GOVERNMENT OF INDIA

OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION

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SUBJECT: **COMMERCIAL HELICOPTER OPERATIONS**

INTRODUCTION

This CAR is issued under the provisions of Rules 29C and 133A of the Aircraft Rules 1937 and is in conformity with ICAO Annex 6 Pt III. It lays down the minimum operational, equipment and instrument requirements for helicopters registered in India and engaged in domestic and international commercial air transport operations.

These requirements are applicable to all helicopters engaged in scheduled commuter as well as non-scheduled commercial air transport operations. These requirements are not applicable to helicopters engaged in aerial work. This CAR is issued in supersession of CAR Section 8 Series H' Part I dated 10th July 2014.

DEFINITIONS

Advanced aircraft. An aircraft with equipment in addition to that required for a basic aircraft for a given take-off, approach or landing operation.

Aerial work. An aircraft operation in which an aircraft is used for specialized services such as agriculture, construction, photography, surveying, observation and patrol, search and rescue, aerial advertisement, etc.

Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Agreement summary. When an aircraft is operating under an Article 83 *bis* agreement between the State of Registry and another State, the agreement summary is a document transmitted with the Article 83 *bis* Agreement registered with the ICAO

Council that identifies succinctly and clearly which functions and duties are transferredby the State of Registry to that other State.

Note. — The other State in the above definition refers to either the State of theOperator for commercial air transport operations or, for general aviation operations, to the State of the principal location of a general aviation operator.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Aircraft operating manual. A manual, acceptable to DGCA 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.

Note. The aircraft operating manual is part of the Operations manual.

Air Operator Certificate. An operating certificate or an equivalent document issued by DGCA authorizing an operator to carry out specified commercial air transport operations.

Air traffic service (ATS). A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Airworthy. The status of an aircraft, engine, propeller or part when it conforms to its approved design and is in a condition for safe operation.

Alternate heliport. A heliport to which a helicopter may proceed when it becomes either impossible or inadvisable to proceed to or to land at the heliport of intended landing. Alternate heliports include the following:

(a) Take-off alternate. An alternate heliport at which a helicopter can land should this become necessary shortly after takeoff and it is not possible to use the heliport of departure.

(b) En-route alternate. A heliport at which a helicopter would be able to land after experiencing an abnormal or emergency condition while en route.

(c) Destination alternate. An alternate heliport to which a helicopter may proceed should it become either impossible or inadvisable to land at the heliport of intended landing.

Note. — The heliport from which a flight departs may be an en-route or a destination alternate heliport for that flight.

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Approach and landing phase - helicopters. That part of the flight from 300 m (1000 ft) above the elevation of the final approach and take-off area (FATO), if the flight is planned to exceed this height, or from the commencement of the descent in the other cases, to landing or to the balked landing point.

Appropriate airworthiness requirements. The comprehensive and detailed airworthiness codes established, adopted or accepted by a Contracting State for the class of aircraft, engine or propeller under consideration.

Appropriate ATS authority. The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.

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

Note. - Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.

Basic aircraft. An aircraft which has the minimum equipment required to perform the intended take-off, approach or landing operation.

Cabin crew member. A crew member who performs, in the interest of 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.

Category A. With respect to helicopters, means a multi-engine helicopter designed with engine and system isolation features capable of operations using take-off and landing data scheduled under a critical engine failure concept which assures adequate designated surface area and adequate performance capability for continued safe flight or safe rejected take-off.

Category B. With respect to helicopters, means a single-engine or multi-engine helicopter which does not meet Category A standards. Category B helicopters have no guaranteed capability to continue safe flight in the event of an engine failure, and a forced landing is assumed.

Charter Operations means an operation for hire and reward in which the departure time, departure location and arrival locations are specially negotiated and agreed with the customer or the customer's representative for entire aircraft. No ticket is sold to individual passenger for such operation.

COMAT. Operator material carried on an operator’s aircraft for the operator’s own purposes.

Combined Vision System (CVS). A system to display images from a combination of an enhanced vision system (EVS) and a synthetic vision system (SVS).

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Commercial air transport operation. An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.

Configuration deviation list (CDL). A list established by the organization 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. In relation to a city, town or settlement, any area which is substantially used for residential, commercial or recreational purposes.

Congested Hostile Environment. A hostile environment within a congested area.

Continuing airworthiness. The set of processes by which all aircraft comply with the applicable airworthiness requirements and remain in a condition for safe operation throughout their operating life.

Continuing airworthiness records. Records which are related to the continuing airworthiness status of an aircraft, engine, rotor or associated part.

Continuous descent final approach (CDFA). 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. Any flight which is subject to an air traffic control clearance.

Control Zone. A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

Crew member. A person assigned by an operator to duty on an aircraft during a flight duty period.

D. The maximum dimension of the helicopter when the rotors are turning.

Dangerous goods. 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.

Note.- Dangerous goods are classified in Annex 18 Chapter 3 and Aircraft (Carriage of Dangerous Goods) Rules, 2003

Decision altitude (DA) or decision height (DH). A specified altitude or height in the

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precision approach or approach with vertical guidance at which a missed approach Mu

st be initiated if the required visual reference to continue the approach has not been established.

Note 1. Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.

Note 2. 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 Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation.

Note 3. For convenience where both expressions they may be written in the form "decision altitude/height" and abbreviated are used "DA/H".

Defined point after take-off (DPATO). The point, within the take-off and initial climb phase, before which the helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

Note. Defined points apply to helicopters operating in performance Class 2 only.

Defined point before landing (DPBL). The point, within the approach and landing phase, after which the helicopter's ability to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required.

Note. Defined points apply to helicopters operating in performance Class 2 only.

Distance DR. The horizontal distance that the helicopter has travelled from the end of the take-off distance available.

Dry Operating Mass. The total mass of the helicopter when ready for a specific type of operation excluding all usable fuel and traffic load.

Duty. 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. A period which starts when a flight or cabin crew member is required by an operator to report for or to commence a duty and ends when that person is free from all duties.

Electronic Flight Bag (EFB). 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.

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Elevated heliport. A heliport located on a raised structure on land.

Emergency locator transmitter (ELT). A generic term describing equipment which broadcast distinctive signals on designated frequencies and, depending onapplication, may be automatically activated by impact or be manually activated. An ELT may be any of the following:

(a) *Automatic fixed ELT (ELT (AF)).* An automatically activated ELT which is permanently attached to an aircraft.

(b) *Automatic portable ELT (ELT (AP)).* An automatically activated ELT which is rigidly attached to an aircraft but readily removable from the aircraft.

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

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

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

Enhanced vision system (EVS). 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).

En-route phase. That part of the flight from the end of the take-off and initial climb phase to the commencement of the approach and landing phase.

Note.- Where adequate obstacle clearance cannot be guaranteed visually, flights must be planned to ensure that obstacles can be cleared by an appropriate margin. In the event of failure of the critical engine, operators may need to adopt alternative procedures.

Fatigue. 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 adequately perform safety-related operational duties.

Fatigue risk management system (FRMS). A 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.

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Filed flight plan (FPL or eFPL). The latest flight plan as submitted by the pilot, an operator or a designated representative for use by ATS units.

Note. — The FPL denotes a filed flight plan exchanged using aeronautical fixed service while eFPL denotes a filed flight plan exchanged using FF-ICE services. The eFPL allows for the exchange of additional information not contained within the FPL.

Final approach and take-off area (FATO). A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the takeoff manoeuvre is commenced. Where the FATO is to be used by performance Class I helicopters, the defined area includes the rejected take-off area available.

Final Approach Segment (FAS). That segment of an instrument approach procedure in which alignment and descent for landing are accomplished.

Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Flight duty period. 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 aircraft finally comes to rest and the engines are shut down at the end of the last flight on which he/she is a crew member.

Flight manual. A manual, associated with the certificate of airworthiness, containing 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. 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 CAR Section 7 Series 'M' Part II, who supports, briefs, and/or assists the pilot-in-command in the safe conduct of the flight.

Flight plan. Specified information ~~provided to air traffic services units,~~ relative to an intended flight or portion of a flight of an aircraft.

Note 1. — The term flight plan may be prefixed by the words "preliminary", "filed", "current" or "operational" to indicate the context and different stages of a flight.

Note 2. — When the word "message" is used as a suffix to this term, it denotes the content and format of the flight plan data as transmitted.

Flight recorder. Any type of recorder installed in the aircraft for the purpose of complementing accident / incident investigation.

Automatic deployable flight recorder (ADFR). A combination flight recorder installed on the aircraft which is capable of automatically deploying from the aircraft.

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Flight safety documents system. A set of inter-related documentation established by the operator, compiling and organizing information necessary for flight and ground operations, and comprising, as a minimum, the operations manual and the operators' maintenance control manual.

Flight simulation training device. Any one of the following three types of apparatus in which flight conditions are simulated on the ground:

(a) *a flight simulator* which provides an accurate representation of the flight deck of a particular aircraft type to the extent that the mechanical, electrical, electronic, etc. aircraft systems control functions, the normal environment of flight crew members, and the performance and flight characteristics of that type of aircraft are realistically simulated;

(b) *a flight procedures trainer* which provides a realistic flight deck environment, and which simulates instrument responses, simple control functions of mechanical, electrical, electronic, etc. aircraft systems, and the performance and flight characteristics of aircraft of a particular class;

(c) *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.

Flight time - helicopters. The total time from the moment a helicopter's rotor blades start turning until the moment the helicopter finally comes to rest at the end of the flight, and the rotor blades are stopped.

General aviation operation. An aircraft operation other than a commercial air transport operation or an aerial work operation.

Ground handling. Services necessary for an aircraft's arrival at, and departure from, an airport, other than air traffic services.

Head-up display (HUD). A display system that presents flight information into the pilot's forward external field of view.

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

Helideck. A heliport located on a floating or fixed off-shore structure.

Heliport. 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.

Note 1. - When the term "heliport" is used, it is intended that the term also applies to aerodromes primarily meant for the use of aeroplanes.

Note 2.- Helicopters may be operated to and from areas other than heliports.

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Heliport operating minima. The limits of usability of a heliport for:

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

(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

(c) landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the type and/or category of the operation.

Hostile environment. An environment in which:

(a) a safe forced landing cannot be accomplished because the surface and surrounding environment are inadequate; or

(b) the helicopter occupants cannot be adequately protected from the elements; or

(c) search and rescue response/capability is not provided consistent with anticipated exposure; or

(d) there is an unacceptable risk of endangering persons or property on the ground.

Human Factor Principles. Principles which apply to aeronautical design, certification, training, operations, and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

Human Performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

Instrument approach operations. 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:

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

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

Instrument approach procedure (IAP). 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:

Non-precision approach (NPA) procedure. An instrument approach procedure designed for 2D instrument approach operations Type A.

Note.— Non-precision approach procedures may be flown using a continuous descent final approach (CDFA) technique. CDFAs with advisory VNAV guidance calculated by on-board equipment are considered 3D instrument approach operations. CDFAs with manual calculation of the required rate of descent are considered 2D instrument approach operations. For more information on CDFAs, refer to PANS-OPS (Doc 8168), Volume I, Part II, Section 5.

Approach procedure with vertical guidance (APV). A performance-based navigation (PBN) instrument approach procedure designed for 3D instrument approach operations Type A.

Precision approach (PA) procedure. 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.

Note.— Refer to Para 2.2.8.3, for instrument approach operation types.

IFR flight. A flight conducted in accordance with the instrument flight rules.

Instrument meteorological conditions (IMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling less than the minima specified for visual meteorological conditions.

Note. - The specified minima for visual meteorological conditions as contained in CAR Section 9 Series 'C' Part I

Integrated survival suit. A survival suit which meets the combined requirement of survival suit and life jacket

Landing decision point (LDP). The point used in determining landing performance from which, an engine failure occurring at this point, the landing may be safely continued or a balked landing initiated.

Note.- LDP applies only to helicopters operating in performance Class I.

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Landing distance available (LDAH). The length of the final approach and take-off area plus any additional area declared available and suitable for helicopters to complete the landing manoeuvre from a defined height.

Landing distance required (LDRH). The horizontal distance required to land and come to a full stop from a point 15 m (50 ft) above the landing surface.

Low-visibility operations (LVO). Approach operations in RVRs less than 550 m and/or with a DH less than 60 m (200 ft) or take-off operations in RVRs less than 400 m.

Maintenance. The performance of tasks on an aircraft, engine, propeller or associated part required to ensure the continuing airworthiness of an aircraft, engine, propeller or associated part including any one or combination of overhaul, inspection, replacement, defect rectification, and the embodiment of a modification or repair.

Maintenance Organization's Procedures Manual. A document endorsed by the head of the maintenance organization which details the maintenance organization's structure and management responsibilities, scope of work, description of facilities, maintenance procedures and quality assurance or inspection systems.

Maintenance programme. A document which describes the specific scheduled maintenance tasks and their frequency of completion and related procedures, such as a reliability programme, necessary for the safe operation of those aircraft to which it applies.

Maintenance release. A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, in accordance with appropriate airworthiness requirements.

Master minimum equipment list (MMEL). A list established for a particular aircraft type by the organization 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. The MMEL may be associated with special operating conditions, limitations or procedures.

Maximum mass. Maximum certificated take-off mass.

Minimum Descent Altitude (MDA) or Minimum Descent Height (MDH). 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.

Note 1.- Minimum descent altitude (MDA) is referenced to mean sea level and minimum descent height (MDH) is referenced to the aerodrome elevation or to the threshold elevation if that is more than 2 m (7ft) below the heliport elevation. A minimum descent height for a circling approach is referenced to the aerodrome elevation.

Note 2.- The required visual reference means that section of the visual aids or of

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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 the required visual reference is the runway environment.

Note 3. for convenience when both expressions are used they may be written in the form "minimum descent altitude/ height" and abbreviated MDA/H.

Minimum equipment list (MEL). A list which provides for the operation of aircraft, subject to specified conditions, with particular equipment inoperative, prepared by an operator in conformity with, or more restrictive than, the MMEL established for the aircraft type.

Modification. A change to the type design of an aircraft, engine or propeller.

Note. — a modification may also include the embodiment of the modification which is a maintenance task subject to a maintenance release. Further guidance on aircraft maintenance – modification and repair is contained in the Airworthiness Manual (Doc 9760.

Mountain / Hill Flying. Operations to / from a helipad which is at or above 4000 feet AMSL and with surrounding terrain above 4000 feet AMSL within a 10 nm radius.

Navigation specification. A set of aircraft and flight crew requirements needed to support performance-based navigation operations within a defined airspace. There are two kinds of navigation specifications:

(a) *Required Navigation Performance (RNP) specification*. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

(b) *Area Navigation (RNAV) specification*. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV1.

Note 1.- The Performance-based Navigation Manual (Doc 9613), Volume II, contains detailed guidance on navigation specifications.

Note 2. - The term RNP, previously defined as "a statement of navigation performance necessary for operation within a defined airspace", has been removed from this annex as the concept of RNP has been overtaken by the concept of PBN. The term RNP in this CAR is now solely used in the context of navigation and specification that require performance monitoring and alerting, e. g. RNP 4 refers to the aircraft and operating requirements, including a 4 NM lateral performance with on-board performance monitoring and alerting that are detailed in Doc 9613.

Night. The hours between the end of evening civil twilight and the beginning of

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morning civil twilight or such other period between sunset and sunrise as prescribed by Aircraft Rules 1937.

Note. - Civil twilight ends in the evening when the centre of the sun's disc is 6 degrees below the horizon and begins in the morning when the centre of the sun's disc is 6 degrees below the horizon.

Non-congested hostile environment. A hostile environment outside a congested area.

Non-hostile environment. An environment in which:

(a) a safe forced landing can be accomplished because the surface and surrounding environment are adequate;

(b) the helicopter occupants can be adequately protected from the elements;

(c) search and rescue response/ capability is provided consistent with anticipated exposure; and

(d) the assessed risk of endangering person or property on the ground is acceptable.

Note.-Those parts of a congested area satisfying the above requirement are considered non-hostile.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH). The lowest altitude or the 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.

Note 1 - Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approach procedures to the aerodrome elevation or the threshold elevation if that is more than 2 m (7ft) below the aerodrome elevation. An obstacle clearance height for a circling approach is referenced to the aerodrome elevation.

Note 2 - For convenience when both expressions are used they may be written in the form "obstacle clearance altitude/height" and abbreviated "OCA/H".

Offshore operations. Operations which routinely have a substantial proportion of the flight conducted over sea areas to or from offshore locations. Such operations include, but are not limited to, support of offshore oil, gas and mineral exploitation and sea pilot transfer.

Operation. An activity or group of activities which are subject to the same or similar hazards and which require a set of equipment to be specified, or the achievement and maintenance of a set of pilot competencies, to eliminate or mitigate the risk of such hazards.

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Note — Such activities could include, but would not be limited to, offshore operations, heli-hoist operations or emergency medical service.

Operational control. The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

Operational Credit. 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 utilizingthe available external infrastructure.

Operational flight plan. The operator's plan for the safe conduct of the flight based on consideration of helicopter performance, other operating limitations and relevant expected conditions on the route to be followed and at the heliports concerned.

Operations in performance Class 1. Operations with performance such that, in the event of a critical power-unit failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reaching the take-off decision point (TDP) or after passing the landing decision point (LDP), in which cases the helicopter must be able to land within the rejected take-off or landing area.

Operations in performance Class 2. Operations with performance such that, in the event of critical engine failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which cases a forced landing may be required.

Operations in performance Class 3. Operations with performance such that, in the event of an engine failure at any time during the flight, a forced landing will be required.

Operations manual. A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

Operations specifications. The authorizations including specific approvals, conditions and limitations associated with the air operator permit/ certificate and subject to the conditions in the operations manual.

Operator. The person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Operator's maintenance control manual. 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.

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Performance-based aerodrome operating minimum (PBAOM). A lower aerodrome operating minimum, for a given take-off, approach or landing operation, than is available when using a basic aircraft.

Note 1. — The PBAOM is derived by considering the combined capabilities of the aircraft and available ground facilities. Additional guidance material on PBAOM may be found in the Manual of All-Weather Operations (Doc 9365).

Note 2. — PBAOM may be based on operational credits.

Note 3. — PBAOM are not limited to PBN operations.

Performance-based communication (PBC). Communication based on performance specifications applied to the provision of air traffic services.

Note.— An RCP specification includes communication performance requirements that are allocated to system components in terms of the communication to be provided and associated transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an ATS route, on an instrument approach procedure or in a designated airspace.

Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept.

Performance-based surveillance (PBS). Surveillance based on performance specifications applied to the provision of air traffic services.

Note.— An RSP specification includes surveillance performance requirements that are allocated to system components in terms of the surveillance to be provided and associated data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.

Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Point of no return. The last possible geographic point at which an aircraft can proceed to the destination aerodrome as well as to an available en-route alternate aerodrome for a given flight.

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Preliminary flight plan (PFP). The information related to a flight submitted by an operator or a designated representative to conduct collaborative planning of a flight, prior to filing a flight plan.

Psychoactive substances. Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psychostimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

R. The rotor radius of the helicopter.

Rejected take-off distance required (RTODR). The horizontal distance required from the start of the take-off to the point where the helicopter comes to a full stop following an engine failure and rejection of the take-off at the take-off decision point.

Repair. The restoration of an aeronautical product aircraft, engine or associated part to an airworthy condition to ensure that the aircraft continues to comply with the design aspects of the appropriate airworthiness requirements used for the issuance of the type certificate for the respective aircraft type, in accordance with the appropriate airworthiness requirements after it has been damaged or subjected to wear.

Required communication performance (RCP) specification. 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.

Rest period. A continuous and defined period of time, subsequent to and/or prior to duty, during which flight or cabin crew members are free of all duties.

Runway visual range (RVR). 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.

Safe forced landing. Unavoidable landing or ditching with a reasonable expectancy of no injuries to persons in the aircraft or on the surface.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures

Scheduled Commuter Operations means air transport operations undertaken between two or more places/ routes according to a published time table or with flights so regular or frequent that they constitute a recognizably systematic series, each flight being open to use by members of public. Tickets are sold to individual passenger for such flights.

Series of flights. Series of flights are consecutive flights that:

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(a) begin and end within a period of 24 hours; and

(b) are all conducted by the same pilot-in-command.

Special VFR Flight. A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

Specific approval. A specific approval is an approval which is documented in the operations specifications for commercial air transport operations or in the list of specific approvals for non-commercial operations.

Note.— The terms authorization, specific approval, approval and acceptance are further described in Attachment E to Annex 6 Part III.

State of Registry. The State on whose register the aircraft is entered.

Note. — In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry.

State of the Aerodrome. The State in whose territory the aerodrome is located.

Note. — State of the Aerodrome includes heliports and landing locations.

State of the Operator. 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.

State of the principal location of a general aviation operator. The State in which the operator of a general aviation aircraft has its principal place of business or, if there is no such place of business, its permanent residence.

Note.— Guidance concerning the options for the principal location of a general aviation operator is contained in the Manual on the Implementation of Article 83 *bis* of the Convention on International Civil Aviation (*Doc* 10059*).*

Synthetic Vision system (SVS). A system to display data-derived synthetic images of the external scene from the perspective of the flight deck.

Take-off and initial climb phase. That part of the flight from the start of take-off to 300 m (1000 ft) above the elevation of the FATO, if the flight is planned to exceed this height, or to the end of the climb in the other cases.

Take-off decision point (TDP). The point used in determining take-off performance from which, an engine failure occurring at this point, either a rejected take-off may be made or a take-off safely continued.

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Note.- TDP applies only to helicopters operating in performance Class I.

Take-off distance available (TODAH). The length of the final approach and take-off area plus the length of helicopter clearway (if provided) declared available and suitable for helicopters to complete the take-off.

Take-off distance required (TODRH). The horizontal distance required from the start of the take-off to the point at which VTOSS, a selected height and a positive climb gradient are achieved, following failure of the critical engine being recognized at TDP, the remaining engines operating within approved operating limits.

Note. — The selected height stated above is to be determined with reference to either:

a) the take-off surface; or

b) a level defined by the highest obstacle in the take-off distance required.

Take-off flight path. The vertical and horizontal path, with the critical engine inoperative, from a specified point in the take-off to 300 m (1 000 ft) above the surface.

Touchdown and Lift-Off Area (TLOF). A load bearing area on which a helicopter may touch down or lift off.

VFR flight. A flight conducted in accordance with the visual flight rules.

