620 Hpa).

(7) An aircraft intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 Hpa but which is provided with means of maintaining pressures above 700 Hpa in all personnel compartments shall be provided with oxygen storage and dispensing equipment capable of storing and dispensing the oxygen supplies as follows:

- for all crew members and passengers:

(i) in the event of a loss of pressurisation, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 Hpa,

(ii) in addition, when the aircraft is operated at a flight altitude at which the atmospheric pressure is less than 376 Hpa, or which, if operated at flight altitudes at which the pressure is more than 376 Hpa and it cannot descend safely within four minutes to an altitude at which the atmospheric pressure is equal to 620 Hpa, there shall be no less than a 10-minute supply for the occupants of the passenger compartment.

Note (1) For the purposes of this paragraph and of Article 39 of this Order, the expression “loss of pressurisation” means inability

through any cause to maintain an atmospheric pressure of at least 700 hectopascals in any occupied compartment.

Note (2) Approximate altitudes in the Standard Atmosphere corresponding to the values of absolute pressure used in this Order are as follows:

Absolute Pressure	Feet	Metres
700 hectopascals	10,000	3,000
620 hectopascals	13,000	3,900
376 hectopascals	25,000	7,600

(8) For all flights for which the carriage of stored oxygen is required by this Order, there shall be provided:

(a) suitable means of storing, supplying and dispensing oxygen;

(b) suitable means of indicating to the passengers in each compartment the appropriate times at which oxygen should be used and the method of use.

(9) (a) For flights on which a pressurised aircraft is intended to be operated at an altitude at which the atmospheric pressure is less than 376 hectopascals - a device to provide positive warning of any dangerous loss of pressurisation to the flight crew shall be provided;

(b) For flights on which a pressurised aircraft is intended to be operated at an altitude at which the atmospheric pressure is less than 376 Hpa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 Hpa, the aircraft cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 Hpa, it shall be provided with automatically deployable oxygen equipment to satisfy the requirements of paragraph (7) of this Schedule. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew member seats by at least 10 per cent.

(10) For flights when the weather reports or forecasts available at the aerodrome or heliport at the time of departure indicate that conditions favouring ice formation are likely to be met, means or equipment shall be provided to prevent any impairment through ice formation of the functioning of the controls, means of propulsion, lifting surfaces, windows or equipment of the aircraft which would endanger the safety of the aircraft.

(11) For a pressurised commercial air transport aircraft – there shall be provided:

operative weather radar, whenever such aircraft are being operated in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable by air-borne weather radar equipment, may be expected to exist along

the route to be flown, either at night or in instrument meteorological conditions.

(12) An aircraft with speed limitations expressed in terms of mach number shall be equipped with a mach number indicator.

7. Gliders shall be provided with:

(1) for all flights:

(a) such instruments, equipment and devices as the Authority may require to be carried in the particular glider;

(b) safety harness for every seat in use.

(2) for flights by night:

(a) equipment for displaying the lights required to be displayed by the Standardised Rules of the Air issued under the EASA Regulation, in relation to the particular aircraft;

(b) adequate electrical illumination, supplied from the main source of supply in the glider for the instruments and equipment (including maps) required to be carried, the illumination of which is necessary to enable use to be made of them during the flight.

(3) For a commercial air transport or an aerial work glider - such additional instruments, equipment and devices as the Authority may prescribe in each case.

8. Free and Captive Balloons shall be provided with:

for all flights - such instruments, equipment and devices as the Authority ma y require to be carried in the particular type of aircraft.

SECOND SCHEDULE

Articles 15, 23, 52, 61

Manuals, Logs and Records

1. Journey Logbook

The journey logbook or other equivalent record required by Article 15 shall contain the following items and corresponding Roman numerals:

I. aircraft nationality and registration;
II. date;
III. names of crew members;
IV. duty assignments of crew members;
V. place of departure;
VI. place of arrival;
VII. time of departure;
VIII. time of arrival;
IX. hours of flight;
X. nature of flight; (private, aerial work, non-scheduled commercial air transport, scheduled commercial air transport);
XI. incidents and observations if any;
XII. signature of person in charge.