Visual meteorological conditions (VMC). Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling equal to or better than specified minima.

Note. - The specified minima are contained in CAR Section 9 Series 'C' Part I.

V_{TOSS}. The minimum speed at which climb shall be achieved with the critical engine inoperative, the remaining engines operating within approved operating limits. Also defined as the take-off safety speed for helicopters certificated in Category A.

Note. - The speed referred to above may be measured by instrument indicationsor achieved by a procedure specified in the flight manual.

V_y. Best rate of climb speed.

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1. GENERAL REQUIREMENTS

1.1 Compliance with Laws, Regulations and Procedures

1.1.1 The operator engaged in helicopter operations shall ensure that all employees are fully aware and shall comply with the laws, regulations and procedures of the DGCA and when abroad, know that they must comply with the laws, regulations and procedures of those States in which their operations are conducted.

1.1.2 The operator shall ensure that all pilots are familiar with the laws, regulations and procedures, pertinent to the performance of their duties, prescribed for the areas to be traversed, the heliport to be used and the air navigation facilities relating thereto. The operator shall ensure that other members of the flight crew are familiar with such of these laws, regulations and procedures as are pertinent to the performance of their respective duties in the operation of the helicopter.

1.1.3 An operator or a designated representative shall have responsibility for operational control.

1.1.4 Responsibility for operational control shall be delegated only to the pilot-in-command and to a flight operations officer/ flight dispatcher if an operator's approved method of control and supervision of flight operations requires the use of flight operations officer/ flight dispatcher personnel.

1.1.5 If an emergency situation which endangers the safety of the helicopter or persons becomes known first to the flight operations officer/ flight dispatcher, action by that person in accordance with 2.6.1 shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.

1.1.6 If an emergency situation occurs within India, which endangers the safety of the helicopter or persons and necessitates the taking of action which involves a violation of regulations or procedures, the pilot-in-command/ operator shall notify the nearest Flight Standards and Air Safety office of DGCA without delay. In the event such emergency situation occurs outside India, the pilot-in-command shall notify the appropriate local authority without delay and ifrequired by the State in which the incident occurs, the pilot-in-command shall also submit a report of the occurrence on any such violation to the appropriateauthority of such State. The pilot-in-command shall submit a copy of the occurrence to the DGCA marked attention of Director of Air Safety (Hqrs) with a copy endorsed to the Principal Operations Inspector (POI) of the operator andthe Regional Air Safety Office where the helicopter is normally based. Such reports shall be submitted within 48 hours.

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1.1.7 Operators shall ensure that pilot-in-command have available on board the helicopter, all the essential information concerning the search and rescue services in the area over which the helicopter will be flown.

Note. - This information may be made available to the pilot by means of the Operations Manual or such other means as is considered appropriate.

1.1.8 Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in para 6A (Language Proficiency) of Section A, Schedule 2 of Aircraft Rules 1937.

1.2 Compliance by a foreign operator with rules regulations and procedures of DGCA

1.2.1 When DGCA identifies a case of non-compliance or suspected non-compliance by a foreign operator with laws, regulations and procedures applicable within India or a similar serious safety issue with that operator, then DGCA shall immediately notify the operator and, if the issue warrants it, the State of Registry.

1.2.2 In the case of notification to State of Registry as specified in 1.2.1, if the issue and its resolution warrant it, DGCA shall engage in consultations with the State of Operator and State of Registry, as applicable, concerning the safety standards maintained by the operator.

1.3 Safety Management

1.3.1 An operator of a helicopter fitted with a flight data recorder should establish and maintain a flight data analysis programme as part of its accident prevention and flight safety programme in accordance with CAR Section 5, Series F, Part II.

Note. An operator may contract the operation of a flight data analysis programme to another party while retaining overall responsibility for the maintenance of such a programme.

1.3.2 A flight data analysis programme shall contain adequate safeguards to protect the source(s) of the data in accordance with Appendix 3 to Annex 19.

Note — Guidance on the establishment of flight data analysis programmes is included in the Manual on Flight Data Analysis Programmes (FDAP) (Doc 10000).

1.3.3 DGCA does not allow the use of recordings or transcripts of CVR, CARS, Class A AIR and Class A AIRS for purposes other than the investigation of an accident or incident as per Annex 13 except where the recordings or transcripts:

(a) are related to a safety-related event identified in the context of a safety management system; are restricted to the relevant portions of a de-identified

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transcript of the recording; and are subject to the protections accorded by Annex 19;

(b) are sought for use in criminal proceedings not related to an event involving an accident or incident investigation and are subject to the protections accorded by Annex 19; or

(c) are used for inspections of flight recorder systems as provided in relevant CARs.

Note — Provisions on the protection of safety data, safety information and related sources are contained in Appendix 3 to Annex 19. When an investigation under Annex 13 is instituted, investigation records are subject to the protections accorded by Annex 13.

1.3.4 DGCA does not allow the use of recordings or transcripts of FDR, ADRS as well as Class B and Class C AIR and AIRS for purposes other than the investigation of an accident or incident as per Annex 13, except where the recordings or transcripts are subject to the protections accorded by Annex 19 and:

(a) are used by the operator for airworthiness or maintenance purposes;

(b) are used by the operator in the operation of a flight data analysis programme as provided in Section II of Annex 6;

(c) are sought for use in proceedings not related to an event involving an accident or incident investigation;

(d) are de-identified; or

(e) are disclosed under secure procedures.

Note. — Provisions on the protection of safety data, safety information and related sources are contained in Appendix 3 to Annex 19.

1.3.5 An operator shall establish a flight safety documents system, for the use and guidance of operational personnel, as part of its safety management system.

1.3.6 An operator shall establish and maintain an accident prevention and flight safety program as per the requirements given in CAR Section 5, Series ‘F’ Part I.

1.3.7 The Operator shall follow the safety programme established by DGCA, from time to time, to achieve an acceptable level of safety in the operation of aircraft. the definition of acceptable levels of safety is contained in Appendix II.

1.3.8 The safety programme includes the legislative and regulatory provisions, which the operator is required to comply for the conduct of safe operations. It also includes provisions relating to activities such as incident reporting, safety

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investigations, safety audits and safety promotions as required in the various documents issued by DGCA.

1.3.9 An operator shall implement a safety management system acceptable to the DGCA, which as a minimum:

(a) identifies safety hazards;

(b) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;

(c) provides for continuous monitoring and regular assessment of the safety level achieved; and

(d) aims to make continuous improvement to the overall level of safety.

1.3.10 The detailed requirements and guidance for establishing management system are given in CAR Section 1, Series C Part I.

1.3.11 An operator shall establish a flight safety documents system, for the use and guidance of operational personnel, as part of its safety management system. The requirements on flight safety documents system are given in CAR Section 5, Series 'F' Part I.

1.4 Dangerous goods. The operator shall adhere to the provisions for carriage of dangerous goods as contained in Aircraft (Carriage of Dangerous Goods) Rules, 2003 and CAR Section 11.

1.5 Use of psychoactive substances. The operator shall ensure that the provisions concerning the use of psychoactive substances as contained in Rule 24 of the Aircraft Rules, 1937 and CAR Section 9 Series 'C' Part I, are adhered to.

2. FLIGHT OPERATIONS

2.1 Operating facilities.

2.1.1 An operator shall ensure that a flight will not be commenced unless it has been ascertained by every reasonable means available that the ground and/or water facilities available and directly required on such flight, for the safe operation of the helicopter and the protection of the passengers, are adequate for the type of operation under which the flight is to be conducted and are adequately operated for this purpose.

Note. – "Reasonable means" as stated above, is intended to denote the use, at the point of departure, of information available to the operator either through official information published by the aeronautical information services orreadily obtainable from other sources.

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2.1.2 An operator shall ensure that any inadequacy of facilities observed in the course of operations is reported to the authority responsible for them, without undue delay.

2.1.3 The Airports Authority of India shall ensure that subject to their published conditions of use, heliports and their facilities are kept continuously available for flight operations during their published hours of operations, irrespective of weather conditions.

2.2 Operational certification and supervision.

2.2.1 Air Operator Certificate

2.2.1.1 An operator shall not engage in commercial air transport operations unless in possession of a valid Air Operator Certificate / Air Operator Permit issued by DGCA.

2.2.1.2 The Air Operator Certificate / Air Operator Permit shall authorize the operator to conduct scheduled commercial operations / charter operations, as applicable, in accordance with operations specifications.

Note.—Provisions for the content of the air operator permit and its associated operations specifications are contained in 2.2.1.5 and 2.2.1.6.

2.2.1.3 The issue of an Air Operator Certificate / Air Operator Permit by the DGCA shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified.

Note – Appendix D contains guidance on the issue of an air operator certificate.

2.2.1.3.1 The operator shall develop policies and procedures for third parties that perform work on its behalf.

2.2.1.4 The continued validity of an Air Operator Certificate shall depend upon the operator maintaining the requirements of 2.2.1.3 under the supervision of DGCA.

2.2.1.5 The Air Operator Certificate shall contain at least the following information:

(a) the State of the Operator and the issuing authority;

(b) the Air Operator Certificate number and its expiration date;

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(c) the operator name, trading name (if different) and address of the principal place of business;

(d) the date of issue and the name, signature and title of the authority representative; and

(e) the location, in a controlled document carried on board, where the contact details of operational management can be found.

2.2.1.6 The operations specifications associated with the air operator certificate shall contain the following information: issuing authority, contact details, operator name and AOC number, date of issue and signature of the authority representative, aircraft model, types and area of operations, special limitations and authorizations.

2.2.1.7 Air Operator Certificates shall follow the layout placed at Appendix C.

2.2.1.8 DGCA shall carry out certification and continued surveillance of the operators to ensure that the required standards of operations established in 2.2 are maintained. The operator shall ensure that its capability to undertake air transport operations and maintenance of aircraft is not allowed to degrade and shall ensure compliance with CAR Section 2 Series 'A' Part IV and CAR Section 8 Series 'A' Part II in this regard.

2.2.2 Surveillance of operations by a foreign operator

2.2.2.1 An air operator certificate issued by another Contracting State, shall be recognized as valid, provided that the requirements under which the certificate was issued are at least equal to the applicable requirements specified in this CAR.

2.2.2.2 DGCA shall conduct surveillance of operators while operating through India as per the established programme and take appropriate action when necessary to preserve safety. The notification and procedure to conduct such surveillance is given in AIC 5 of 2009.

2.2.2.3 An operator shall meet and maintain the requirements established by DGCA when conducting operations in Indian Territory while operating through India.

Note.—Guidance on the surveillance of operations by foreign operators may be found in the Manual of Procedures for Operations Inspection, Certification and Continued Surveillance (Doc 8335).

2.2.2.4 *Power to Inspect*. An operator shall ensure that any person authorized by the DGCA is permitted at any time to board and fly in any helicopter operated in accordance with an AOP issued by the DGCA and in accordance with Aircraft Rules 1937 read in conjunction with GoI SO 726 and 727 (E) dated 04 Oct 1994.

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2.2.3 Operations manual

2.2.3.1 The operator shall provide for the use and guidance of operations personnel concerned an Operations Manual constructed in accordance with Section 8 Series O Part VII. The operations manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up to date. All such amendments or revisions shall be notified to all personnel that are required to use this manual.

2.2.3.2 The Operations Manual shall be prepared by the operator and approved by CFOI, DGCA; in accordance with provisions of CAR Section 8 Series O Part VII. The operator shall provide a copy of the operations manual together with all amendments and/or revisions, for review and acceptance and, where required, approval. The operator shall incorporate in the operations manual such mandatory material as the DGCA may require. Instructions on preparation of the Operations Manual are contained in CAP 8100.

2.2.4 Operating instructions – General

2.2.4.1 The operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole.

2.2.4.2 A helicopter rotor shall not be turned under power, for the purpose of flight, without a qualified pilot at the controls. The operator shall provide appropriately specific training and procedures to be followed for all personnel, other than qualified pilots, who are likely to carry out the turning of a rotor under power for purposes other than flight.

2.2.4.3 The operator should issue operating instructions and provide information on helicopter climb performance with all engines operating to enable the pilot-in command to determine the climb gradient that can be achieved during the take-off and initial climb phase for the existing take-off conditions and intended take-off technique. This information should be based on the helicopter manufacturers or other data, acceptable to the DGCA, and should be included in the operations manual.

2.2.5 *In-flight simulation of emergency situations*. The operator shall ensure that when passengers or cargo are being carried, no emergency or abnormal situations shall be simulated.

2.2.6 *Checklists*. The checklists provided in accordance with 4.1.4 shall be used by flight crews prior to, during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures contained in the aircraft operating manual, the helicopter flight manual or other documents associated with the Certificate of Airworthiness and otherwise in the operations manual. The design and utilization of check lists shall observe human factors principle.

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Note - Refer CAR Section 8 Series D Part II on the preparation and use of cockpit normal, abnormal and emergency procedures checklists.

2.2.7 Minimum flight altitudes (operations under IFR)

2.2.7.1 An operator shall be permitted to establish minimum flight altitudes for those routes flown for which minimum flight altitudes have been established by the State flown over or the responsible State, provided that they shall not be less than those established by that State, unless specifically approved. In India, the minimum flight altitude as established by the Airports Authority of India shall apply. The operator may establish minimum flight altitudes for those routes flown for which minimum flight altitudes have not been established AAI.

2.2.7.2 An operator shall specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the AAI and shall include this method in the Operations Manual. The minimum flight altitudes determined in accordance with the above method shall not be lower than obtained by the method specified in CAR Section 9 Series 'C' Part I.

2.2.7.3 The method for establishing the minimum flight altitudes should be approved by the DGCA.

2.2.7.4 DGCA would approve such method only after considering the probable effects of the following factors on the safety of the operation in question:

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

(b) the inaccuracies in the indications of the altimeters used;

(c) the characteristics the terrain (e.g. sudden change in the elevation);

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

(e) possible inaccuracies in aeronautical charts; and

(f) air space restrictions.

2.2.8 Heliport or landing location operating minima

2.2.8.1 The operator shall establish operating minima for each heliport or landing location to be used in operations and the method of determination of such minima shall be approved by DGCA. Such minima shall not be lower than any

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that may be established for such heliports or landing locations by DGCA for helicopter operation.

Note. — The above paragraph does not prohibit in-flight calculation of minima for a non-planned alternate heliport, if carried out in accordance with an accepted method.

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

Note 1. — Operational credit includes:

(a) for the purposes of an approach ban (2.4.1.2) or dispatch considerations, a minimum below the heliport or landing location operating minima;

(b) reducing or satisfying the visibility requirements; or

(c) requiring fewer ground facilities as compensated for by airborne capabilities.

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

Note 3. — Information regarding a HUD or equivalent displays, including references to RTCA and EUROCAE documents, is contained in the Manual of All-Weather Operations (Doc 9365).

Note 4. — Automatic landing system — helicopter is an automatic approach using airborne systems which provide automatic control of the flight path, to a point aligned with the landing surface, from which the pilot can transition to a safe landing by means of natural vision without the use of automatic control.

2.2.8.1.2 When issuing a specific approval for the operational credit, DGCA shall ensure that :-

(a) the aircraft meets the appropriate airworthiness certification requirements;

(b) the information necessary to support effective crew tasks for the operation is appropriately available to both pilots where the number of flight crew members specified in the operations manual is more than one;

(c) the operator has carried out a safety risk assessment of the operations supported by the equipment;

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(d) the operator has established and documented normal and abnormal procedures and MEL;

(e) the operator has established a training programme for the flight crew members and relevant personnel involved in the flight preparation;

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

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

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

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

2.2.8.1.3 For operations with operational credit with minima above those related to low visibility operations, DGCA shall establish criteria for the safe operation of the aircraft.

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

2.2.8.2 While establishing the heliport operating minima for each heliport or landing location which will apply to any particular operation, the operator shall take full account of:

(a) the type, performance and handling characteristics of the helicopter and any conditions or limitations stated in the flight manual;

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

(c) the physical dimensions and characteristics of the heliport, and direction of approach;

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

(e) the equipment available on the helicopter for the purpose of navigation acquisition of visual references and/or control of the flight path, as appropriate, during the take-off, the approach, landing and missed approach;

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(f) the obstacles in the approach, missed approach and the climb-out areas and the obstacle clearance altitude/ height for the instrument approach procedures;

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

(h) the obstacles in the climb-out areas and necessary clearance margins;

(i) the conditions prescribed in the operations specifications; and

(j) any minima that may be promulgated by the State of the Aerodrome.

2.2.8.3 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:

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

ii. 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;

iii. 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.

Note 1. — 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.

Note 2. — 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

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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.

Note 3. — 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 (Doc 9365).

2.2.8.4 DGCA shall issue a specific approval for instrument approach operations in low visibility which shall only be conducted when RVR information is provided.

Note.— Guidance on low visibility operations is contained in the Manual of All Weather Operations *(Doc 9365).*

2.2.8.5 For take-off in low visibility, DGCA shall issue a specific approval for the minimum take-off RVR.

Note. — In general, visibility for take-off is defined in terms of RVR. An equivalent horizontal visibility may also be used.

2.2.8.6 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.

Note. — For guidance on applying a continuous descent final approach (CDFA) flight technique on non-precision approach procedures refer to PANS-OPS (Doc 8168) Volume I, Part II, Section 5.

2.2.8.7 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.

2.2.8.8 Detailed procedures for establishing and using Helicopter Operating Minima are given at Appendix A to this CAR.

2.2.9 Fuel and Oil Records

2.2.9.1 The operator shall maintain fuel and oil records to enable DGCA to ascertain that for each flight, the requirements of para 2.3.6 of this CAR have been complied with.

2.2.9.2 Fuel and oil records shall be retained by the operator for a period of six months.

2.2.10 *Pilot-in-command*. For each flight, the operator shall designate one pilot to act as pilot-in-command.

2.2.11 Passengers

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2.2.11.1 The operator shall ensure that passengers are made familiar with the location and use of:

(a) seat belts or harnesses;

(b) emergency exits;

(c) life jackets, if the carriage of life jackets is prescribed;

(d) oxygen dispensing equipment, if the provision of oxygen for the use of passengers is prescribed; and

(e) other emergency equipment provided for individual use including passenger emergency briefing cards.

(f) restrictions on the use of mobile phones and other personal electronic devices on board the helicopter.

2.2.11.2 The operator shall ensure that the passengers are informed of the location and general manner of use of the principal emergency equipment carried for collective use.

2.2.11.3 The operator shall ensure that in an emergency during flight, passengers are instructed in such emergency action as may be appropriate to the circumstances.

2.2.11.4 The operator shall ensure that during take-off and landing and whenever, by reason of turbulence or any emergency occurring during flight, precaution is considered necessary, all passengers on board a helicopter shall be secured in their seats by means of seat belts or harnesses provided.

2.2.11.5 The operator shall ensure that passengers embark and disembark the helicopter only when engines are shut down. In exceptional circumstances, e.g. for special type of operations, where such feasibility does not exist, special briefing and necessary safety precautions are to be followed, to avoid any incidence of the passengers fouling with the helicopter rotor system.

2.2.12 *Over water flights*. All helicopters on flights over water in accordance with 4.5.1 shall be certificated for ditching. Sea state shall be an integral part of ditching information.

2.3 Flight Preparation

2.3.1 A flight, or series of flights, shall not be commenced until flight preparation forms have been completed certifying that the pilot-in-command is satisfied that:

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(a) the helicopter is airworthy;

(b) the instruments and equipment as prescribed by the manufacturer/ DGCA are installed and are sufficient for the flight/ type of operation to be undertaken;

(c) a maintenance release as prescribed in 6.7 has been issued in respect of the helicopter

(d) the mass of the helicopter and centre of gravity location are such that flight can be conducted safely, taking into account the flight conditions expected;

(e) any load carried is properly distributed and safely secured;

(f) a check has been completed to ensure that the aircraft can be operated within approved operating limitations contained in the Certificate of Airworthiness/ Flight Manual or other appropriate and relevant documents;

(g) that the requirements of Para 2.3.3 of this CAR relating to operational flight planning have been complied with and the corresponding operational flight preparation form has been completed;

(h) the engines are operating with normal parameters at rated power;

(i) the various documents required for the flight are valid and are on board;

(j) there is no physical damage apparent during his walk around inspection;

(k) the flight controls of the helicopter are working freely and in correct senses;

(l) view of the pilot is not interfered with/by any part of the helicopter structure;

(m) it carries sufficient fuel and oil for the intended flight in accordance with this part of the CAR; and

(n) all emergency equipment required for the intended flight are serviceable and are on board.

2.3.2 Completed flight preparation forms shall be preserved by the operator for a period of six months.

2.3.3 Operational Flight Planning

2.3.3.1 An operational flight plan shall be completed for every intended flight or series of flights, and approved by the pilot-in-command and shall be lodged with the appropriate operational control authority of the operator. The operator shall determine the most efficient means of lodging the operational flight. The operational flight plan shall have the following details:

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(a) Place of Departure, elevation, estimated OAT at the time of operation, Density altitude, IGE, OGE, Take off minima
(b) Name of Destination, elevation, estimated OAT at the time of operation, Density altitude, IGE, OGE, landing minima
(c) Altn 1, elevation, estimated OAT at the time of operation, Density altitude, IGE, OGE, fuel for Altn 1, landing minima
(d) Altn 2, elevation, estimated OAT at the time of operation, Density altitude, IGE, OGE, fuel for Altn 2, landing minima
(e) Flt Rules, fuel as per rules of flight (VFR/IFR)
(f) Approach fuel, taxy fuel at departure and destination, Min landing fuel, Reserve fuel, Min required fuel, Additional fuel and total fuel
(g) PNR in case of no alternate
(h) Highest obstruction/ elevation enroute, Drift down altitude before highest obstruction/ elevation and Drift down altitude after highest obstruction/ elevation (where applicable)
(i) METAR and TAF at place of departure, METAR at destination and Alternates at time of departure, TAF at destination & alternates (+/- 1 hr of estimated landing time)
(j) ADC, FIC, SQUAWK, PIC, P2, date of flight, ETD, ATD

2.3.3.2 The operations manual shall describe the content and use of the operational flight plan.

2.3.3.3 All documents relating to operational flight plan shall be retained by the operator for a period of six months.

2.3.4 Alternate Heliports

2.3.4.1 Take-off Alternate Heliport

2.3.4.1.1 A take-off alternate heliport shall be selected and specified in the ATS flight plan, if the weather conditions at the heliport of departure are at or below the applicable heliport operating minima.

2.3.4.1.2 For a heliport to be selected as a take-off alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the heliport operating minima for that operation.

2.3.4.2 Destination Alternate Heliport

2.3.4.2.1 For a flight to be conducted in accordance with IFR, at least one destination alternate heliport shall be specified in the operational flight plan and the flight plan, unless:

(a) the duration of the flight and meteorological conditions prevailing are such that, there is reasonable certainty that, at the estimated time of arrival at the heliport of intended landing, and for a reasonable period before and after

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such time, the approach and landing can be made under visual meteorological conditions, as prescribed by the DGCA; or

(b) the heliport of intended landing is isolated and no alternate is available. In such cases, a point of no return (PNR) shall be determined.

2.3.4.2.2 For a heliport to be selected as a destination alternate, the available information shall indicate that, at the estimated time of use, the conditions will be at or above the heliport operating minima for that operation.

2.3.4.2.3 For a flight departing to a destination, which is forecast to be below the heliport operating minima, two destination alternates should be selected. The first destination alternate should be at or above the heliport operating minima for destination, and the second, at or above the heliport operating minima for alternate.

2.3.4.3 Offshore destination alternate heliport

2.3.4.3.1 DGCA shall issue a specific approval for the operational use of offshore destination alternate heliports.

2.3.4.3.2 A helideck may be specified as an offshore destination alternate heliport when the closest onshore destination alternate is not within achievable range of the helicopter. Specification is subject to the following conditions:

(a) a helideck shall only be used as an offshore destination alternate heliport after the PNR and when an onshore aerodrome is not geographically available. Prior to the PNR, an onshore destination alternate aerodrome shall be used;

(b) the operator shall have a risk assessment process detailed in the operations manual for the utilization of helidecks as offshore destination alternate heliports and conduct such an assessment prior to their selection and use;

(c) the operator has established specific procedures and appropriate training programmes in the operations manual for offshore destination alternate heliport operations;

(d) the operator shall have pre-surveyed, and assessed for suitability, any helideck intended to be used as an offshore destination alternate heliport and with the information published in an appropriate form in the operations manual (including the orientation of the helideck);

(e) the helicopter shall have a one engine inoperative (OEI) landing capability at the offshore alternate heliport; and

(f) the MEL shall contain specific provisions for this type of operation.

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2.3.4.3.3 The use of an offshore alternate heliport should be restricted to helicopters which can achieve OEI in ground effect (IGE) hover at an appropriate power rating at the offshore alternate heliport.

2.3.4.3.4 Where the surface of the helideck, or prevailing conditions (especially wind velocity), precludes an OEI IGE, OEI out of ground effect (OGE) hover performance at an appropriate power rating should be used to compute the landing mass.

2.3.4.3.5 The landing mass should be calculated from graphs provided in the operations manual. When calculating this landing mass, due account should be taken of helicopter configuration, environmental conditions and the operation of systems that have an adverse effect on performance.

2.3.4.3.6 The planned landing mass of the helicopter, including crew, passengers, baggage, cargo and 30 minutes final reserve fuel, should not exceed the OEI landing mass at the time of approach to the offshore alternate heliport.

2.3.4.3.7 The operator's risk assessment process shall take into consideration at least the following:

(a) the type and circumstances of the operation;

(b) the area over which the operation is being conducted, including sea conditions, survivability and search and rescue facilities;

(c) the availability and suitability of the helideck for use as an offshore destination alternate heliport including the physical characteristics, dimensions, configuration and obstacle clearance, the effect of wind direction, strength and turbulence;

(d) the type of helicopter(s) being used;

(e) mechanical reliability of the helicopter engines and critical control systems and components;

(f) the training and operational procedures, including mitigation of the consequences of helicopter technical failures;

(g) specific mitigation measures;

(h) helicopter equipment;

(i) spare payload capacity for the carriage of additional fuel;

(j) weather minima, taking into account the accuracy and reliability of meteorological information; and

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(k) communication and aircraft tracking facilities.

Note 1. — The landing technique specified in the flight manual following control system failure may preclude the nomination of certain helidecks as alternate heliports.

Note 2. — Specific mitigation measures may include equipment improvements such as a sea state certification standard, safety equipment and tracking equipment.

2.3.4.3.8 Training programmes should ensure that the requirements of Para 7.4.2.2 are complied with, such as, but not limited to, route qualification, flight preparation,

concept of operations with offshore alternates and criteria for their use. Training programme refers to the training for pilots and other relevant personnel (including as required meteorological observers and helideck personnel) involved in such operations.

2.3.4.3.9 When the use of an offshore alternate heliport is planned, the meteorological observations, both at the offshore destination and the offshore alternate heliport, should be taken by an observer acceptable to the designated meteorological authority.

Note. — Appropriate automatic weather stations may satisfy this requirement.

2.3.4.3.10 Offshore alternates should not be used for payload enhancement.

2.3.4.3.11 To demonstrate the mechanical reliability of critical control systems and critical components of the helicopter, the operator should install and utilize a health and usage monitoring system with tailored criteria for this type of operation.

2.3.4.3.12 The heliport operating minima for the offshore destination and offshore destination alternate heliport required under 2.2.8.2 shall make due allowance for the availability and reliability of weather information and the geographic environment.

2.3.4.3.13 The operator shall specify cloud ceiling and visibility criteria relevant to the helideck elevation and location.

2.3.4.3.14 To use an offshore destination alternate helideck, it shall be ensured that, within 60 NM of the destination helideck and alternate helideck, fog is not present nor forecasted during the period commencing one hour before and ending one hour after the expected time of arrival at the offshore destination or alternate helideck.

2.3.4.3.15 An offshore alternate should be more than 30 NM from the original destination to reduce the likelihood of a localized weather event precluding landings at both

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the destination and the alternate.

2.3.4.3.16 The operator shall ensure that, before passing the PNR, the following actions have been completed:

(a) confirmation that navigation to the destination and offshore alternate heliport is assured;

(b) radio contact with the destination and offshore alternate heliport (or master station) is established;

(c) the landing forecast at the destination and offshore alternate heliport are obtained and confirmed to be at or above the required minima;

(d) the requirements for OEI landing are verified against the latest reported weather conditions to ensure that they can be met; and

(e) to the extent possible, having considered information on current and forecast use of the offshore destination alternate heliport, and on conditions prevailing, the availability of the offshore alternate heliport will be guaranteed by the helideck provider until the landing at the destination, or the offshore destination alternate heliport, is achieved.

2.3.5 Meteorological conditions

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

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

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

Note 1.— The requirements for flight plans are contained in Annex 2 — Rules of the Air and the procedures relating to flight plans and associated services are contained in the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, (Doc 4444).

Note 2. — Detailed guidance on the use of the FF-ICE services, including the use of a preliminary flight plan, can be found in the Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE) (Doc 9965).

2.3.5.2 A flight to be conducted in accordance with VFR shall not be commenced unless current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions along the route or that partof the route to be flown under the visual flight rules will, at the appropriate time,be such as to enable compliance with these rules.

Note. — When a flight is conducted in accordance with VFR, the use of night

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vision imaging systems (NVIS) or other vision enhancing systems does not diminish the requirement to comply with the provisions of 2.3.5.1.

2.3.5.3 A flight to be conducted in accordance with IFR shall not be commenced unless information is available which indicates that conditions at the destination heliport or landing location or, when an alternate is required, at least one alternate heliport will, at the time of arrival, be at or above the heliport operating minima.

2.3.5.4 To ensure that an adequate margin of safety is observed in determining whether or not an approach and landing can be safely carried out at each alternate heliport or landing location, the operator shall specify appropriate incremental values for height of cloud base and visibility, acceptable to the State of the Operator, to be added to the operator's established heliport or landing location operating minima.

Note. — Guidance on the selection of these incremental values is contained in the Flight Planning and Fuel Management Manual (FPFMM) (Doc 9976).

2.3.5.5 A flight to be operated in known or expected icing conditions shall not be commenced unless the helicopter is certificated and equipped to cope with such conditions.

2.3.5.6 A flight to be planned or expected in suspected or known icing conditions shallnot be commenced unless the helicopter has been inspected for icing and, if necessary, has been given appropriate de/anti-icing treatment. Accumulation of ice or other naturally occurring contaminants shall be removed so that thehelicopter is kept in an airworthy condition prior to take-off.

Note.—Guidance material is given in the Manual of Aircraft Ground De-icing/ Anti-icing Operations (ICAO Doc 9640).

2.3.6 Fuel and oil supply requirements

2.3.6.1 *All helicopters*: A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the helicopter carries sufficient fuel and oil to ensure that it can safely complete the flight. In addition, a reserve shall be carried to provide for contingencies.

2.3.6.2 *Visual Flight Rules (VFR) operations*: The fuel and oil carried in order to comply with 2.3.6.1 shall, in the case of VFR operations, be at least the amount sufficient to allow the helicopter to:

(a) to fly to the landing site to which the flight is planned;

(b) to have final reserve fuel to fly thereafter for a period of 20 minutes at best range speed; and

(c) to have an additional amount of fuel, sufficient to provide for the increased

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consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the DGCA.

2.3.6.3 *Instrument flight rules (IFR) operations*: The fuel and oil carried in order to comply with 2.3.6.1 shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter:

2.3.6.3.1 When an alternate is not required, in terms of 2.3.4.2.1 (a), to fly to and execute an approach at the heliport or landing location to which the flight is planned, and thereafter to have:

(a) final reserve fuel to fly 30 minutes at holding speed at 450m (1500 feet) above the destination heliport or landing location under standard temperature conditions and approach and land; and

(b) an additional amount of fuel to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the DGCA.

2.3.6.3.2 When an alternate is required, to fly to and execute an approach, and a missed approach, at the heliport or landing location to which the flight is planned, and thereafter:

(a) to fly to and execute an approach at the alternate specified in the flight plan; and then

(b) have final reserve fuel to fly for 30 minutes at holding speed at 450 m (1500 ft) above the alternate under standard temperature conditions, and approach and land; and

(c) have an additional amount of fuel to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the DGCA.

2.3.6.3.3 When no alternate heliport or landing location is available, in terms of 2.3.4.2.1 (e.g. the destination is isolated), sufficient fuel shall be carried to enable the helicopter to fly to the destination to which the flight is planned and thereafter for a period that will, based on geographic and environmental considerations, enable a safe landing to be made.

2.3.6.4 In computing the fuel and oil required in 2.3.6.1 at least the following shall be considered:

(a) meteorological conditions forecast;

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

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

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(d) the procedures prescribed in the operations manual for loss of pressurization, where applicable, or failure of one engine while en route; and

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

Note. - Nothing in para 2.3.6 precludes amendment of a flight plan in flight in order to re-plan the flight to another heliport, provided that the requirements of para 2.3.6 can be complied with from the point where the flight has been re-planned.

2.3.6.5 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.

2.3.7 Re-fuelling with passengers on board or rotor turning.

2.3.7.1A helicopter shall not be refuelled when the rotor is turning or the engines are running, unless the operator is granted specific authorization by DGCA setting forth the conditions under which such fuelling may be carried out. The operator shall also adhere to all precautions laid down in Rule 25A of the Aircraft Rules, 1937 regarding fuelling of aircraft.

2.3.7.2 A helicopter shall not be refuelled, rotors stopped or turning, when:

(a) passengers are embarking or disembarking; or

(b) when oxygen is being replenished.

2.3.7.3 When the PIC considers refuelling with passengers on board to be necessary, it can be undertaken with rotors stopped provided the following requirements are met:

(a) Door(s) on the refuelling side of the helicopter shall remain closed;

(b) Door(s) on the non-refuelling side of the helicopter shall remain open, weather permitting;

(c) The flight crew shall ensure that the passengers are briefed on what actions to take if an incident occurs during refuelling;

(d) a constant two-way communication shall be maintained by the helicopter's inter-communication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the helicopter; and

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Note. — Caution needs to be exercised when using radios for this purpose due to the potential for stray currents and radio-induced voltages.

(e) Firefighting facilities of the appropriate scale, shall be positioned so as to be immediately available in the event of a fire;

(f) Sufficient personnel shall be immediately available to move patients, clear of the helicopter, in the event of a fire;

(g) Sufficient qualified personnel should be available and be prepared for an immediate emergency evacuation;

(h) If the presence of fuel vapour is detected inside the helicopter, or any other hazard arises during re/defueling, fuelling must be stopped immediately.

(i) The ground or deck area beneath the exits intended for emergency evacuation must be kept clear; and

(j) Seat belts should be unfastened to facilitate rapid egress and provision is made for a safe and rapid evacuation.

Note: Refer CAR Section 2 Series H Part II.

2.3.7.4 A helicopter shall not be refuelled with AVGAS (aviation gasoline) or wide-cut type fuel or a mixture of these types of fuel, when passengers are on board.

2.3.7.5 A helicopter shall not be defueled at any time when:

(a) passengers remain on board; or

(b) passengers are embarking or disembarking; or

(c) oxygen is being replenished.

Note 1. — Provisions concerning aircraft refuelling are contained in Annex 14, Volume I, and guidance on safe refuelling practices is contained in the Airport Services Manual (Doc 9137), Parts 1 and 8.

Note 2. — Additional precautions are required when refuelling with fuels other than aviation kerosene or when refuelling results in a mixture of aviation kerosene with other aviation turbine fuels, or when an open line is used.

2.3.8 Oxygen supply

Note: - Approximate altitudes in the standard atmosphere corresponding to the value of absolute pressure used in the text are as follows:

Absolute pressure	*Meters*	*Feet*

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700 hPa	*3000*	*10000*
620 hPa	*4000*	*13000*
376 hPa	*7600*	*25000*

2.3.8.1 A flight to be operated at flight altitude 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% 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) all the crew and passengers, for any period that the atmospheric pressure in compartments occupied by them will be less than 620 hpa.

2.3.8.2 A flight to be operated with a pressurized helicopter shall not be commenced, unless 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 a helicopter is operated at flight altitudes at which the atmospheric pressure is more than 376 hpa, and cannot descend safely to a flight altitude at which the atmospheric pressure is equal to or greater than 620 hpa, within four minutes, there shall be no less than a 10 minute supply for the occupants of the passenger compartment.

2.4 In-flight procedures

2.4.1 Heliport operating minima

2.4.1.1 A flight shall not be continued towards the heliport of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that heliport or at least one destination alternate heliport, in compliance with the operating minima established in accordance with 2.2.8.1.

2.4.1.2 An instrument approach shall not be continued below 300 m (1000 ft) above the heliport elevation or into the final approach segment unless the reported visibility or controlling RVR is at or above the heliport operating minima.

2.4.1.3 If, after entering the final approach segment or after descending below 300 m (1000 ft) above the heliport elevation, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H. In any case, the helicopter shall not continue its approach to land at any heliport, beyond a point at which the limits of the operating minima specified for that heliport would be infringed.

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2.4.1.4 The approach may be continued below DA/H or MDA/H and the landing may be completed, provided that the required visual reference is established at the DA/H or MDA/H, and is maintained.

2.4.1.5 For helicopters the touch down RVR is always controlling.

Note: Detailed procedures for establishing and using Helicopter Operating Minima are given at Appendix A to this CAR.

2.4.2 *Meteorological observation*. The procedures for making meteorological observations on board aircraft in flight and for recording and reporting them as contained in AIP shall be followed.

2.4.3 *Hazardous Flight Conditions*. Hazardous flight conditions encountered, other than those associated with meteorological conditions, shall be reported to the appropriate aeronautical station as soon as possible. The reports so rendered shall give such details as may be pertinent to the safety of other aircraft. Pilots may decide to abort a mission and carryout a safe precautionary landing due to deteriorating weather, keeping the safety of the helicopter and its occupants in mind. Pilots shall intimate occurrence of such landings to DGCA (respective POI and Air Safety Directorate) as soon as possible. In case bad weather necessitating such a landing is encountered in the vicinity of an airfield, even beyond the prescribed watch hours, PIC is empowered to land at the airfield.

2.4.4 Flight crew members at duty stations

2.4.4.1 Take-off and landing - All flight crew members required to be on flight deck duty shall be at their stations.

2.4.4.2 Enroute - All flight crew members required to be on flight deck duty shall remain at their stations except when their absence is necessary for the performance of duties in connection with the operation of the helicopter or for physiological needs.

2.4.4.3 Seat belts - All flight crew members shall keep their seat belts fastened when at their stations.

2.4.4.4 Safety harness - Any flight crew member occupying a pilot's seat shall keep the safety harness fastened during the take-off and landing phases; all other flight crew members shall keep their safety harness fastened during the takeoff and landing phases unless the shoulder straps interfere with the performance of their duties, in which case the shoulder straps may be unfastened but the seat belt must remain fastened.

Note. - Safety harness includes shoulder straps and a seat belt which may be used independently.

2.4.5 *Use of Oxygen*. All flight crew members, when engaged in performing duties

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essential to the safe operation of a helicopter in flight shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in para 2.3.8.1 or 2.3.8.2.

2.4.6 *Safeguarding of cabin crew and passengers in pressurized helicopter in the event of loss of pressurization*. Cabin crew shall be safeguarded so as to ensure reasonable probability of their retaining consciousness during any emergency descent which may be necessary in the event of loss of pressurization and, in addition, they should have such means of protection as will enable them to administer first aid to passengers during stabilised flight following the emergency. Passengers should be 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 pressurization.

Note.- It is not envisaged that cabin crew will always be able to provide assistance to passengers during emergency descent procedures which may be required in the event of loss of pressurization.

2.4.7 Instrument flight procedures

2.4.7.1 One or more instrument approach procedures to serve each final approach and take-off area or heliport utilized for instrument flight operations shall be approved and promulgated by the DGCA or by the State which is responsible for the heliport when located outside the territory of India.

2.4.7.2 All helicopters operated in accordance with instrument flight rules shall comply with the instrument approach procedures approved by DGCA or by the State which is responsible for the heliport, when located outside the territory of India.

Note 1.— Operational procedures recommended for the guidance of operations personnel involved in instrument flight operations are described in PANS-OPS (Doc 8168), Volume I.

Note 2. — Criteria for the construction of instrument flight procedures for the guidance of procedure specialists are provided in PANS-OPS (Doc 8168), Volume II. Obstacle clearance criteria and procedures used in certain States may differ from PANS-OPS, and knowledge of these differences is important for safety reasons.

2.4.8 *Helicopter operating procedures for noise abatement*. An operator should ensure that take-off and landing procedures take into account the need to minimize the effect of helicopter noise.

2.4.9 In-Flight Fuel Management

2.4.9.1 An operator shall specify policies and procedures in its Operations Manual, which shall be approved by DGCA, to ensure that inflight fuel checks and fuel management are carried out.

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2.4.9.2 The pilot-in-command shall monitor the amount of usable fuel remaining on board, to ensure it is not less than the fuel required, to proceed to a landing site where a safe landing can be made with the planned final reserve fuel remaining. The remaining fuel must be recorded and evaluated to:

(a) compare actual consumption with planned consumption;

(b) check that the remaining fuel is sufficient to complete the flight; and

(c) determine the expected fuel remaining on arrival at the destination.

(d) The relevant fuel data must be recorded in the Operational Flight Plan.

2.4.9.3 The pilot-in-command shall advise ATC of a minimum fuel state by declaring MINIMUM FUEL when, having committed to land at a specific landing site, the pilot calculates that any change to the existing clearance to that landing site, or other air traffic delays, may result in landing with less than the planned final reserve fuel.

Note 1. — The declaration of MINIMUM FUEL informs ATC that all planned landing site options have been reduced to a specific landing site of intended landing; that no precautionary landing site is available; and any change to the existing clearance, or air traffic delays, may result in landing with less than the planned final reserve fuel. This is not an emergency situation, but an indication that an emergency situation is possible, should any additional delay occur.

Note 2. — A precautionary landing site refers to a landing site, other than the site of intended landing, where it is expected that a safe landing can be made, prior to the consumption of the planned final reserve fuel.

2.4.9.4 The pilot-in-command shall declare a situation of fuel emergency by broadcasting MAYDAY MAYDAY MAYDAY FUEL, when the usable fuel estimated to be available, upon landing at the nearest landing site where a safe landing can be made is less than the required final reserve fuel in compliance with Para 2.3.6.

Note 1. — The planned final reserve fuel refers to the value calculated in Para 2.3.6 and is the minimum amount of fuel required upon landing at any landing site. The declaration of MAYDAY MAYDAY MAYDAY FUEL informs ATC, that all available landing options have been reduced to a specific site, and a portion of the final reserve fuel may be consumed prior to landing.

Note 2.— The pilot estimates with reasonable certainty, that the fuel remaining upon landing at the nearest safe landing site, will be less than the final reserve fuel, taking into consideration the latest information available to the pilot, the area to be overflown (i.e. with respect to the availability of precautionary landing areas), meteorological conditions and other reasonable contingencies.

Note 3. — The words "MAYDAY FUEL" describe the nature of the distress

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conditions.

2.4.9.5 If, as a result of an in-flight fuel check, the expected fuel remaining on arrival at the destination is less than the required alternate fuel plus final reserve fuel, the pilot-in-command must:

2.4.9.5.1 Divert; or

2.4.9.5.2 Re-plan the flight, unless he considers it safer to continue to the destination provided that, at an on-shore destination, when two suitable, separate touchdown and lift-off areas are available, and the weather conditions at the destination comply with those specified, the pilot-in-command may permit alternate fuel to be used, before landing at the destination.

2.4.9.6 If, as a result of an in-flight fuel check on a flight to an isolated destination heliport or landing site, the expected fuel remaining at the point of last possible diversion is less than the sum of fuel to divert and final reserve fuel, a pilot-in-command must:

2.4.9.6.1 Divert; or

2.4.9.6.2 Proceed to the destination provided that at on-shore destinations, two suitable, separate touchdown and lift-off areas are available at the destination, and the expected weather conditions at the destination comply with those specified.

2.5 Duties of Pilot-in-command

2.5.1 The pilot-in-command shall be responsible for the operation and safety of the helicopter and for the safety of all crew members, passengers and cargo on board, from the moment the engine(s) 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.

2.5.2 The pilot-in-command shall ensure that the checklists specified in 2.2.6 are complied with in detail.

2.5.3 The pilot-in-command shall be responsible for notifying the nearest DGCA and other applicable agencies, by the quickest available means of any accident involving the helicopter, resulting in serious injury or death of any person or substantial damage to the helicopter or property, as specified in CAR Section 5, Series C Part I.