2. Organisation and Contents of an Operations Manual

An operations manual, organised as shown herein, which may be issued in separate parts corresponding to specific aspects of operations shall contain at least the following:

(1) Organisation:

- Administration And Policy Manual;
- Aircraft Operating Manual;
- Minimum Equipment List (MEL) And Configuration Deviation List (CDL);
- Training Manual;
- Airport And Runway Analysis Manual;
- Areas, Routes, and Aerodromes
- Cabin Safety and Emergency Procedures Manual;
- Dangerous Goods Manual;
- Accident Prevention and Flight Safety Manual;
- Security Manual.

(2) Contents of Manual System:

2.1 Administration And Policy Manual

2.1.1 Instructions outlining the responsibilities of operations personnel pertaining to the conduct of flight operations;

2.1.2 Information and policy relating to fatigue management including:

(a) policies pertaining to flight time, flight duty period, duty period limitations and rest requirements for flight and cabin crew members in accordance with this Order; and

(b) where applicable, policy and documentation pertaining to the operator's FRMS in accordance with Appendix 7 of Annex 6 to the Convention.

2.1.3 A list of the navigational equipment to be carried including any requirements relating to operations where performance-based navigation is prescribed;

2.1.4 Where relevant to the operations, the long-range navigation procedures, engine failure procedures for EDTO and the nomination and utilisation of diversion aerodromes;

2.1.5 The circumstances in which a radio listening watch is to be maintained;

2.1.6 The method for determining minimum flight altitudes;

2.1.7 The methods for determining aerodrome or heliport operating minima;

2.1.8 Safety precautions during refuelling with passengers on board;

2.1.9 Procedures, as prescribed in Annex 12, for pilots- in-command observing an accident;

2.1.10 The flight crew for each type of operation including the designation of the succession of command;

2.1.11 Specific instructions for the computation of the quantities of fuel and oil to be carried, having regard to all circumstances of the operation including the possibility of loss of pressurization and the failure of one or more engines while en route;

2.1.12 The conditions under which oxygen shall be used and the amount of oxygen determined in accordance with the Order;

2.1.13 Instructions for mass and balance control;

2.1.14 Instructions for the conduct and control of ground de-icing and anti- icing operations;

2.1.15 The specifications for the operational flight plan;

2.1.16 Standard operating procedures (SOP) for each phase of flight;

2.1.17 Instructions on the use of normal checklists and the timing of their use;

2.1.18 Departure contingency procedures;

2.1.19 Instructions on the maintenance of altitude awareness and the use of automated or flight crew altitude callout;

2.1.20 Instructions on the use of autopilots and autothrottles in IMC;

2.1.21 Instructions on the clarification and acceptance of ATC clearances, particularly where terrain clearance is involved;

2.1.22 Departure and approach briefings;

2.1.23 Procedures for familiarisation with areas, routes, and aerodromes;

2.1.24 Stabilised approach procedure;

2.1.25 Limitation on high rates of descent near the surface;

2.1.26 Conditions required to commence or to continue an instrument approach;

2.1.27 Instructions for the conduct of precision and non-precision instrument approach procedures;

2.1.28 Allocation of flight crew duties and procedures for the management of crew workload during night and IMC instrument approach and landing operations;

2.1.29 Instructions and training requirements for the avoidance of controlled flight into terrain and policy for the use of the ground proximity warning system (GPWS and EGPWS);

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

2.1.31 Instructions and training requirements for the use of the EFB, as applicable.

2.1.32 Information and instructions relating to the interception of civil aircraft including:

(a) prescribed procedures for pilots- in-command of intercepted aircraft, and

(b) visual signals for use as prescribed by intercepting and intercepted aircraft;