2.5.4 The pilot-in-command shall be responsible for reporting all known or suspected defects in the helicopter, to the operator, at the termination of the flight.

2.5.5 The pilot-in-command shall be responsible for the journey log book or the general declaration containing the information listed in 9.4.1

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2.6 Duties of Flight Dispatcher / Operations Officer

2.6.1 A flight operations officer/ flight dispatcher in conjunction with a method of control and supervision of flight operations in accordance with 2.2.1.3 shall:

(a) assist the pilot-in-command in flight preparation and provide the relevant information;

(b) assist the pilot-in-command in preparing the operational flight plan and ~~ATS flight plans, sign when applicable and file~~ the ~~ATS~~ flight plan to be filed ~~with the appropriateATS unit; and~~

(c) when applicable, assist the pilot-in-command in preparing the preliminary flight plan, and submit it to a unit designated by the appropriate ATS authority;

(d) sign, when applicable, and file the flight plan to a unit designated by the appropriate ATS authority; and

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

Note 1.— The requirements for flight plans are contained in Annex 2 — Rules of the Air and the procedures relating to flight plans and associated services are contained in the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444).

Note 2.— Detailed guidance on the use of the FF-ICE services, including the use of a preliminary flight plan, can be found in the Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE) (Doc 9965).

2.6.2 In the event of an emergency, a flight operations officer/flight dispatcher shall:

(a) initiate such procedures as outlined in the operations manual while avoiding taking any action that would conflict with ATC procedures; and

(b) convey safety-related information to the pilot-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.

Note. - It is equally important that the pilot-in-command also convey similar information to the flight operations officer/ flight dispatcher during the course of the flight, particularly in the context of emergency situations.

2.7 Carry-on baggage

2.7.1 The operator shall ensure that all the baggage carried onto a helicopter and

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taken into the passenger cabin is adequately and securely stowed.

2.7.2 An operator shall establish procedures to ensure that, only such hand baggage and cargo is carried into a helicopter and taken into the passenger cabin, as can be adequately and securely stowed. These procedures must take account of the following:

2.7.2.1 each item carried in the cabin must be stowed only in a location that is capable of restraining it;

2.7.2.2 mass limitations placard as given on or adjacent to stowage areas must not be exceeded;

2.7.2.3 under seat stowage areas must not be used, unless the seat is equipped with a restraint bar and the baggage is of such size that it may adequately be restrained by this equipment;

2.7.2.4 items must not be stowed in toilets or against bulkheads that are incapable of restraining articles against movement forwards, sideways or upwards, and unless the bulkheads carry a placard specifying the greatest mass that may be placed there;

2.7.2.5 baggage and cargo placed in lockers must not be of such size that they prevent latched doors from being closed securely;

2.7.2.6 baggage and cargo must not be placed where it can impede access to emergency equipment; and

2.7.3 Checks must be made before take-off, before landing, and whenever the fasten seat belts signs are illuminated or it is otherwise so ordered to ensure that baggage is stowed, where it cannot impede evacuation from the aircraft or cause injury by falling (or other movement), as may be appropriate to the phase of flight.

2.8 Fatigue Management

2.8.1 DGCA shall establish regulations for the purpose of managing fatigue. These regulations shall be based upon scientific principles, knowledge and operational experience with the aim of ensuring that flight and cabin crew members are performing at an adequate level of alertness. Accordingly, DGCA has established prescriptive regulations for flight time, flight duty period and duty period limitations and rest period requirements in CAR Section 7 Series J Part II.

2.8.2 DGCA requires that the operator, in compliance with 2.8.1 and for the purposes of managing its fatigue-related safety risks, establish flight time, flight duty period, duty period limitations and rest period requirements that are within the prescriptive fatigue management regulations established by DGCA, vide CAR Section 7 Series J Part II. The same shall be included in the Operations Manual.

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2.8.3 The operator shall maintain records of flight time, flight duty periods, duty periods, and rest periods for all its flight and cabin crew members for a period of time as specified in CAR Section 7 Series J Part II.

2.8.4 The operator shall familiarize those personnel involved in managing fatigue with their responsibilities and the principles of fatigue management.

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3. HELICOPTER PERFORMANCE OPERATING LIMITATIONS

3.1 General

3.1.1 Helicopters shall be operated in accordance with a code of performance established by DGCA, in compliance with the applicable Standards of this chapter.

Note 1.— The code of performance reflects, for the conduct of operations, both the various phases of flight and the operational environment. Appendix B provides guidance to assist States in establishing a code of performance.

Note 2.— Concerning compliance with codes of performance, Chapter 1 of this Section requires operators to comply with the laws, regulations and procedures of the States in which their helicopters are operated. Article 11 of the Convention forms the basis for this requirement.

3.1.2 In conditions where the safe continuation of flight is not ensured in the event of a critical engine failure, helicopter operations shall be conducted in conditions of weather and light, and over such routes and diversions that permit a safe forced landing to be executed.

3.1.3 Notwithstanding the provisions of 3.1.2, DGCA may, based on the result of a risk assessment, allow for variations without a safe forced landing to be included in the Code of Performance established in accordance with the provisions of 3.1.1. The risk assessment shall take into consideration at least the following:

(a) the type and circumstances of the operation;

(b) the area/terrain over which the operation is being conducted;

(c) the probability of, and length of exposure to, a critical engine failure and the tolerability of such an event;

(d) the procedures and systems for monitoring and maintaining the reliability of the engine(s);

(e) the training and operational procedures to mitigate the consequences of the critical engine failure; and

(f) helicopter equipment.

Note. — Guidance on conduct of the risk assessment to allow for variations to the need for a safe forced landing, including mitigation strategies to reduce the risk, is contained in Doc 10110.

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3.2 Applicable to Helicopters Certificated in Accordance with Part IV of Annex 8

3.2.1 The standards contained in 3.2.2 to 3.2.7 inclusive are applicable to the helicopters to which Part IV of ICAO Annex 8 is applicable.

3.2.2 The level of performance defined by the appropriate parts of the code of performance referred to in 3.1.1 for the helicopters designated in 3.2.1 shall be consistent with the overall level embodied in the requirements at Appendix B.

Note. — Guidance on the level of performance intended by the Standards and Recommended Practices of ICAO Annex 6 Part III is contained in Doc 10110.

3.2.3 A helicopter shall be operated in compliance with the terms of its certificate of airworthiness and within the approved operating limitations contained in its flight manual.

3.2.4 The operator shall take such precautions as are reasonably possible to ensure that the general level of safety contemplated by these provisions is maintained under all expected operating conditions, including those not covered specifically by the provision of this CAR.

3.2.5 A flight shall not be commenced unless the performance information provided in the flight manual indicates that the provisions of 3.2.6 and 3.2.7 can be complied with, for the flight to be undertaken.

3.2.6 In applying the provisions of this chapter, account shall be taken of all factors that significantly affect the performance of the helicopter (such as: mass, operating procedures, the pressure-altitude appropriate to the elevation of the operating site, temperature, wind and condition of the surface). Such factors shall be taken into account directly as operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the code of performance in accordance with which the helicopter is being operated.

3.2.7 Mass limitations.

(a) The mass of the helicopter at the start of take-off shall not exceed the mass at which the code of performance referred to in 3.1.1 is complied with, allowing for expected reductions in mass as the flight proceeds and for such fuel jettisoning as is appropriate.

(b) In no case shall the mass at the start of take-off exceed the maximum takeoff mass specified in the helicopter flight manual taking into account factors specified in 3.2.6.

(c) In no case shall the estimated mass for the expected time of landing at the destination and at any alternate exceed the maximum landing mass specified in the helicopter flight manual taking into account factors specified

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in 3.2.6.

(d) In no case shall the mass at the start of take-off, or at the expected time of landing at the destination and at any alternate, exceed the relevant maximum mass at which compliance has been demonstrated with the applicable noise certification Standards in ICAO Annex 16 Volume 1, unless otherwise authorized, by the DGCA, in exceptional circumstances for a certain operating site where there is no noise disturbance problem.

3.2.7.1 The helicopter performance requirements for various phases of flight are placed at 3.2.7.2., 3.2.7.3 and 3.2.7.4.

3.2.7.2 Take –off and initial climb phase

3.2.7.2.1 *Operations in performance Class 1*. The helicopter shall be able, in the event of the failure of the critical engine being recognized at or before the take-off decision point, to discontinue the take-off and stop within the rejected takeoff area available, or, in the event of the failure of the critical engine being recognized at or after the take-off decision point, to continue the take-off, clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with 3.2.7.3.1.

3.2.7.2.2 *Operations in performance Class 2*. The helicopter shall be able, in the event of the failure of the critical engine at any time after reaching DPATO, to continue the take-off clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with 3.2.7.3.1. Before the DPATO, failure of the critical engine may cause the helicopter to force land, therefore the conditions stated in 3.1.2 shall apply.

3.2.7.2.3 *Operations in performance Class 3.* At any point of the flight path, failure of an engine will cause the helicopter to force land; therefore the conditions stated in 3.1.2 shall apply.

3.2.7.3 En-route phase

3.2.7.3.1 *Operations in performance Class 1 and Class 2*. The helicopter shall be able, in the event of the failure of the critical engine at any point in the en-route phase, to continue the flight to a site at which the conditions of 3.2.7.4.1 for operation in performance Class 1, conditions of 3.2.7.4.2 for operations in Class 2 can be met, without flying below the appropriate minimum flight altitude at any point.

3.2.7.3.2 *Operations in performance Class 3*. The helicopter shall be able, with all power units operating, to continue along its intended route or planned diversions without flying at any point below the appropriate minimum flight altitude. At any point of the flight path, failure of an engine will cause the helicopter to force land; therefore the conditions stated in 3.1.2 shall apply.

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3.2.7.4 Approach and landing phase

3.2.7.4.1 *Operations in performance Class 1*. In the event of the failure of the critical engine being recognized at any point during the approach and landing phase, before the landing decision point, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, be able to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in 3.2.7.2.1. In case of the failure occurring after the landing decision point, the helicopter shall be ableto land and stop within the landing distance available.

3.2.7.4.2 *Operations in performance Class 2*. In the event of the failure of the critical engine before the DPBL, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, be able either to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in 3.2.7.2.2. After the DPBL, failure of an enginemay cause the helicopter to force land; therefore the condition stated in 3.1.2shall apply.

3.2.7.4.3 *Operations in performance Class 3*. At any point of the flight path, failure of an engine will cause the helicopter to force land; therefore the conditions stated in 3.1.2 shall apply.

3.3 Obstacle data

3.3.1 The operator shall have a system to obtain details of all obstacle data along the flight path and calculate the take-off, en-route and landing performance taking into account such obstacle data. For Indian airports the operator may obtain obstacle data for calculating the performance of the aircraft from the Airports Authority of India.

3.3.2 The operator shall take account of charting accuracy when considering such obstacle data.

4. HELICOPTER INSTRUMENTS, EQUIPMENT AND FLIGHT DOCUMENTS

4.1 General

4.1.1 In addition to the minimum equipment necessary for the issuance of a certificate of airworthiness, the instruments, equipment and flight documents prescribed in the following paragraphs shall be installed or carried, as appropriate, in helicopter according to the helicopter used and to the circumstances under which the flight is to be conducted. The prescribed instruments and equipment, including their installation, shall be approved or accepted by the DGCA.

4.1.2 A helicopter shall carry a certified true copy of the Air Operator Certificate specified in 2.2.1, and a copy of the operations specifications relevant to the

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helicopter type, issued in conjunction with the certificate.

4.1.3 The operator shall include in the operations manual a minimum equipment list (MEL), approved by DGCA which will enable the pilot-in-command to determine whether a flight may be commenced or continued from any intermediate stop should any instrument, equipment or system become inoperative. When the helicopter is not registered in India, the operator shall ensure that the MEL does not affect the helicopter's compliance with the airworthiness requirements applicable in the State of Registry.

Note- MEL requirements are contented in CAR Section 2, Series 'B' Part I.

4.1.4 The operator 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 observe human factors principles. The manual shall be easily accessible to the flight crew during all flight operations.

Note. Guidance material on the application of Human Factors principles can be found in the Human Factors Training Manual (ICAO-Doc 9683).

4.1.5 Helicopter operated under an Article 83 *bis* agreement

Note. — Guidance concerning the transfer of responsibilities by the State of Registry to the State of the Operator in accordance with Article 83 bis *is contained in the* Manual on the Implementation of Article 83 *bis* of the Convention on International Civil Aviation *(Doc 10059).*

4.1.5.1 A helicopter, when operating under an Article 83 *bis* agreement entered into between the State of Registry 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.

Note. — Guidance regarding the agreement summary is contained in Doc 10059.

4.1.5.2 The agreement summary of an Article 83 *bis* agreement shall be accessible to a civil aviation safety inspector in determining which functions and duties are transferred by the State of Registry to the State of the Operator under the agreement, when conducting surveillance activities such as ramp checks.

Note. — Guidance for the civil aviation safety inspector conducting an inspection of an aeroplane operated under an Article 83 bis *agreement is contained in the* Manual of Procedures for Operations Inspection, Certification and Continued Surveillance *(Doc 8335).*

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4.1.5.3 The agreement summary shall be transmitted to ICAO together with the Article 83 *bis* Agreement for registration with the ICAO Council by the State of Registry or the State of the Operator.

Note. — The agreement summary transmitted with the Article 83 bis agreement registered with the ICAO Council contains the list of all aircraft affected by the agreement. However, the certified true copy to be carried on board as per 4.1.5.1. will need to list only the specific aircraft carrying the copy.

4.1.5.4 The agreement summary should contain the information in Appendix D for the specific aircraft and should follow the layout of Appendix D, paragraph 2.

4.2 All helicopters on all flights

4.2.1 A helicopter shall be equipped with instruments which will enable the flight crew to control the flight path of the helicopter, carry out any required procedural manoeuvres and observe the operating limitation of the helicopter in theexpected operating conditions.

4.2.2 Helicopters shall be equipped with

(a) One or more first-aid kits as appropriate to the number of passengers the helicopter is authorized to carry, in accordance with CAR Section 2, Series 'X' Part III;

(b) Portable fire extinguishers of a type which, when discharged, will not cause dangerous contamination of the air within the helicopter. At least one shall be located in:

i. the pilot's compartment; and

ii. each passenger compartment that is separate from the pilot's compartment and that is not readily accessible to the flight crew.

Note 1. - Any portable fire extinguisher so fitted in accordance with the certificate of airworthiness of the helicopter may count as one prescribed.

Note 2.—Refer to 4.2.2.1 for fire extinguishing agents.

(c) Seats or berths; and safety harness

i. a seat or berth for each person over an age of two years;

ii. a seat belt for each seat and restraining belts for each berth;

iii. a safety harness for each flight crew seat. The safety harness for each pilot seat must incorporate a device which will automatically restrain the occupant's torso in the event of rapid deceleration.

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iv. when dual controls are fitted, the safety harness for each pilot seat shall incorporate a device to prevent the upper body of an incapacitated occupant from interfering with the flight controls.

Note 1. Depending on the design, the lock on an inertia reel device may suffice for this purpose.

Note 2. Safety harness includes shoulder straps and a seat belt which may be used independently.

(d) means of ensuring that the following information and instructions are conveyed to passengers:

i. when seat belts or harnesses are to be fastened;

ii. when and how oxygen equipment is to be used if the carriage of oxygen is required;

iii. restrictions on smoking

Note.- Smoking is prohibited in domestic flights.

iv. location and use of life jackets or equivalent individual flotation devices where their carriage is required; and

v. location and method of opening emergency exits;

(e) if fuses are used, spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

4.2.2.1 Any agent used in a built-in fire extinguisher for each lavatory disposal receptacle for towels, paper or waste in a helicopter for which the individual certificate of airworthiness is first issued on or after 31 December 2011 and any extinguishing agent used in a portable fire extinguisher in a helicopter for which the individual certificate of airworthiness is first issued on or after 31 December 2018 shall:

(a) meet the applicable minimum performance requirements; and

(b) not be of a type listed in Annex A, Group II of the Montreal Protocol on Substances That Deplete the Ozone Layer, 8th Edition, 2009

Note. — Information concerning extinguishing agents is contained in the UNEP Halons Technical Options Committee Technical Note No. 1 – New Technology Halon Alternatives and FAA Report No. DOT/FAA/AR-99-63, Options to the Use of Halons for Aircraft Fire Suppression Systems.

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4.2.3 A helicopter shall carry:

(f) the operations manual prescribed in 2.2.3; or those parts of it that pertain to flight operations;

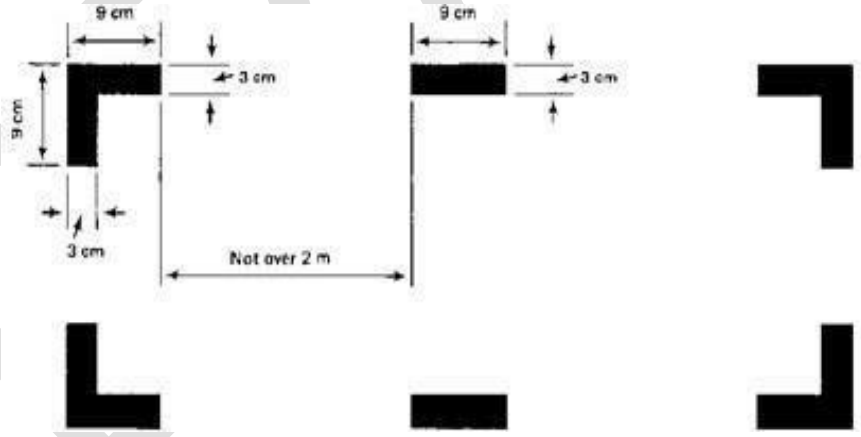
(g) the helicopter flight manual for the helicopter, or other documents containing performance data required for the application of para 3 and any other information necessary for the operation of the helicopter within the terms of its certificate of airworthiness, unless these data are available in the operations manual; and current and suitable charts to cover the route of the proposed flight and anyroute along which it is reasonable to expect that the flight may be diverted.

4.2.4 Marking of break-in points

4.2.4.1 If areas of the fuselage suitable for break-in by rescue crews in emergency are marked on a helicopter, such areas shall be marked as prescribed in the diagram below. The colour of the markings shall be red or yellow, and if necessary they shall be outlined in white to contrast with the background.

4.2.4.2 If the corner markings are more than 2m apart, intermediate lines 9cm x 3cm shall be inserted so that there is no more than 2 m between adjacent markings.

Note - Para 4.2.4 does not require all helicopters to have Break in areas.



4.3 Flight Recorders. All operators shall comply with the requirements given in the CAR Section 2, Series 'I' Part V and Part VI for installation of Flight Data Recorder, Combination Recorder, Cockpit Voice Recorder (CVR), an airborne image recorder (AIR), a data link recorder (DLR) an aircraft data recording system (ADRS), a cockpit audio recording system (CARS) as the case may be.

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4.4 Instruments and equipment for flights operated under VFR and IFR by day and night.

Note. — The flight instruments requirements in this paragraph may be met by combinations of instruments or by electronic displays.

4.4.1 All helicopters when operating in accordance with VFR by day shall be equipped with

(h) a magnetic compass;

(i) an accurate timepiece indicating the time in hours, minutes and seconds;

(j) a sensitive pressure altimeter;

(k) an airspeed indicator; and

(l) such additional instruments or equipment as may be prescribed by the appropriate authority.

4.4.2 All helicopters when operating in accordance with VFR at night shall be equipped with:

(a) the equipment specified in Para 4.4.1;

(b) an attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator;

(c) a slip indicator;

(d) a heading indicator (directional gyroscope);

(e) a rate of climb and descent indicator;

(f) such additional instruments or equipment as may be prescribed by the appropriate authority;

and the following lights:

(g) the lights required by CAR Section 9, Series C, Part I for aircraft in flight or operating on the movement area of a heliport;

(h) two landing lights;

(i) illumination for all instruments and equipment that are essential for the safe operation of the helicopter that are used by the flight crew;

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(j) lights in all passenger compartments; and

(k) a flashlight for each crew member station.

4.4.2.1 One of the landing lights should be trainable, at least in the vertical plane

4.4.3 All helicopters when operating in accordance with IFR, or when the helicopter cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:

(a) a magnetic compass;

(b) an accurate timepiece indicating the time in hours, minutes and seconds;

(c) two sensitive pressure altimeters;

(d) an airspeed indicating system with means of preventing malfunctioning due to either condensation or icing;

(e) a slip indicator;

(f) an attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator;

(g) a heading indicator (directional gyroscope);

(h) a means of indicating whether the power supply to the gyroscope instrument is adequate;

(i) a means of indicating on the flight crew deck the outside air temperature;

(j) a rate of climb and descent indicator;

(k) a stabilization system, unless it has been demonstrated to the satisfaction of the certificating authority, that the helicopter possesses, by nature of its design, adequate stability without such a system;

(l) such additional instruments or equipment as may be prescribed by the DGCA; and

(m) if operated at night, lights specified at paras 4.4.2 (g) to (k) and 4.4.2.1

4.4.3.1 All helicopters when operating in accordance with IFR shall be fitted with an emergency power supply, independent of the main electrical generating system, for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command. The emergency power supply shall be automatically

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operative after the total failure of the main electrical generating system and clear indication shall be given on the instrument panel that the attitude indicator(s) is being operated by emergency power.

4.4.4 A helicopter when operating in accordance with IFR and which has a maximum certificated take-off mass in excess of 3175 kg or a maximum passenger seating configuration of more than 9 should preferably be equipped with a ground proximity warning system which has a forward-looking terrain avoidancefunction.

4.5 All helicopters on flights over water

4.5.1 Means of floatation. All helicopters intended to be flown over water shall be fitted with a permanent or rapidly deployable means of floatation so as to ensure a safe ditching of the helicopter when:

(a) engaged in offshore operations, or other over water operations as prescribed by the DGCA; or

(b) flying over water in a hostile environment at a distance from land corresponding to more than 10 minutes at normal cruise speed when operating in performance Class 1 or 2; or

Note. When operating in a hostile environment, a safe ditching requires a helicopter to be designed for landing on water or certificated in accordance with ditching provisions.

(c) flying over water in a non-hostile environment at a distance from land specified by DGCA when operating in performance Class 1; or

(d) flying over water beyond auto rotational or safe forced landing distance from land when operating in performance Class 3.