2.1.33 For aeroplanes intended to be operated above 15,000 metres (49,000 ft):

(a) information which will enable the pilot- in-command to determine the best course of action to take in the event of exposure to solar cosmic radiation, and

(b) procedures in the event that a decision to descend is taken, covering:

(i) the necessity for giving the appropriate ATS unit prior warning of the situation and of obtaining a provisional descent clearance, and

(ii) the action to be taken in the event that communication with the ATS unit cannot be established or is interrupted;

2.1.34 Ground handling arrangements and procedures;

2.1.35 Procedures for making meteorological observations on board an aircraft in flight and for recording and reporting them in accordance with ICAO PANS RAC and Regional Supplementary Procedures as appropriate.

2.1.36 Policy, instructions, procedures, and training requirements for the avoidance of collisions and the use of the airborne collision avoidance system (ACAS);"

2.2 Aircraft Operating Manual

2.2.1 A description of the certification and operating limitations;

2.2.2 The normal, abnormal, and emergency procedures to be used by the flight crew, the checklists relating thereto as required by the Order, including a statement related to the necessary procedures for the co- ordination between flight and cabin crew;

2.2.3 Operating instructions and information on climb performance with all engines operating where provided;

2.2.4 Flight planning data for pre-flight and in- flight planning with different thrust/power and speed settings;

2.2.5 Instructions and data for mass and balance calculations;

2.2.6 Instructions for aircraft loading and securing of load;

2.2.7 Aircraft systems, associated controls, and instructions for their use.

2.3 Minimum Equipment List (MEL) and Configuration Deviation List (CDL)

2.3.1 The minimum equipment list and configuration deviation list for the aeroplane types operated and specific operations authorised, including any requirements relating to operations where performance-based is prescribed.

2.4 Training Manual

2.4.1 Details of the flight crew training programme and training requirements;

2.4.2 Details of the cabin crew training programme as required by the Order;

2.4.3 Details of the training programme for a flight operations officer;

2.4.4 Information on the operators' training programme for the development of personnel knowledge and skills related to human performance.

2.5 Airport and Runway Analysis Manual

2.5.1 The necessary information for compliance with all flight profiles required by the pertinent regulations, including but not limited to, the determination of:

(a) take-off runwaylength requirements for dry, wet, and contaminated conditions;

(b) take-off climb limitations;

(c) en-route climb limitations;

(d) approach and landing climb limitations;

(e) landing runway length requirements for dry, wet, and contaminated conditions, including the effects of systems failures which would affect the landing distance; and

(f) supplementary information, such as tyre speed limitations.

2.6 Route Manual

2.6.1 A route guide to ensure that the flight crew will have, for each flight, information relating to communication facilities, navigation aids, aerodromes, instrument approaches, instrument arrivals and instrument departures as applicable for the operation and such other information as the operator may deem necessary for the proper conduct of flight operations;"

2.6.2 The minimum flight altitudes for each route to be flown;

2.6.3 The aerodrome operating minima for each of the aerodromes or heliports that are likely to be used as aerodromes or heliports of intended landing or as alternates;

2.6.4 The increase of aerodrome or heliport operating minima in case of a degradation of approach or aerodrome/heliport facilities.

2.6.5 Instructions for determining aerodrome operating minima for instrument approaches using eligible equipment for operational credit.

2.7 Cabin Safety and Emergency Procedures Manual

2.7.1 Checklist of emergency and safety equipment and instructions for its use;

2.7.2 Emergency evacuation procedures, including type-specific procedures, crew co-ordination, assignment of crew's emergency positions and the emergency duties assigned to each crew member;

2.7.3 The normal, abnormal, and emergency procedures to be used by the cabin crew, the checklists relating thereto and aircraft systems information as required, including a statement related to the necessary procedures for the co-ordination between flight and cabin crew;

2.7.4 Survival and emergency equipment for different routes and the necessary procedures to verify its normal functioning before take-off, including procedures to determine the required amount of oxygen and the quantity available;

2.7.5 The ground-air visual signal code for use by survivors, as contained in Annex 12 to the Convention.

2.8 Dangerous Goods Manual

2.8.1 Information and instructions on the carriage of dangerous goods, including action to be taken in the event of an emergency.