4.5.2 Emergency equipment

4.5.2.1 Helicopters operating in Performance Class 1 or 2 and operating in accordance with the provisions of 4.5.1 shall be equipped with:

(a) one life jacket, or equivalent individual floatation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided; For offshore operations the life jacket shall be worn constantly unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket;

(b) life-saving rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency, provided with such lifesaving equipment including means of sustaining life as is appropriate to the flight to be undertaken;

(c) when two life rafts are fitted, each shall be able to carry all occupants in the

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overload state; and

(d) equipment for making the pyrotechnical distress signals described in Annex 2.

Note.— The life raft overload state has a design safety margin of 1.5 times the maximum capacity.

(e) one set of survival radio equipment per raft, but not more than a total of two sets stowed as to facilitate their ready use in an emergency, which operate on VHF. The equipment should be portable, water resistant, self-buoyant, not dependent for operations upon the helicopter power supply and capable of being operated away from the helicopter by unskilled persons.

4.5.2.2 Helicopters operating in performance Class 3 when operating beyond autorotational distance from land shall be equipped with one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.

Note. - When determining the distance from land referred to in 4.5.2.2, consideration should be given to environmental conditions and the availability of search and rescue facilities.

4.5.2.2.1 For offshore operations, when operating beyond auto-rotational distance from land, the life jacket shall be worn unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket**.**

4.5.2.3 Helicopters operating in Performance Class 3 when operating beyond distance specified in 4.5.2.2 shall be equipped as in 4.5.2.1.

4.5.2.4 In the case of helicopters operating in performance Class 2 or 3, when taking off or landing at a heliport where, the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching, at least the equipment required in 4.5.2.1 (a) shall be carried.

4.5.2.5 Each life jacket and equivalent individual floatation device, when carried in accordance with 4.5, shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

4.5.2.6 On any helicopter for which the individual certificate of airworthiness is first issued on or after 1 January 1991, at least 50 per cent of the life rafts carried in accordance with the provisions of 4.5.2 should be deployable by remote control.

4.5.2.7 Rafts which are not deployable by remote control and which have a mass of more than 40 kg should be equipped with some means of mechanically assisted deployment.

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4.5.3 All helicopters on flights over designated sea areas

4.5.3.1 Helicopters, when operating over sea areas in which search and rescue would be especially difficult, shall be equipped with life-saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

4.5.3.2 For offshore operations, a survival suit shall be worn by all occupants when the sea temperature is less than 10°C or when the estimated rescue time exceeds the calculated survival time. When the elevation and strength of the sun results in a high temperature hazard on the flight deck, consideration should be given to alleviating the flight crew from this recommendation.

Note. - When establishing rescue time, the sea state and the ambient light conditions should be taken into consideration.

4.5.4 *Radio Altimeters*. An operator shall not operate a helicopter on a flight over water, unless that helicopter is equipped with a radio altimeter with an audio warning operating below a pre-set height, and a visual warning capable of operating at a height, selectable by the pilot in the following conditions:

4.5.4.1 When operating out of sight of the land; or

4.5.4.2 When the visibility is less than 1500 m; or

4.5.4.3 at night; or

4.5.4.4 at a distance from land corresponding to more than 3 minutes at normal cruising speed

4.6 All helicopters on flights over designated land areas. Helicopters, when operated across land areas in which search and rescue would be especially difficult, shall be equipped with at least one survival radio equipment stowed so as to facilitate its ready use in an emergency which operates on VHF. The equipment shall be portable, not dependent for operation upon the helicopter power supply and capable of being operated away from the helicopter by unskilled persons. Helicopter shall also be equipped with such signalling devices and lifesaving equipment (including means of sustaining life), as may be appropriate to the area overblown.

4.7 Emergency Locator Transmitter (ELT)

4.7.1 All helicopters operating in performance Class 1 and 2 shall be equipped with at least one automatic ELT and, when operating on flights over water as describedin 4.5.1 (a), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.2 All helicopters operating in performance Class 3 shall be equipped with at least

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one automatic ELT and, when operating on flights over water as described in 4.5.1 (b), with at least one automatic ELT and one ELT(S) in a raft or life jacket.

4.7.3 ELT equipment carried to satisfy the requirements of 4.7.1 and 4.7.2 shall operate in accordance with the relevant provisions of Annex 10, Volume III.

Note.— The judicious choice of numbers of ELTs, their type and placement on aircraft and associated floatable life support systems will ensure the greatest chance of ELT activation in the event of an accident for aircraft operating over water or land, including areas especially difficult for search and rescue. Placement of transmitter units is a vital factor in ensuring optimal crash and fire protection. The placement of the control and switching devices (activation monitors) of automatic fixed ELTs and their associated operational procedures will also take into consideration the need for rapid detection of inadvertent activation and convenient manual switching by crew members.

4.8 All helicopters on high altitude flights

Note: - Approximate altitudes in the standard atmosphere corresponding to the value of absolute pressure used in the text are as follows:

Absolute pressure	*Meters*	*Feet*
700 hPa	*3000*	*10000*
620 hPa	*4000*	*13000*
376 hPa	*7600*	*25000*

4.8.1 A helicopter intended to be operated at altitudes at which the atmospheric pressure is less than 700 hpa in personnel compartments, shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.1.

4.8.2 A helicopter 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 pressure greater than 700 hPa in personnel compartments shall be provided with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in 2.3.8.2.

4.8.3 A helicopter intended to be 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 which cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, should be provided with automatically deployable oxygen equipment to satisfy the requirements of 2.3.8.2. The total number of oxygen

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dispensing units should exceed the number of passenger and cabin crew seats by at least 10 per cent.

4.9 All Helicopters in icing conditions. All helicopters shall be equipped with suitable anti-icing and/or de-icing devices when operated in circumstances in which icing conditions are reported to exist or are expected to be encountered.

4.10 Helicopters when carrying passengers - *Significant weather detection*. Helicopters when carrying passengers should be equipped with operative weather radar or other significant-weather detection equipment whenever such helicopters are being operated in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable, may be expected to exist along the route either at night or under instrument meteorological conditions.

4.11 All helicopters required to comply with the noise certification Standards in Annex 16, Volume I. All helicopters required to comply with the noise certification Standards of Annex 16 Volume I, shall carry a noise certificate, as required in CAR Section 2, Series F, Part-III.

4.12 Helicopters carrying passengers - cabin crew seats.

4.12.1 All helicopters requiring carriage of cabin crew as per para 10.1, shall beequipped with a forward or rearward facing (within fifteen degrees of the longitudinal axis of the helicopter) seat, fitted with a safety harness for the use of each cabin crew member for carrying out emergency evacuation to satisfythe intent of para10.1.

Note 1. — In accordance with the provisions of 4.2.2 (c) (i), a seat and seat belt shall be provided for the use of each additional cabin crew member.

Note 2. — Safety harness includes shoulder straps and a seat belt which may be used independently.

4.12.2 Cabin crew seats shall be located near floor level and other emergency exits for emergency evacuation.

4.13 Helicopters required to be equipped with Pressure Altitude Reporting Transponder. Helicopters shall be fitted with Pressure Altitude Reporting Transponder in accordance with CAR Section 2 Series ‘R’ Part IV.

Note. - This provision is intended to support the effectiveness of ACAS as well as to improve the effectiveness of air traffic services. The intent is also for aircraft not equipped with pressure-altitude reporting transponders to be operated so as not to share airspace used by aircraft equipped with airborne collision avoidance system.

4.14 Microphones. All flight crew members required to be on flight deck duty shall

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communicate through boom or throat microphones.

4.15 Vibration health monitoring system. A helicopter which has a maximum certificated take-off mass in excess of 3175 kg or a maximum passenger seating configuration of more than 9 should preferably be equipped with a vibration health monitoring system. Helicopters Equipped with Automatic Landing Systems, a Head-Up Display (HUD) or equivalent Displays, Enhanced Vision Systems (EVS), SyntheticVision Systems (SVS) and/or Combined Vision Systems (CVS).

4.16 Helicopters Equipped with Automatic Landing Systems, a Head-Up Display (HUD) or equivalent Displays, Enhanced Vision Systems (EVS), Synthetic Vision Systems (SVS) and/or Combined Vision Systems (CVS).

4.16.1 Notwithstanding Para 2.2.8.1.2 to 2.2.8.1.3, where helicopters are equipped with automatic landing systems, HUD or equivalent displays, EVS, SVS or CVS, or any combination of those systems into a hybrid system, criteria for the use of such systems for the safe operation of a helicopter shall be established by the DGCA. Guidance on the same is placed in Ops Circular 07/2022.

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

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

4.17 Electronic flight bags (EFBs)

Note. — Guidance on EFB equipment, functions and specific approval is contained in the Manual on Electronic Flight Bags (Doc 10020).

4.17.1 EFB Equipment. Where portable EFBs are used on board a helicopter, the operator shall ensure that they do not affect the performance of the helicopter systems, equipment or the ability to operate the helicopter.

4.17.2 EFB Functions.

4.17.2.1 Where EFBs are used on board a helicopter the operator shall:

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

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

(c) 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.

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4.17.2.2 DGCA shall issue a specific approval for the operational use of EFB functions to be used for the safe operation of helicopters.

4.17.3 *EFB Specific Approval*. When issuing a specific approval for the operational use of EFBs, the DGCA shall ensure that:

(a) the EFB equipment and its associated installation hardware, including interaction with helicopter systems if applicable, meet the appropriate airworthiness certification requirements;
(b) the operator has assessed the safety risks associated with the operations supported by the EFB function(s);
(c) the operator has established requirements for redundancy of the information (if appropriate), contained and displayed by the EFB function(s);
(d) the operator has established and documented procedures for the management of the EFB function(s), including any databases it may use; and
(e) the operator has established and documented the procedures for the use of, and training requirements, for the EFB function(s).

4.18 Flight Tracking The operator should establish an aircraft tracking capability to track the helicopter throughout its area of operations. Refer ICAO Circular 347 for guidance.

Note : The flight tracking system shall be a DoT approved satellite based system meeting the applicable requirements as per RTCA DO-160G.

5 HELICOPTER COMMUNICATION, NAVIGATION AND SURVEILLANCE EQUIPMENT

5.1 Communication Equipment

5.1.1 All helicopters shall be fitted with radio communication equipment capable of:

(a) conducting two way communication for heliport control purposes;
(b) receiving meteorological information at any time during flight,
(c) conducting two way communication at any time during flight with at least one station and with such other aeronautical stations and on such frequencies as may be prescribed by the appropriate authority

Note.—The requirements of 5.1.1 are considered fulfilled if the ability to conduct the communications specified therein is established during radio propagation conditions which are normal for the route.

5.1.2 The radio communication equipment required in accordance with 5.1.1 shall provide for communications on the aeronautical emergency frequency (121.5 MHz).

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5.1.3 For operations where communication equipment is required to meet an RCP specification for *performance-based communication* (PBC), a helicopter shall, in addition to the requirements specified in 5.1.1:

(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 helicopter RCP specification capabilities is listed in the flight manual or other helicopter documentation approved by the State of Design or State of Registry; and

(c) have information relevant to the helicopter RCP specification capabilities included in the MEL.

Note — Information on the performance-based communication and surveillance (PBCS) concept and guidance material on its implementation are contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).

5.1.4 DGCA shall, for operations where a RCP specification for PBC has been prescribed, ensure that the operator has established and documented:

(a) normal and abnormal procedures, including contingency procedures;

(b) flight crew qualification and proficiency requirements, in accordance with appropriate RCP specifications;

(c) a training programme for relevant personnel consistent with the intended operations; and

(d) appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate RCP specifications.

5.1.5 DGCA shall ensure that, in respect of those helicopters mentioned in 5.1.3, adequate provisions exist for:

(a) receiving the reports of observed communication performance issued by monitoring programmes established in accordance with Annex 11, Chapter 3, 3.3.5.2; and

(b) taking immediate corrective action for individual helicopters, helicopter types or operators, identified in such reports as not complying with the RCP specification.

5.2 Navigation Equipment

5.2.1 A helicopter shall be provided with navigation equipment which will enable it to proceed:

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(a) in accordance with its operational flight plan; and

(b) in accordance with the requirements of air traffic services; except when, if not so precluded by the appropriate authority, navigation for flights under visual flight rules is accomplished by visual reference to landmarks.

5.2.2 For operations where a performance-based navigation (PBN) has been prescribed, a helicopter shall, in addition to the requirements specified in 5.2.1:

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

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

(c) have information relevant to the helicopter navigation specification capabilities included in the MEL.

Note.- Guidance on helicopter documentation is contained in the Performance-based Navigation (PBN) Manual (Doc 9613).

5.2.3 DGCA shall, for operations where a navigation specification for PBN has been prescribed, ensure that the operator has established and documented:

(a) normal and abnormal procedures including contingency procedures;

(b) flight crew qualification and proficiency requirements in accordance with the appropriate navigation specifications;

(c) a training programme for relevant personnel consistent with the intended operations; and

(d) appropriate maintenance procedures to ensure continued airworthiness in accordance with appropriate navigation specifications.

Note 1.— Guidance on safety risks and mitigations for PBN operations, in accordance with Annex 19, are contained in the Performance-based Navigation (PBN) Operational Approval Manual *(Doc 9997).*

Note 2. — Electronic navigation data management is an integral part of normal and abnormal procedures.

5.2.4 DGCA shall issue a specific approval for operations based on PBN authorization required (AR) navigation specifications.

Note.— Guidance on specific approvals for PBN authorization required (AR) navigation specifications is contained in the Performance-based Navigation

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(PBN) Operational Approval Manual *(Doc 9997).*

5.2.5 The helicopter shall be sufficiently provided with the navigation equipment to ensure that in the event of failure of one item of equipment at any stage of flight, the remaining equipment will enable the helicopter to navigate in accordance with para 5.2.1 and where applicable Para 5.2.2.

5.2.6 On flights in which it is intended to land in instrument meteorological conditions, a helicopter shall be provided with appropriate navigation equipment providing guidance to a point from which a visual landing can be effected. This equipment shall be capable of providing such guidance at each heliport at which it is intended to land in instrument meteorological conditions and at any designated alternate heliports.

5.3 Surveillance equipment

5.3.1 A helicopter shall be provided with surveillance equipment which will enable it to operate in accordance with the requirements of air traffic services.

5.3.2 For operations where surveillance equipment is required to meet an RSP specification for performance-based surveillance (PBS), a helicopter shall, in addition to the requirements specified in 5.3.1:

(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 helicopter RSP specification capabilities listed in the flight manual or other helicopter documentation approved by the State of Design or State of Registry; and

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

Note 1.— Information on surveillance equipment is contained in the Aeronautical Surveillance Manual (Doc 9924).

Note 2.— Information on RSP specifications for performance-based surveillance is contained in the Performance-based Communication and Surveillance (PBCS) Manual (Doc 9869).

5.3.3 DGCA shall, for operations where an RSP specification for PBS has been prescribed, ensure that the operator has established and documented:

(a) normal and abnormal procedures, including contingency procedures;

(b) flight crew qualification and proficiency requirements, in accordance with appropriate RSP specifications;

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(c) a training programme for relevant personnel consistent with the intended operations; and

(d) appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate RSP specifications.

5.3.4 DGCA shall ensure that, in respect of those helicopters mentioned in 5.3.2, adequate provisions exist for:

(a) receiving the reports of observed surveillance performance issued by monitoring programmes established in accordance with Annex 11, Chapter3, 3.3.5.2; and

(b) taking immediate corrective action for individual helicopter, helicopter types or operators, identified in such reports as not complying with the RSP specification.

5.4 Installation. 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.

5.5 Electronic navigation data management

5.5.1 The operator shall not employ electronic navigation data products that have been processed for application in the air and on the ground unless the DGCA has approved the operator's procedures for ensuring that the process applied and the products delivered have met acceptable standards of integrity and that the products are compatible with the intended function of the existing equipment. DGCA shall ensure that the operator continues to monitor both process and products.

Note.— Guidance relating to the processes that data suppliers may follow is contained in RTCA DO200A/EUROCAE ED-76 and RTCA DO201A/EUROCAE ED-77.

5.5.2 The operator shall implement procedures that ensure the timely distribution and insertion of current and unaltered electronic navigation data to all necessary aircraft.

6 HELICOPTER CONTINUING AIRWORTHINESS

Operators shall comply with the requirements as given in CAR 145 / CAR-M / CAR 66, as applicable.

7 HELICOPTER FLIGHT CREW

7.1 Composition of the flight crew

7.1.1 The number and composition of the flight crew shall not be less than that

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specified in the operations manual. The flight crew shall include flight crew members in addition to the minimum numbers specified in the Flight Manual or other documents associated with the certificate of airworthiness, when necessitated by considerations related to the type of helicopter used, the type of operation involved and the duration of flight between points where flight crews are changed.

7.1.2 The flight crew shall hold valid license issued or rendered valid by DGCA, authorizing operation of the type of radio transmitting equipment to be used.

7.2 Flight Crew member emergency duties. An operator shall, for each type of helicopter, assign to all flight crew members the necessary functions they are to perform in an emergency including or in a situation requiring emergency evacuation. Annual training in accomplishing these functions shall be contained in the operator's training programme and shall include instruction in the use of all emergency and lifesaving equipment required to be carried, and drills in the emergency evacuation of the helicopter.

7.3 Flight crew member training programmes

7.3.1 The operator shall establish and maintain a ground and flight training programme approved by the DGCA which ensures that all flight crew members are adequately trained to perform their assigned duties. The training programme shall:

(a) include ground and flight training facilities and properly qualified instructors as determined by DGCA;

(b) consist of ground and flight training for the type(s) of helicopter on which the flight crew member serves;

(c) include proper flight crew coordination and training for all types of emergency and abnormal situations or procedures caused by power plant,transmission, rotor, airframe or systems malfunctions, fire or other abnormalities;

(d) include training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, human performance and threat and error management and in the transport of dangerous goodsand, where applicable, procedures specific to the environment in which thehelicopter is to be operated;

(e) ensure that all flight crew members know the functions for which they are responsible and the relation of these functions to the functions of other crew members, particularly in regard to abnormal or emergency procedures;

(f) include training in knowledge and skills related to the operational use of head-up display and/or enhanced vision systems for those helicopters so

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equipped; and

(g) be given on a recurrent basis, as determined by DGCA and shall include an assessment of competence.

Note 1. Paragraph 2.2.5 prohibits the in-flight simulation of emergency or abnormal situations when passengers or cargo are being carried.

Note 2. Flight training may to the extent deemed appropriate by the DGCA, be given in flight simulation training devices approved by DGCA for that purpose.

Note 3. The scope of the recurrent training required by 7.2 and 7.3 may be varied and need not be as extensive as the initial training given in a particular type of helicopter.

Note 4. Provisions for training in the transport of dangerous goods are contained in Aircraft (Carriage of Dangerous Goods) Rules, 2003. For more information on dangerous goods operational requirements, also see Para 12.

Note 5. Guidance material to design training programmes to develop knowledge and skills in human performance can be found in the Human Factors Training Manual (ICAO Doc 9683).

Note 6. Information for pilots and flight operations personnel on flight procedure parameters and operational procedures is contained in PANS-OPS (DOC 8168) Volume I. Criteria for the construction of visual and instrument flight procedures are contained in PANS-OPS (Doc 8168) Volume II. Obstacle clearance criteria and procedures used in certain States may differ from PANS-OPS (Doc 8168) and knowledge of these differences is important for safety reasons.

Note 7. Guidance material to design flight crew training programmes can be found in the Preparation of an Operations Manual (Doc 9995).

Note 8. Guidance material on the different means used to assess competence can be found in the Attachment to Chapter 2 of the Procedures for Air Navigation Services – Training (PANS-TRG, Doc 9868) document.

7.3.2 The requirement for recurrent flight training in a particular type of helicopter shall be considered fulfilled by:

(a) the use, to the extent deemed feasible by DGCA, flight simulation training devices approved by the DGCA for that purpose; or

(b) the completion within the appropriate period of the proficiency check required by 7.4.4 in that type of helicopter.

7.4 Qualifications

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7.4.1 Recent experience - pilot-in-command and co-pilot

7.4.1.1 An operator shall not assign a pilot-in-command or a co-pilot to operate at the flight controls of a type or variant of a type of a helicopter during take-off and landing unless that pilot has operated the flight controls during at least three take-offs and landings within the preceding 90 days on the same type of helicopter or in a flight simulator approved for the purpose.

7.4.1.2 A pilot-in-command or a co-pilot flying several variants of the same type of helicopter or different types of helicopter with similar characteristics in terms of operating procedures, systems and handling, shall follow the requirements laid down in CAR Section 8, Series H Part II.

7.4.2 Pilot-in-command operational qualification

7.4.2.1 An operator shall not utilize a pilot as pilot-in-command of a helicopter on an operation for which that pilot is not currently qualified until such pilot has complied with 7.4.2.2 and 7.4.2.3.

7.4.2.2 Each such pilot shall demonstrate to the instructor/examiner, an adequate knowledge of:

(a) The operation to be flown. This shall include knowledge of:

i. the terrain and minimum safe altitudes;

ii. the seasonal meteorological conditions;

iii. the meteorological, communication and air traffic facilities, services and procedures;

iv. the search and rescue procedures;

v. the navigational facilities and procedures associated with the route or area in which the flight is to take place; and

(b) procedures applicable to flight paths over heavily populated areas and areas of high air traffic density obstructions, physical layout, lighting, approach aids and arrival, departure, holding and instrument approach procedures, and applicable operating minima.

Note.-That portion of the demonstration relating to arrival, departure, holding and instrument approach procedures may be accomplished in an appropriate training device which is adequate for this purpose.

7.4.2.3 A pilot-in-command shall have made a flight, representative of the operation with which the pilot is to be engaged which must include a landing at a

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representative heliport, as a member of the flight crew and accompanied by a pilot who is qualified for the operation.

7.4.2.4 The operator shall maintain a record, up to the satisfaction of DGCA, of the qualification of the pilot and of the manner in which such qualification has been achieved.

7.4.2.5 The operator shall not continue to utilize a pilot as a pilot-in-command on an operation in an area specified by the operator and approved by DGCA unless, within the preceding 12 months, the pilot has made at least one representative flight as a pilot member of the flight crew, or as a check pilot, or as an observer on the flight deck. In the event that more than 12 months elapse in which a pilot has not made such a representative flight, prior to again serving as a pilot-in-command on that operation, that pilot must re-qualify in accordance with 7.4.2.2 and 7.4.2.3.

7.4.3 Pilot proficiency checks

7.4.3.1 The operator shall ensure that piloting technique and the ability to execute emergency procedures is checked in such a way as to demonstrate the pilot's competence on each type or variant of type of helicopter. Where the operation may be conducted under IFR, the operator shall ensure that the pilot's competence to comply with such rules is demonstrated to either a DGCA approved instructor or examiner or to a DGCA Flight Operations Inspector. Such checks 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.

Note 1.- Flight simulation training devices approved by DGCA may be used for those parts of the checks for which they are specifically approved.

Note 2.— See the Manual of Criteria for the Qualification of Flight Simulation Training Devices (Doc 9625).

7.4.3.2 When an operator schedules flight crew on several variants of the same type of helicopter or different types of helicopter with similar characteristics in terms of operating procedures, systems and handling, the pilot shall be required to undergo proficiency checks on each type. However, proficiency checks for variants of each type of helicopter can be combined.

7.5 Flight crew equipment. A flight crew member assessed as fit to exercise the privileges of a licence subject to the use of suitable correcting lenses, shall have a spare set of the correcting lenses readily available when exercising those privileges.

8 FLIGHT OPERATIONS OFFICER / FLIGHT DISPATCHER

8.1 A flight operations officer/ flight dispatcher, employed in conjunction with an

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approved method of control and supervision of flight operations be approved that flight operations officer/flight dispatcher shall be approved in accordance with the provisions of CAR Section 7, Series 'M' Part II.

8.2 A flight operations officer/ flight dispatcher shall not be assigned to duty unless that person has:

(a) satisfactorily completed an operator-specific training course that addresses all the specific components of its approved method of control and supervision of flight operations specified in 2.2.1.3;

(b) made within the preceding 12 months, at least a one-way qualification flight in a helicopter over any area for which that person is authorized to exercise flight supervision. The flight shall include landings at as many heliports as practicable;

Note. For the purpose of the qualification flight, the flight operations officer/ flight dispatcher must be able to monitor the flight crew intercommunication system and radio communications, and be able to observe the actions of the flight crew.

(c) demonstrated to the operator a knowledge of:

i. the contents of the operations manual described;

ii. the radio equipment in the helicopters used; and

iii. the navigation equipment in the helicopters used;

(d) demonstrated to the operator a knowledge of the following details concerning operations for which the officer is responsible and areas in which that individual is authorized to exercise flight supervision:

i. the seasonal meteorological conditions and the sources of meteorological information;

ii. the effects of meteorological conditions on radio reception in the helicopters used;

iii. the peculiarities and limitations of each navigation system which is used by the operation; and

iv. the helicopter loading instructions;

(e) satisfied the operator as to knowledge and skills related to human performance as they apply to dispatch duties; and

(f) demonstrated to the operator the ability to perform the duties specified in

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2.6.

8.3 A flight operations officer/ flight dispatcher assigned to duty should maintain complete familiarization with all features of the operations which are pertinent to such duties, including knowledge and skills related to human performance.

Note. — Guidance material to design training programmes to develop knowledge and skills in human performance can be found in the Human Factors Training Manual *(Doc 9683)*.

8.4 A flight operations officer/ flight dispatcher should not be assigned to duty after 12 consecutive months of absence from such duty, unless the provisions of 8.3 are met.

9 MANUALS, LOGS AND RECORDS

9.1 Flight Manual. Each aircraft shall have a Flight Manual or equivalent approved document on board, which shall be kept up to date.

9.2 Operator's Continuing Airworthiness Management Exposition (CAME) Requirements for CAME are given in CAR-M.

9.3 Maintenance programme

Requirements for Continuing Airworthiness Management Organization (CAMO) are given in CAR-M.

9.4 Journey log book

9.4.1 The helicopter journey log book should contain the following minimum items and the corresponding roman numerals:

I. Helicopter 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 (in UTC).

VIII. Time of arrival (in UTC).

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IX. Hours of flight.

X. Nature of flight (private, scheduled or non-scheduled).

XI. Incidents, observations, if any.

XII. Signature of person in charge.

9.4.2 Entries in the journey log book should be made currently and in ink or indelible pencil.

9.4.3 Completed journey log books should be retained to provide a continuous record of the last six months' operations.

Note. - The details of contents of journey log book are given in CAR Section 2, Series 'X' Part VI.

9.5 Records of emergency and survival equipment. Operators shall at all times have available for immediate communication to rescue coordination centres, lists containing information on the emergency and survival equipment carried on board their helicopters. The information shall include, as applicable, 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.

9.6 Flight Recorder Records. An operator shall ensure, to the extent possible, in the event the helicopter becomes involved in an accident or incident, the preservation of all related flight recorder records and if necessary the associated flight recorders and their retention in safe custody pending their disposition, as determined by DGCA.

Note – The following additional manuals, logs and records are not included in Para 9 :

Fuel and Oil records – see Para 2.2.9

Flight time, flight duty periods, duty periods and rest periods records – see Para 2.8.3

10 CABIN CREW

10.1 Assignment of emergency duties. The operator shall provide adequate number of Cabin crew in accordance with rule 38(B) of the Aircraft Rules 1937, the minimum number of cabin crew required for each type of helicopter, based on seating capacity or the number of passengers carried, which shall not be less than the minimum number established during certification, in order to effect a safe and expeditious evacuation of the helicopter, and the necessary functions to be performed in an emergency or a situation requiring emergency

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evacuation. The operator shall assign these functions for each type of helicopter.

10.2 Protection of cabin crew during flight. Each cabin crew member shall be seated with seat belt or, when provided safety harness fastened during takeoff and landing and whenever the pilot-in command so directs.

Note.- The foregoing do not preclude the pilot in command from directing the fastening of the seat belt only, at time other than during take-off and landing.

10.3 Training. An operator shall establish and maintain a training programme, approved by the DGCA for cabin crew in accordance with CAR Section 7 Series 'M' Part 'I', to be completed by all persons before being assigned as a cabin crew member.

Note 1 – Requirements for the training of cabin crew members in the transport of dangerous goods are included in the Dangerous Goods Training Programme Contained in Annex 18 – The Safe Transport of Dangerous Goods by Air *and the* Technical Instructions for the Safe Transport of Dangerous Goods by Air *(Doc 9284)*

Note 2.— For more information on dangerous goods operational requirements, see Para 12.

Note ~~2~~ 3 — Guidance material to design training programmes to develop knowledge and skills in human performance can be found in the Cabin Crew Safety Training Manual (Doc 10002).

11 SECURITY

11.1 Helicopter search procedures checklist. An operator shall ensure that there is on board a checklist of the procedures to be followed in searching for a bomb in case of suspected sabotage. The checklist shall be supported by guidanceon the course of action to be taken should a bomb or suspicious object be found.

11.2 Training programme

11.2.1 Operator shall establish and maintain a training programme which enables crew members to act in the most appropriate manner to minimize the consequencesof acts of unlawful interference.

11.2.2 An operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on a helicopter so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

11.3 Reporting acts of unlawful interference. Following an act of unlawful

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interference, the pilot-in-command shall submit without delay, a report following an act to BCAS and DGCA, New Delhi.

12 DANGEROUS GOODS

12.1 General Applicability

Note 1.— Annex 18 — The Safe Transport of Dangerous Goods by Air include broad provisions for the international transport of dangerous goods by air which are amplified in the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284, Technical Instructions). Annex 18, Chapter 2 includes provisions making dangerous goods under certain conditions not subject to Annex 18. These are amplified in Parts 1;1 and 1;2 of the Technical Instructions.

Note 2. — Due to the differences in the type of operations carried out by helicopters, compared to those of aeroplanes, some additional considerations need to be made when dangerous goods are carried by helicopter, as described in the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284, Technical Instructions), Part 7;7.

12.2 State Responsibilities

Note 1.— Annex 18 — The Safe Transport of Dangerous Goods by Air, Chapter 2, contains requirements for each State to take the necessary measures to achieve compliance with the detailed provisions contained in the Technical Instructions.

Note 2.— Operator responsibilities for the transport of dangerous goods are contained in Chapters 8, 9 and 10 of Annex 18. Part 7 of the Technical Instructions contains the operator's responsibilities and requirements for incident and accident reporting.

Note 3.— Annex 18, Chapter 11 contains requirements for each Contracting State to establish oversight procedures for all entities (including packers, shippers, ground handling agents and operators) performing dangerous goods functions.

Note 4.— The requirements pertaining to crew members or passengers carrying dangerous goods on aircraft are set forth in Part 8;1, of the Technical Instructions.

Note 5.— Operator material (COMAT) that meets the classification criteria of the Technical Instructions for dangerous goods are considered cargo and must be transported in accordance with Part 1;2; 2.2 of the Technical Instructions (e.g., aircraft parts such as chemical oxygen generators, fuel control units, fire extinguishers, oils, lubricants and cleaning products).

12.3 Operators with no specific approval for the transport of Dangerous Goods as Cargo DGCA shall ensure that operators with no specific approval to transport dangerous goods have :-

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12.3.1 established a dangerous goods training programme that meets the requirements of Annex 18, the applicable requirements of the Technical Instructions, Part 1;4 and the requirements of the State's regulations, as appropriate. Details of the dangerous goods training programme shall be included in the operators' operations manuals; and

12.3.2 established dangerous goods policies and procedures in their operations manualsto meet, at a minimum, the requirements of Annex 18, the Technical Instructions and the State's regulations to allow operator personnel to:

(a) identify and reject undeclared dangerous goods, including COMAT classified as dangerous goods; and

(b) report to the appropriate authorities of the State of the Operator, and the State in which it occurred, any:

(i) occasions when undeclared dangerous goods are discovered in cargoor mail; and

(ii) dangerous goods accidents and incidents.

12.4 Operators with specific approval for the transport of Dangerous Goods as Cargo

12.4.1 Overview: DGCA shall issue a specific approval for the transport of dangerous goods and ensure that the operator :-

12.4.1.1 establishes a dangerous goods training programme that meets the requirements in the Technical Instructions, Part 1;4, and the requirements of the State regulations, as appropriate. Details of the dangerous goods training programme shall be included in the operator's operations manuals;

12.4.1.2 establishes dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of Annex 18, the Technical Instructions and the State's regulations to enable operator personnel to:

(a) identify and reject undeclared or mis-declared dangerous goods in cargo or mail, including COMAT classified as dangerous goods;

(b) report to the appropriate authorities of the State of the Operator, and the State in which it occurred, any:

(i) occasions when undeclared or mis-declared dangerous goods are discovered in cargo or mail; and

(ii) dangerous goods accidents and incidents;

(c) report to the appropriate authorities of the State of the Operator any

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occasions when dangerous goods are discovered to have been carried:

(i) when not loaded, segregated, separated or secured in accordance with the Technical Instructions, Part 7;2; and

(ii) without information having been provided to the pilot-in-command;

(d) accept, handle, store, transport, load and unload dangerous goods, including COMAT classified as dangerous goods as cargo on board an aircraft; and

(e) provide the pilot-in-command with accurate and legible written or printed information concerning dangerous goods that are to be carried as cargo;

(i) for helicopter operations, with the approval of the State of the Operator, the information provided to the pilot-in-command may be abbreviated or briefed by other means (e.g., radio communication, as part of the working flight documentation such as a journey log or operational flight plan) where circumstances make it impractical to produce written or printed information or a dedicated form (see Part S-7;4.8 of the Supplement to the Technical Instructions).

12.4.2 Loading and securing of dangerous goods Packages or overpacks of dangerous goods bearing the “cargo aircraft only” label shall be loaded on a helicopter performing cargo only operations in accordance with Part 7, Chapter 2, Section 4.1 of the Technical Instructions.

12.4.3 Dispensing or expending of dangerous goods from helicopters

Note. — These provisions refer to operations where dangerous goods are carried on helicopters with the intent to dispense the items in flight (e.g., for the purpose of avalanche control).

12.4.3.1 Each operator shall prepare and keep current a manual containing operational guidelines and handling procedures for the use and guidance of flight, maintenance and ground personnel concerned in the dispensing or expending of dangerous goods.

12.4.3.2 No person, other than a required flight crew member, or person necessary for handling or dispensing the dangerous goods, shall be carried on the aircraft.

12.4.3.3 The operator of the aircraft shall have prior permission for the dispensing or expending of dangerous goods from the owners of any airport to be used.

12.5 Provision of Information The operator shall 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.

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12.6 Domestic Commercial Air Transport Operations

The provisions of Para 12 shall also be applicable on domestic commercial air transport operations.

Note.— Annex 18 contains a similar provision in this regard.

13 COMPLIANCE WITH THE CAR

The operator shall ensure that all concerned personnel required to implement the provisions of this CAR are given adequate briefing about the content of this CAR and the method of compliance. The policies and procedures laid down by the operator shall also contain this aspect.

(Vikram Dev Dutt)
Director General of Civil Aviation

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APPENDIX A

HELICOPTER OPERATING MINIMA

1. **VFR and Special VFR**.

1.1 *VFR Minima*. An operator shall ensure that VFR flights are conducted in accordance with the minima specified in CAR Section 9 Series C Part I.

1.2 Special VFR Operations

1.2.1 In limited visibility conditions, flights under Visual Flight Rules cannot be operated in controlled zones, as the criterion of VMC visibility of 5 Km or more is not met. Special VFR flights may be authorized by ATC, in such cases, for a helicopter to enter a control zone for the purpose of landing, take-off and departure from a control zone, cross the control zone or operate locally within a control zone, if the visibility is not less than 1000 m for Performance Class 1 and 2 helicopters, and not less than 1500 m for Performance Class 3 helicopters.

1.2.2 Detailed instructions on flight crew qualifications and training for undertaking Special VFR operations are contained in CAR Section 8 Series H Part II.

1.3 Authorisation of Special VFR Flights

1.3.1 When the ground visibility is not less than 1000 / 1500 metres depending on Performance Class of the helicopter, ATC may authorise Special VFR flights provided:

1.3.2 The helicopter is fitted with the minimum instruments stipulated in Para 1.6 of this Appendix.

1.3.3 In case of Performance Class I and 2 helicopters, ATC may authorise Special VFR flights when the ground visibility is not less than 1000m.

1.3.4 For Performance Class 3 helicopters, ATC may authorise Special VFR flights when the ground visibility is not less than 1500m.

1.4 Both, operator and the Pilot-in-Command, shall be responsible for ensuring the compliance of the requirements of helicopter and pilot qualification for Special VFR operations stipulated in this CAR. When operating in a multi crew environment, only the PIC needs to be qualified to undertake Special VFR operations.

1.5 ATC has discretion to ask Pilot-in-Command, to confirm the compliance of the requirements of this CAR, before authorising Special VFR flight.

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1.6 *Requirement of minimum instruments for Special VFR operations on Helicopters not certified for IFR Operations*. In addition to the instruments to be fitted for flight under VFR, the helicopter shall be fitted with the following instruments:

1.6.1 Artificial horizon

1.6.2 Heading Indicator (Direction Gyro)

1.6.3 Rate of Climb Indicator

1.6.4 VOR or ADF or GPS

Note 1 — Helicopter should not be used for Special VFR flights with any of above equipment unserviceable.

Note 2 — It is recommended to use electrical Artificial Horizon and Heading Indicator.

IFR OPERATIONS

2. **Take-Off Minima**.

2.1 General

2.1.1 Take-off minima established by the operator must be expressed as visibility or RVR limits, taking into account all relevant factors for each heliport planned to be used, and the helicopter characteristics. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions (e.g. ceiling) must be specified.

2.1.2 The PIC shall not commence take-off, unless the weather conditions at the heliport of departure are equal to or better than applicable minima for landing at that heliport, unless a suitable take-off alternate heliport is available.

2.1.3 When the reported meteorological visibility is below that required for take-off and RVR is not reported, a take-off may only be commenced, if the PIC can determine that the RVR/Visibility along the take-off FATO/runway is equal to or better than the required minimum.

2.1.4 When no reported meteorological visibility or RVR is available, a take-off may only be commenced, if the PIC can determine that the RVR/Visibility along the take-off FATO/runway is equal to or better than the required minimum.

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2.2 Visual reference

2.2.1 The take-off minima must be selected to ensure sufficient guidance to control the helicopter, in the event of both, a discontinued take-off in adverse circumstances, and a continued take-off after failure of the critical power unit.

2.2.2 For night operations ground lighting must be available to illuminate the FATO/ runway and any obstacles, unless otherwise agreed by the DGCA.

2.3 Required RVR / Visibility

2.3.1 For Performance Class 1 operations, an operator must establish an RVR and visibility respectively (RVR / Vis) as take-off minima in accordance with the following table:

RVR/ Visibility for Take-Off

Onshore heliports with IFR Departure Procedures	**RVR/ Visibility**
No lighting and no markings (Day)	1000 m or the rejected take-off distance, whichever is greater
No markings (Night)	1000 m
Runway edge/ FATO lighting and centre line marking	550 m
Runway edge/ FATO lighting, centre line marking and RVR information	550 m
Offshore Helideck	**RVR/Visibility**
Two pilot operations	1000 m

Note 1. The PIC must establish that the take-off flight path is free of obstacles.

Note 2. The PIC should have gained experience of 100 hours in the relevant helicopter type before being authorized to use minima up to the limiting RVR / visibility. Till such time Restricted Operating Minima will be an additional 400 m to the applicable Visibility/ RVR.

Note 3. Restricted Operating Minima shall be based on additives applied to the Normal Operating Minima as:-

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Restricted Operating Minima = Normal OM Visibility/ RVR + 400 m.

2.4 For Performance Class 2 operations onshore, the PIC must operate to take-off minima of 1000 m RVR / Vis and remain clear of cloud during the take-off manoeuvre, until reaching Performance Class 1 capabilities.

2.5 For Performance Class 2 operations offshore, the PIC must operate to minima not less than that for Class 1 and remain clear of cloud during the take-off manoeuvre, until reaching Performance Class 1 capabilities.

2.6 The table below, for converting reported meteorological visibility to RVR, must not be used for calculating take-off minima.

3. Non-Precision Approach

3.1 *System Minima*. An operator must ensure that system minima for non-precision approach procedures, which are based upon the use of ILS without glide path (Localiser only), VOR, NDB, Surveillance Radar Approach (SRA) and VHF Direction Finding (VDF), are not lower than the MDH values given in Table below:

System Minima for Non-Precision Approach Aids

Facility	Lowest MDH
ILS (no glide path – Localiser only)	250 ft
SRA (terminating at ½ nm)	250 ft
SRA (terminating at 1 nm)	300 ft
SRA (terminating at 2 nm)	350 ft
VOR	300 ft
VOR/ DME	250 ft
NDB	350 ft
NDB/ DME	300 ft
VDF (QDM & QCH)	350 ft

3.2 *Minimum Descent Height*. An operator must ensure that the minimum descent height for a non-precision approach is not lower than either:

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3.2.1 The OCH/ OCL for the category of helicopter; or

3.2.2 The system minimum.

3.3 *Visual Reference*. A pilot may not continue an approach below MDA/ MDH, unless at least one of the following visual references for the intended FATO/ runway is distinctly visible and identifiable to the pilot:

3.3.1 Elements of the approach light system;

3.3.2 The threshold;

3.3.3 The threshold markings;

3.3.4 The threshold lights;

3.3.5 The threshold identification lights;

3.3.6 The visual glide slope indicator;

3.3.7 The touchdown zone or touchdown zone markings;

3.3.8 The touchdown zone lights;

3.3.9 FATO/Runway edge lights; or

3.3.10 Other visual references accepted by the DGCA.

3.4 Required RVR.

3.4.1 For non-precision approaches by helicopters operated in Performance Class 1 or 2, the minima given in the following Table shall apply:

Non-Precision Approach Minima

MDH (ft)	**Facilities/ RVR**			
	Full	**Intermediate**	**Basic**	**Nil**
250-299 ft	600 m	800 m	1000 m	1000 m
300-449 ft	800 m	1000 m	1000 m	1000 m
450 ft and above	1 000 m	1000 m	1000 m	1000 m

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Note 1: Full facilities comprise FATO / runway markings, 720 m or more of HI/MI approach lights, FATO / runway edge lights, threshold lights and FATO / runway end lights. Lights must be on.

Note 2: Intermediate facilities comprise FATO / runway markings, 420 - 719 m of HI/MI approach lights, FATO / runway edge lights, threshold lights and FATO / runway end lights. Lights must be on.

Note 3: Basic facilities comprise FATO/ runway markings, <420 m HI/ MI approach lights, any length of LI approach lights, FATO/runway edge lights, threshold lights and FATO/ runway end lights. Lights must be on.

Note 4: Nil approach light facilities comprise FATO/runway markings, FATO/ runway edge lights, threshold lights, FATO/ runway end lights or no lights at all.

Note 5: The tables are only applicable to conventional approaches with a nominal descent slope of not greater than 4°. Greater descent slopes will usually require that visual glide slope guidance (e.g. PAPI) is also visible at the Minimum Descent Height.

Note 6: The above figures are either reported RVR or meteorological visibility converted to RVR.

Note 7: The MDH mentioned in Table refers to the initial calculation of MDH. When selecting the associated RVR, there is no need to take account of a rounding up to the nearest ten feet, which may be done for operational purposes, (e.g. conversion to MDA).

3.4.2 Where the missed approach point is within ½ nm of the landing threshold, the approach minima given for full facilities may be used regardless of the length of approach lighting available. However, FATO/ runway edge lights, threshold lights, end lights and FATO/ runway markings are still required.

3.4.3 Night operations. For night operations, ground lighting must be available to illuminate the FATO/ runway and any obstacles, unless otherwise agreed by the DGCA.

4. Precision Approach - Category I Operations

4.1 *General*. A Category I operation is a precision instrument approach and landing using ILS, MLS or PAR with a decision height not lower than 200 ft and with a runway visual range not less than 550 m.

4.2 *Decision Height*. An operator must ensure that the decision height to be used for a Category I precision approach is not lower than:

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4.2.1 the minimum decision height specified in the Rotorcraft Flight Manual (RFM) if stated;

4.2.2 the minimum height to which the precision approach aid can be used without the required visual reference;

4.2.3 the OCH/ OCL for the category of helicopter; or

4.2.4 200 ft.