Note: Guidance material on the development of policies and procedures for dealing with dangerous goods incidents on board an aircraft is contained in Emergency Response Guidance for Aircraft Incidents involving Dangerous Goods (ICAO Doc 9481).

2.9 Accident Prevention and Flight Safety Manual

2.9.1 Details of the safety management system (SMS) provided in accordance with Article 9 of the Order and Annex 19 to the Convention.

2.9.2 Information and instructions on the carriage of dangerous goods, in accordance with Chapter 14 of Annex 6 to the Convention.

2.10 Security Manual

2.10.1 Security instructions and guidance;

2.10.2 A search procedure checklist.

3. Records of Emergency and Survival equipment carried

The lists of emergency and survival equipment required by Article 52 of this Order shall include information as applicable concerning:
(a) the number, colour, and type of life rafts;
(b) the colour and type of pyrotechnics;
(c) details of emergency material supplies;
(d) water supplies;
(e) the type and frequencies of emergency portable radio equipment.

4. A. Operator's Maintenance Control Manual

The operator's maintenance control manual provided in accordance with Article 61 of the Order, which may be issued in separate parts, shall contain the following information:

(1) a description of the maintenance procedures required by Article 61 of the Order including, when applicable:

(a) a description of the administrative arrangements between the operator and the approved maintenance organisation, where applicable,

(b) a description of the maintenance procedures and the procedures for completing and signing a maintenance release;

(2) names and duties of the person or persons required by Article 61 of the Order;

(3) a reference to the maintenance programme required by Article 61 of the Order;

(4) a description of the methods used for the completion and retention of the operator's maintenance records required by Article 63 of the Order;

(5) a description of the procedures for monitoring, assessing, and reporting maintenance and operational experience required by Article 61 of the Order;

(6) a description of the procedures for complying with the service information (i.e. defect) reporting requirements of Article 61 of the Order;

(7) a description of procedures for assessing continuing airworthiness information and implementing any resulting actions, as required by Article 61 of the Order;

(8) a description of the procedures for implementing action resulting from mandatory continuing airworthiness information;

(9) a description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance programme, in order to correct any deficiency in that programme;

(10) a description of the aircraft types and models to which the manual applies;

(11) a description of procedures for ensuring that unserviceability affecting airworthiness are recorded and rectified; and

(12) a description of the procedures for advising the State of Registry of significant in-service occurrences.

B. Maintenance Programme

(1) A maintenance programme for each aeroplane as required by Article 61 of the Order shall contain the following information:

(a) maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilisation of the aeroplane,

(b) when applicable, a continuing structural integrity programme,

(c) procedures for changing or deviating from a) and b) above, and

(d) when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components, and engines;

(2) Maintenance tasks and intervals that have been specified as mandatory in the state of manufacture in approval of the type design shall be identified as such;

(3) The maintenance programme for an aircraft type shall be based on maintenance programme information made available by the State of Design or by the organisation responsible for the type design, and any additional applicable experience.

L.S.

GIVEN under the common seal of the Irish Aviation Authority,
12 June, 2024.

ROSE HYNES,
Director.

DECLAN FITZPATRICK,
Director.

EXPLANATORY NOTE

(*This note is not a part of the Instrument and does not purport to be a legal interpretation*).

This Order revokes and re-enacts with modifications the Irish Aviation Authority (Operations) Order, 2006 (S.I. No. 61 of 2006) to give effect to Parts 1,2, and 3 of Annex 6 to the Convention.

The Order both implements Annex 6 (Parts 1, 2 and 3) to the Convention in the State and the EASA Regulation and Rules applicable to the operation of aircraft.

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