4.3 *Visual Reference*. A pilot may not continue an approach below the Category I decision height, determined in accordance with Para 4.2 above, unless at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

4.3.1 Elements of the approach light system;

4.3.2 The threshold;

4.3.3 The threshold markings;

4.3.4 The threshold lights;

4.3.5 The threshold identification lights;

4.3.6 The visual glide slope indicator;

4.3.7 The touchdown zone or touchdown zone markings;

4.3.8 The touchdown zone lights; or

4.3.9 FATO/ runway edge lights.

4.4 Required RVR.

4.4.1 For Category I operations by helicopters the following minima shall apply:

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Precision Approach Minima - Category I ILS Approach

DH (ft)	Facilities/ RVR			
	Full	**Intermediate**	**Basic**	**Nil**
200 ft	550 m	600 m	700 m	1 000 m
201-250 ft	600 m	650 m	750 m	1 000 m
251 -300 ft	650 m	700 m	800 m	1 000 m
301 ft & above	750 m	800 m	900 m	1 000 m

Note 1: Full facilities comprise FATO/ runway markings, 720 m or more of HI/ MI approach lights, FATO/ runway edge lights, threshold lights and FATO/ runway end lights. Lights must be on.

Note 2: Intermediate facilities comprise FATO/ runway markings, 420 - 719 m of HI/MI approach lights, FATO/ runway edge lights, threshold lights and FATO/ runway end lights. Lights must be on.

Note 3: Basic facilities comprise FATO/runway markings, <420 m of HI/ MI approach lights, any length of LI approach lights, FATO/ runway edge lights, threshold lights and FATO/ runway end lights. Lights must be on.

Note 4: Nil approach light facilities comprise FATO/ runway markings, FATO/ runway edge lights, threshold lights, FATO/ runway end lights or no lights at all.

Note 5: The above figures are either the reported RVR or meteorological visibility converted to RVR.

Note 6: The Table is applicable to conventional approaches with a glide slope angle up to and including 4°.

Note 7: The DH mentioned in the Table 4 refers to the initial calculation of DH. When selecting the associated RVR, there is no need to take account of a rounding up to the nearest ten feet, which may be done for operational purposes, (e.g. conversion to DA).

4.4.2 The PIC shall have gained experience of 100 hours in the relevant helicopter type before being authorized to use minima up to the limiting RVR / visibility. Till such time restricted minima will be as follows:

(a) addition of 100 ft to applicable DA / MDA.

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(b) addition of 400 m to the applicable Visibility/RVR.

Note: Restricted Operating minima shall be based on additives applied to the Normal Operating Minima as below:

Restricted OM = Normal OM DA(H) / MDA(H) + 100 ft and Normal OM Visibility/RVR + 400 m.

4.5 *Night Operations*. For night operations, ground lighting must be available to illuminate the FATO / runway and any obstacles unless otherwise agreed by the DGCA.

4.6 For Precision Approach Category II or Category III operations the operator shall approach DGCA for approvals on a need basis, and approval shall be granted by DGCA on a case to case basis.

5. Circling Approach

5.1 Circling is the term used to describe the visual phase of an instrument approach, to bring an aircraft into position for landing on a FATO / runway which is not suitably located for a straight in approach.

5.2 For a circling approach the specified MDH shall not be less than 250 ft, and the meteorological visibility shall not be less than 1000 m.

5.3 Note. — Visual manoeuvring (circling) with prescribed tracks is an accepted procedure within the meaning of this paragraph.

6. Visual Approach

6.1 An operator shall not use an RVR of less than 1000 m for a visual approach.

6.2 *Conversion of Reported Meteorological Visibility to RVR*. An operator must ensure that, a meteorological visibility to RVR conversion is not used for calculating take-off minima or Category II minima or when a reported RVR is available.

6.3 When converting meteorological visibility to RVR in all other circumstances than those in Para 6.2 above, an operator must ensure that the following Table is used:

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Conversion of Visibility to RVR

Lighting elements in operation	RVR = Met Visibility multiplied by:	
	Day	Night
Hi approach and runway lighting	1·5	2·0
Any type of lighting	1·0	1·5
No lighting	1·0	Not applicable

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APPENDIX B

HELICOPTER PERFORMANCE

1. **Definitions**.

1.1 *Category A*. With respect to helicopters, means a multi engine helicopter designed with specified engine and system isolation features, and capable of operations using take-off and landing data scheduled under a critical engine failure concept which assures adequate designated surface area and adequate performance capability for continued safe flight or safe rejected take-off.

1.2 *Category B*. With respect to helicopters, means a single engine or multi engine helicopter which does not meet Category A standards. Category B helicopters have no guaranteed capability to continue safe flight in the event of an engine failure, and a forced landing is assumed.

1.3 *Operations in Performance Class 1*. Operations with performance such that, in the event of a critical power-unit failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reaching the take-off decision point (TDP) or after passing the landing decision point (LDP), in which cases the helicopter must be able to land within the rejected take-off or landing area.

1.4 *Operations in Performance Class 2*. Operations with performance such that, in the event of critical engine failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which cases a forced landing may be required.

1.5 *Operations in Performance Class 3*. Operations with performance such, that in the event of an engine failure at any time during the flight, a forced landing will be required.

1.6 Helicopters operating in performance Classes 1 and 2 should be certificated in Category A.

1.7 Helicopters operating in performance Class 3 should be certificated in either Category A or Category B (or equivalent).

2. **Operating Limitations**.

2.1 Helicopters with a passenger seating configuration of more than 19, or helicopters operating to or from a heliport or landing site in a congested hostile environment should be operating in Performance Class 1.

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2.2 Helicopters with a passenger seating configuration of 19 or less but more than 9, should be operating in Performance Class 1 or 2, unless operating to or from a congested hostile environment, in which case the helicopters should be operating in Performance Class 1.

2.3 Helicopters with a passenger seating configuration of 9 or less should be operating in Performance Class 1, 2 or 3, unless operating to or from a congested hostile environment, in which case the helicopters should be operating in Performance Class 1. (An exception is granted for arrivals and departures to/ from airfields/ helipads in case of single engine helicopters).

2.4 *Exception*. HEMS operations may be undertaken in Performance Class 1 or 2 over congested hostile environment.

3. **Significant performance factors**. To determine the performance of the helicopter, account should be taken of at least the following factors:

(a) mass of the helicopter;

(b) elevation or pressure altitude and temperature; and

(c) wind; for take-off and landing, accountability for wind should be no more than 50% of any reported steady head wind component of 5 knots or more. Where take-off and landing with a tail wind component is permitted in the Flight Manual, not less than 150% of any reported tail wind component should be allowed. Where precise wind measuring equipment enables accurate measurement of wind velocity over the point of take-off and landing, these values may be varied.

4. **Operating Conditions**.

4.1 For helicopters operating in Performance Class 2 or 3, in any flight phase, where an engine failure may cause the helicopter to force-land:

4.1.1 a minimum visibility should be defined by the operator, taking into account the characteristics of the helicopter, but should not be less than 1000 m for Performance Class 1 & 2 and 1500 m for Performance Class 3 helicopters; and

4.1.2 the operator should verify that the surface below the intended flight path permits the pilot to execute a safe forced landing.

4.2 Performance Class 3 operations are not to be performed:

4.2.1 out of the sight of the surface; or

4.2.2 at night; or

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4.2.3 when the cloud ceiling is less than 180 m (600 ft); or

5. Obstacle Accountability Area

5.1 For the purpose of obstacle clearance requirements, an obstacle, located beyond the FATO, in the take-off flight path or the missed approach flight path, shall be considered, if its lateral distance from the nearest point on the surface below the intended flight path is not further than:

5.1.1 For VFR operations, half of the minimum FATO (or the equivalent term used in the Flight Manual) width defined in the Helicopter Flight Manual (or, when no width is defined 0.75D), plus 0.25 times D (or 3 m, whichever is greater), plus:

(a) 0.10 DR for VFR day operations

(b) 0.25 DR for VFR night operations

5.1.2 For IFR operations 1.5 D (or 30 m, whichever is greater), plus:

(a) 0.10 DR for IFR operations with accurate course guidance

(b) 0.20 DR for IFR operations with standard course guidance

(c) 0.40 DR for IFR operations without course guidance

Note 1 - When considering the missed approach flight path, the divergence of the obstacle accountability area, only applies after the end of the take-off distance available;

Note 2 - Standard course guidance includes ADF and VOR guidance. Accurate course guidance include ILS, MLS or other course guidance, providing an equivalent navigational accuracy.

5.1.3 For operations with initial take-off conducted visually and converted to IFR/ IMC at a transition point, the criteria required in Para 5.1.1 ibid apply up to the transition point and the criteria required in Para 5.1.2 ibid apply after the transition point:

5.2 For take-off using a backup (or a lateral transition) procedure; for the purpose of obstacle clearance requirements, an obstacle, located in the back-up (or lateral transition) area, shall be considered, if its lateral distance from the nearest point on the surface below the intended flight path is not further than:

5.2.1 half of the minimum FATO (or the equivalent term used in the Flight Manual) width defined in the Helicopter Flight Manual (or, when no width is defined 0.75 D plus 0.25 times D or 3 m, whichever is greater), plus

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5.2.2 0.10 distance travelled from the back edge of the FATO for VFR day operations;

5.2.3 0.20 distance travelled from the back edge of the FATO for VFR night operations.

Note - Detailed instructions on computing heliport/ landing site obstacle avoidance margins are covered in CAR Section 4 Series B Part III.

5.3 Obstacles may be disregarded if they are situated beyond:

(a) 7 R for day operations if it is assured that navigational accuracy can be achieved by reference to suitable visual cues during the climb;

(b) 10 R for night operations if it is assured that navigational accuracy can be achieved by reference to suitable visual cues during the climb;

(c) 300 m if navigational accuracy can be achieved by appropriate navigation aids; and

(d) 900 m in the other cases.

5.4 The transition point cannot be located before the end of TODRH for helicopters operating in Performance Class 1; and before the DPATO for helicopters operating in Performance Class 2.

5.5 When considering the missed approach flight path, the divergence of the obstacle accountability area should only apply after the end of the take-off distance available.

6. **Source of performance data**.

An operator should ensure that the approved performance data contained in the helicopter flight manual is used to determine compliance with obstacle clearance limits, supplemented as necessary with other data acceptable to the DGCA.

7. **Operating area considerations**.

For operations in performance Class 1, the dimensions of the FATO should be at least equal to the dimensions specified in the helicopter flight manual.

8. Operations in Performance Class 1

8.1 Take-off

8.1.1 The take-off mass of the helicopter should not exceed the maximum take-off mass specified in the flight manual for the procedure to be used and to achieve a rate of climb of 100 ft/min at 60 m (200 ft) and 150 ft/min at 300 m (1 000 ft)

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above the level of the heliport with the critical engine inoperative and the remaining engines operating at an appropriate power rating, taking into account the parameters specified in Para 4 (Figure A-1).

8.1.2 *Rejected take-off*. The take-off mass should be such that the rejected take-off distance required does not exceed the rejected take-off distance available.

8.1.3 *Take-off distance*. The take-off mass should be such that the take-off distance required does not exceed the take-off distance available.

Note 1.— As an alternative, the requirement above may be disregarded provided that the helicopter with the critical engine failure recognized at TDP can, when continuing the take-off, clear all obstacles from the end of the takeoff distance available to the end of the take-off distance required by a vertical margin of not less than 10.7 m (35 ft) (Figure A-2).

Note 2.— For elevated heliports, the airworthiness code provides appropriate clearance from the elevated heliport edge (Figure A-3).

8.1.4 *Backup procedures (or procedures with lateral transition)*. An operator should ensure that, with the critical engine inoperative, all obstacles below the backup flight path (the lateral flight path) are cleared by an adequate margin. Only the obstacles specified in Para 5.2 ibid should be considered.

8.2 *Take-off flight path*. From the end of the take-off distance required with the critical engine inoperative:

8.2.1 The take-off mass should be such that the climb path provides a vertical clearance of not less than 10.7 m (35 ft) for VFR operations and 10.7 m (35 ft) plus 0.01 DR for IFR operations above all obstacles located in the climb path. Only obstacles as specified in Para 5 ibid should be considered.

8.2.2 Where a change of direction of more than 15 degrees is made, obstacle clearance requirements should be increased by 5 m (15 ft) from the point at which the turn is initiated. This turn should not be initiated before reaching a height of 60 m (200 ft) above the take-off surface, unless permitted as part of an approved procedure in the flight manual.

8.3 *En route*. The take-off mass is such that it is possible, in case of the critical engine failure occurring at any point of the flight path, to continue the flight to an appropriate landing site and achieve the minimum flight altitudes for the route to be flown.

8.4 Approach, landing and balked landing

8.4.1 The estimated landing mass at the destination or alternate should be such that:

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(a) it does not exceed the maximum landing mass specified in the flight manual for the procedure to be used and to achieve a rate of climb of 100 ft/min at 60 m (200 ft) and 150 ft/min at 300 m (1 000 ft) above the level of the heliport with the critical engine inoperative and the remaining engines operating at an appropriate power rating, taking into account the parameters specified in Para 3 ibid;

(b) the landing distance required does not exceed the landing distance available unless the helicopter, with the critical engine failure recognized at LDP can, when landing, clear all obstacles in the approach path;

(c) in case of the critical engine failure occurring at any point after the LDP, it is possible to land and stop within the FATO; and

(d) in the event of the critical engine failure being recognized at the LDP or at any point before the LDP, it is possible either to land and stop within the FATO or to overshoot, meeting the conditions of Paras 8.2.1 and 8.2.2 ibid.

Note.— For elevated heliports, the airworthiness code provides appropriate clearance from the elevated heliport edge.

9. Operations in performance Class 2

9.1 Take-off

The mass of the helicopter at take-off should not exceed the maximum take-off mass specified in the flight manual for the procedures to be used and to achieve a rate of climb of 150 ft/min at 300 m (1 000 ft) above the level of the heliport with the critical engine inoperative and the remaining engines operating at an appropriate power rating, taking into account the parameters specified in Para 3.

9.2 Take-off flight path

From DPATO or, as an alternative, no later than 60 m (200 ft) above the takeoff surface with the critical engine inoperative, the conditions of Paras 8.2.1 and 8.2.2 ibid should be met.

9.3 En-route

The requirements of 8.3 should be met.

9.4 Approach, landing and balked landing

9.4.1 The estimated landing mass at the destination or alternate should be such that:

(a) it does not exceed the maximum landing mass specified in the flight manual for a rate of climb of 150 ft/min at 300 m (1 000 ft) above the level

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of the heliport with the critical engine inoperative and the remaining engines operating at an appropriate power rating, taking into account the parameters specified in Para 3;

(b) it is possible, in case of the critical engine failure occurring at or before the DPBL, either to perform a safe forced landing or to overshoot, meeting the requirements of Paras 8.2.1 and 8.2.2 ibid.

Note - Only obstacles as specified in Para 5 should be considered.

10. Operations in performance Class 3

10.1 Take-off

The mass of the helicopter at take-off should not exceed the maximum take-off mass specified in the flight manual for a hover in ground effect with all engines operating at take-off power, taking into account the parameters specified in Para 3. If conditions are such that a hover in ground effect is not likely to be established, the take-off mass should not exceed the maximum mass specified for a hover out of ground effect with all engines operating at take-off power, taking into account the parameters specified in Para 3.

10.2 Initial climb

The take-off mass should be such that the climb path provides adequate vertical clearance above all obstacles located along the climb path, all engines operating.

10.3 En-route

The take-off mass is such that it is possible to achieve the minimum flight altitudes for the route to be flown, all engines operating.

10.4 Approach and landing

The estimated landing mass at the destination or alternate should be such that:

(a) it does not exceed the maximum landing mass specified in the flight manual for a hover in ground effect with all engines operating at take-off power, taking into account the parameters specified in Para 3. If conditions are such that a hover in ground effect is not likely to be established, the takeoff mass should not exceed the maximum mass specified for a hover out of ground effect with all engines operating at take-off power, taking into account the parameters specified in Para 3;

(b) it is possible to perform a balked landing, all engines operating, at any point of the flight path and clear all obstacles by an adequate vertical interval.

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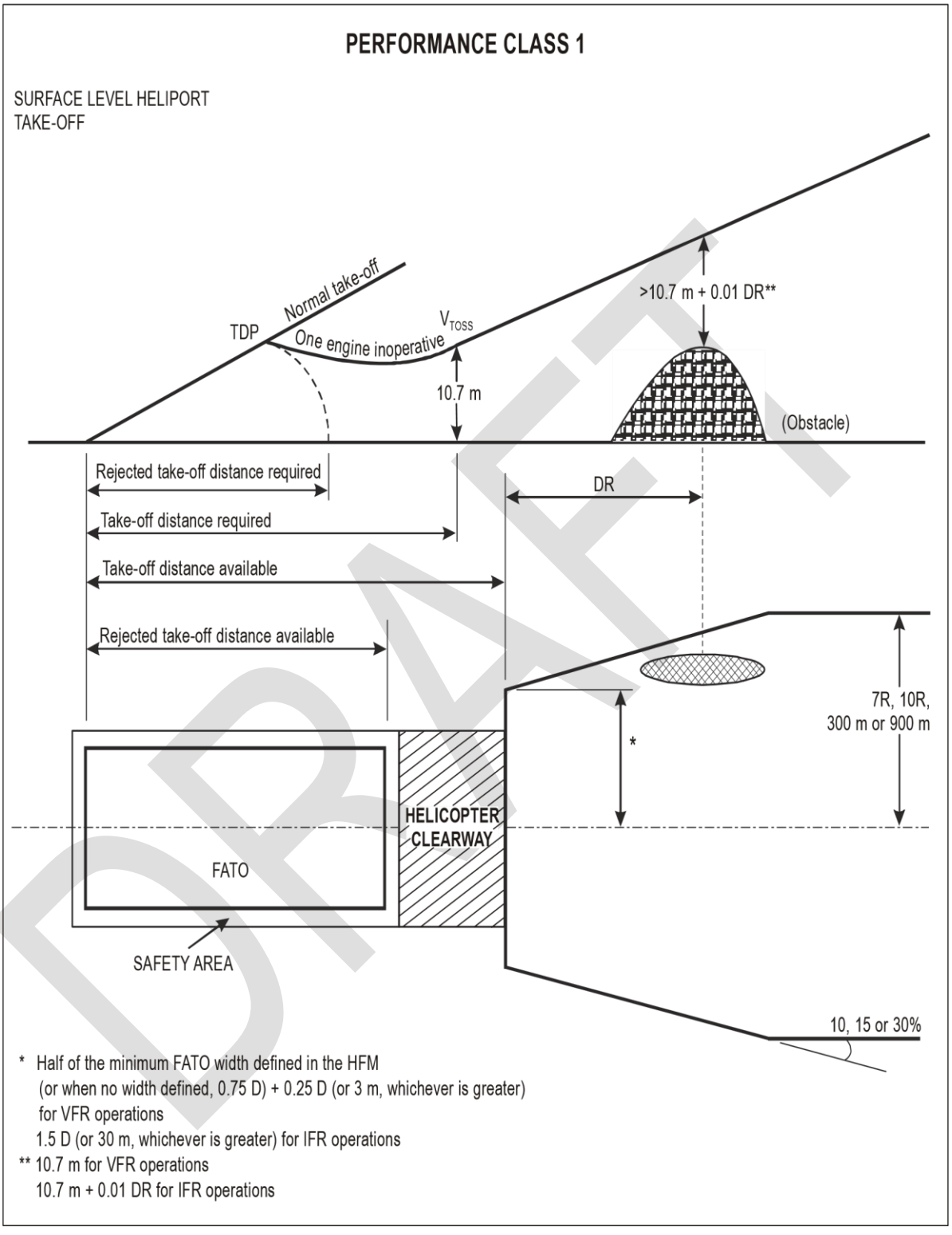

Figure A-1

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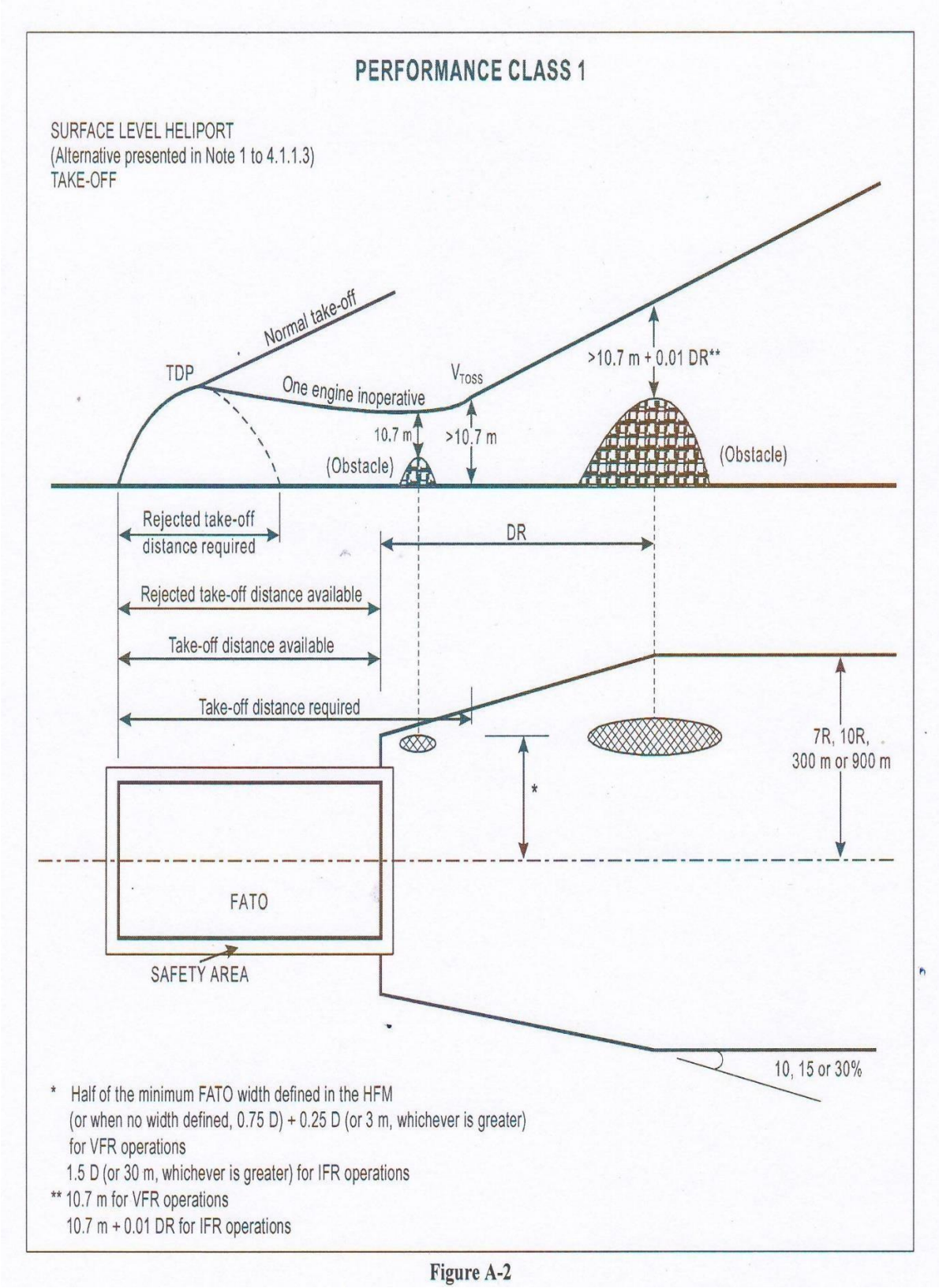
PERFORMANCE CLASS 1
SURFACE LEVEL HELIPORT
(Alternative presented in Note 1 to 4.1.1.3)
TAKE-OFF
Normal take-off
TDP
One engine inoperative
V_{TOSS}
>10.7 m + 0.01 DR**
10.7 m
>10.7 m
(Obstacle)
(Obstacle)
Rejected take-off distance required
DR
Rejected take-off distance available
Take-off distance available
Take-off distance required
7R, 10R, 300 m or 900 m
*
FATO
SAFETY AREA
10, 15 or 30%
* Half of the minimum FATO width defined in the HFM
(or when no width defined, 0.75 D) + 0.25 D (or 3 m, whichever is greater)
for VFR operations
1.5 D (or 30 m, whichever is greater) for IFR operations
** 10.7 m for VFR operations
10.7 m + 0.01 DR for IFR operations

Figure A-2

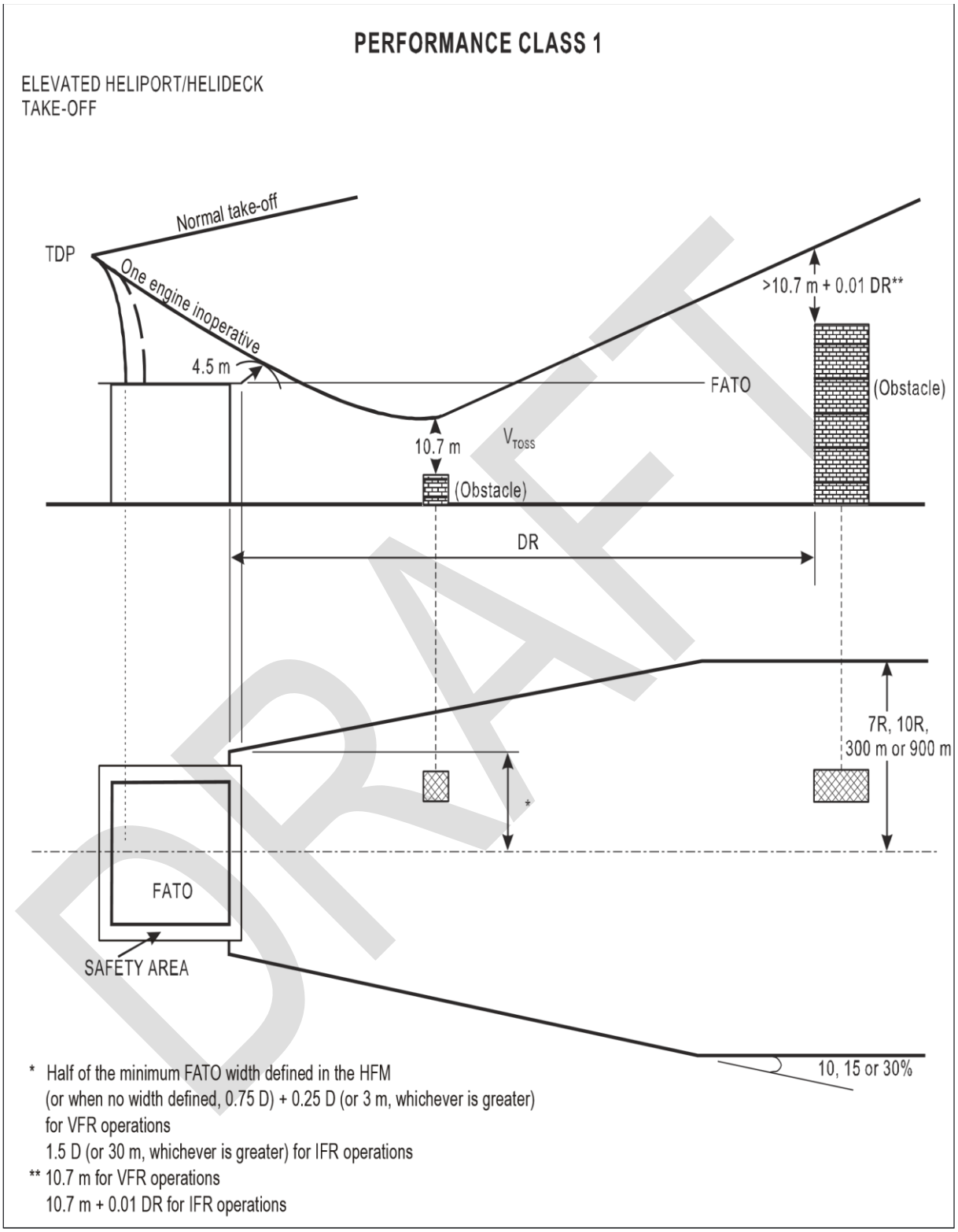

Figure A-3

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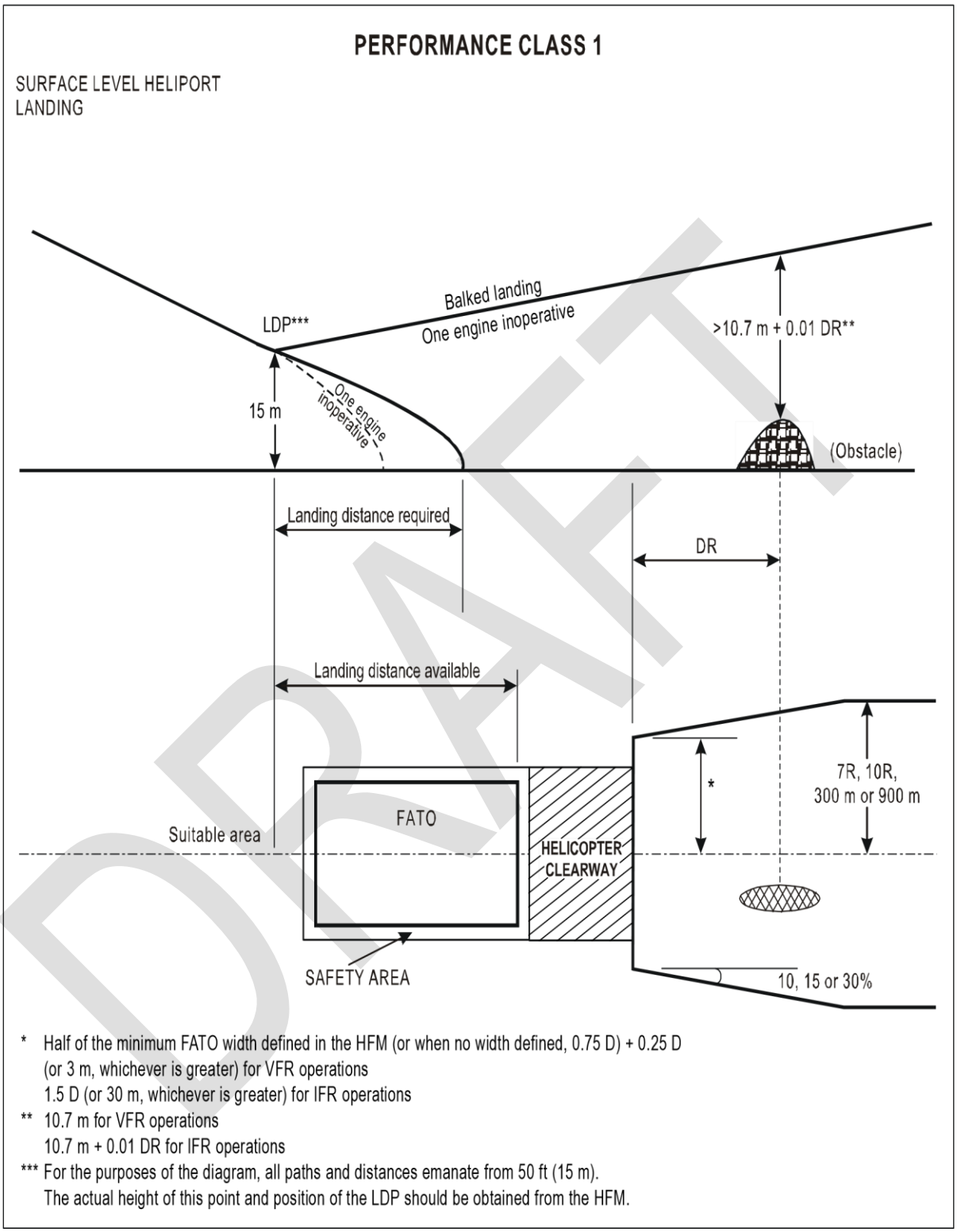

Figure A-4

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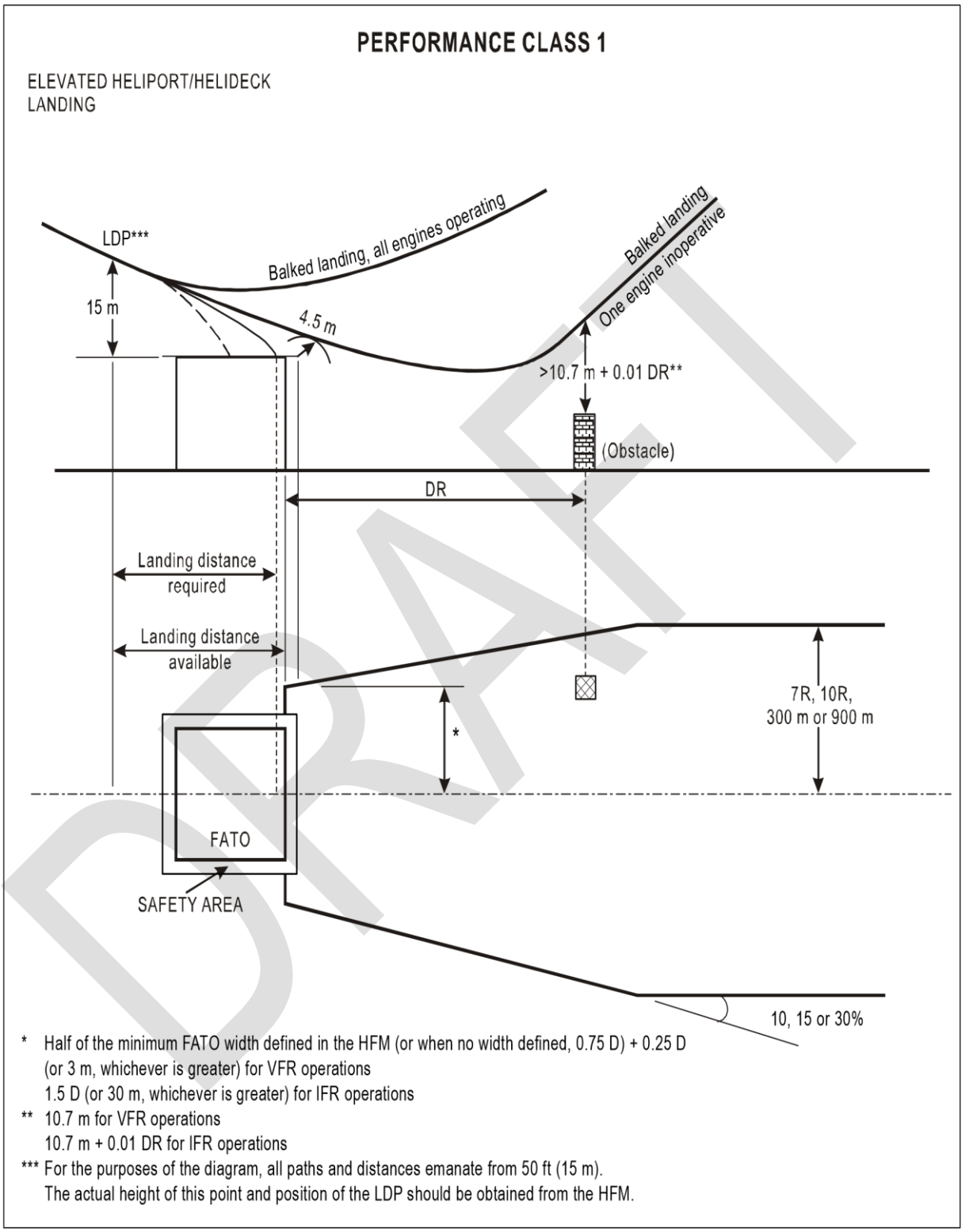
PERFORMANCE CLASS 1
ELEVATED HELIPORT/HELIDECK
LANDING
LDP***
Balked landing, all engines operating
Balked landing
One engine inoperative
15 m
4.5 m
>10.7 m + 0.01 DR**
(Obstacle)
DR
Landing distance
required
Landing distance
available
7R, 10R,
300 m or 900 m
*
FATO
SAFETY AREA
10, 15 or 30%
* Half of the minimum FATO width defined in the HFM (or when no width defined, 0.75 D) + 0.25 D
(or 3 m, whichever is greater) for VFR operations
1.5 D (or 30 m, whichever is greater) for IFR operations
** 10.7 m for VFR operations
10.7 m + 0.01 DR for IFR operations
*** For the purposes of the diagram, all paths and distances emanate from 50 ft (15 m).
The actual height of this point and position of the LDP should be obtained from the HFM.

Figure A-5

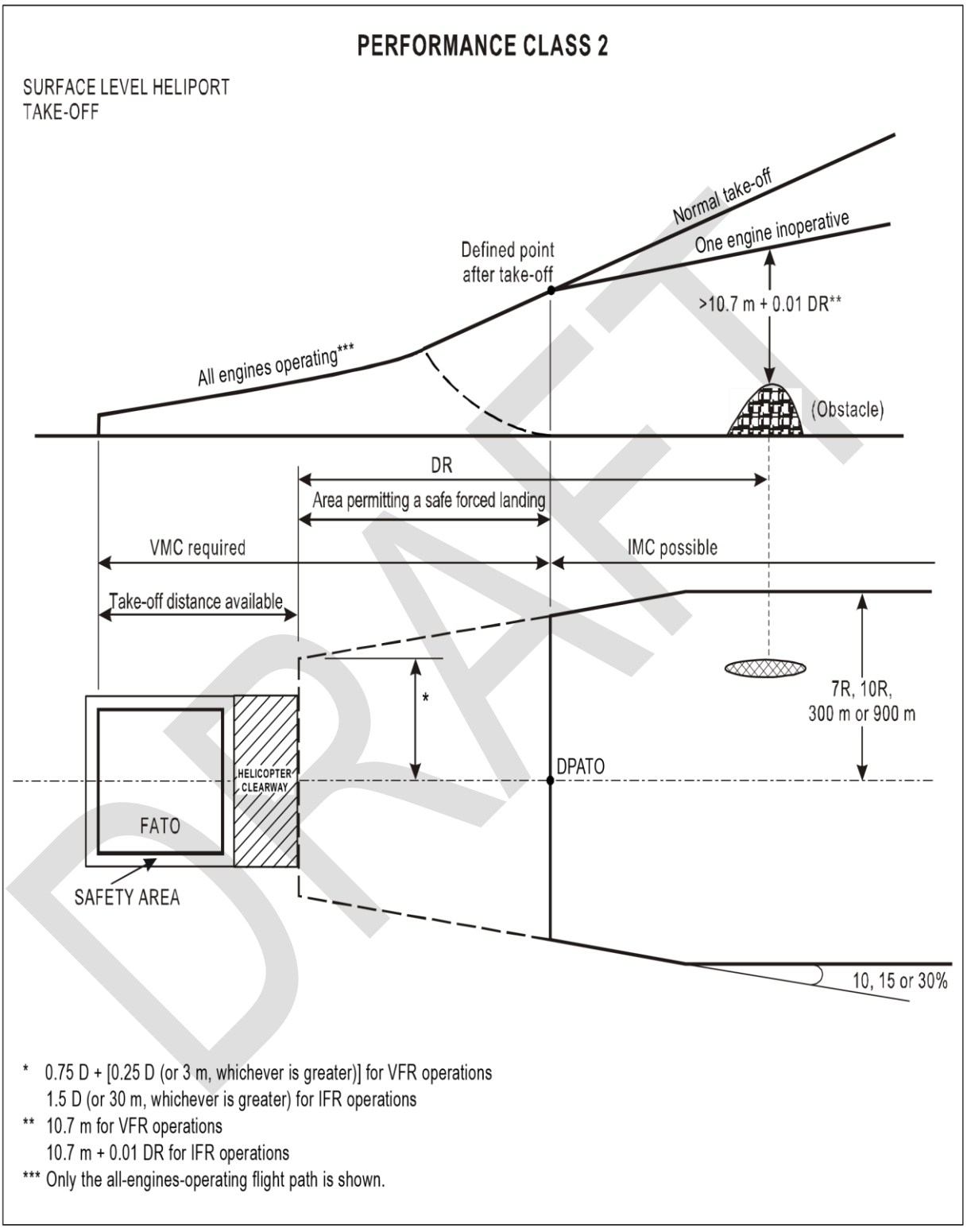
PERFORMANCE CLASS 2
SURFACE LEVEL HELIPORT
TAKE-OFF
Normal take-off
One engine inoperative
Defined point
after take-off
>10.7 m + 0.01 DR**
All engines operating***
(Obstacle)
DR
Area permitting a safe forced landing
VMC required
IMC possible
Take-off distance available
*
7R, 10R,
300 m or 900 m
DPATO
HELICOPTER
CLEARWAY
FATO
SAFETY AREA
10, 15 or 30%
* 0.75 D + [0.25 D (or 3 m, whichever is greater)] for VFR operations
1.5 D (or 30 m, whichever is greater) for IFR operations
** 10.7 m for VFR operations
10.7 m + 0.01 DR for IFR operations
*** Only the all-engines-operating flight path is shown.

Figure A-6

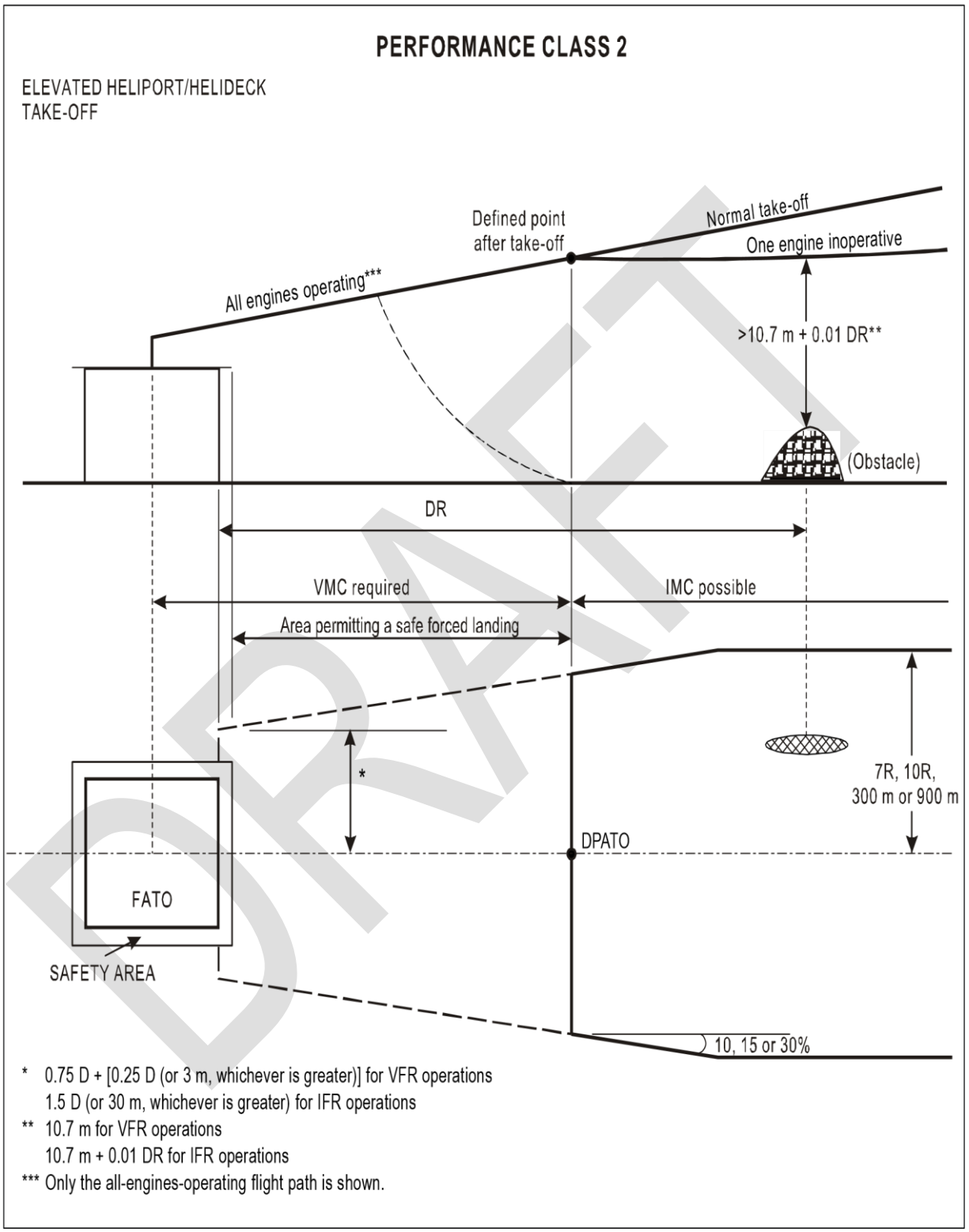

Figure A-7

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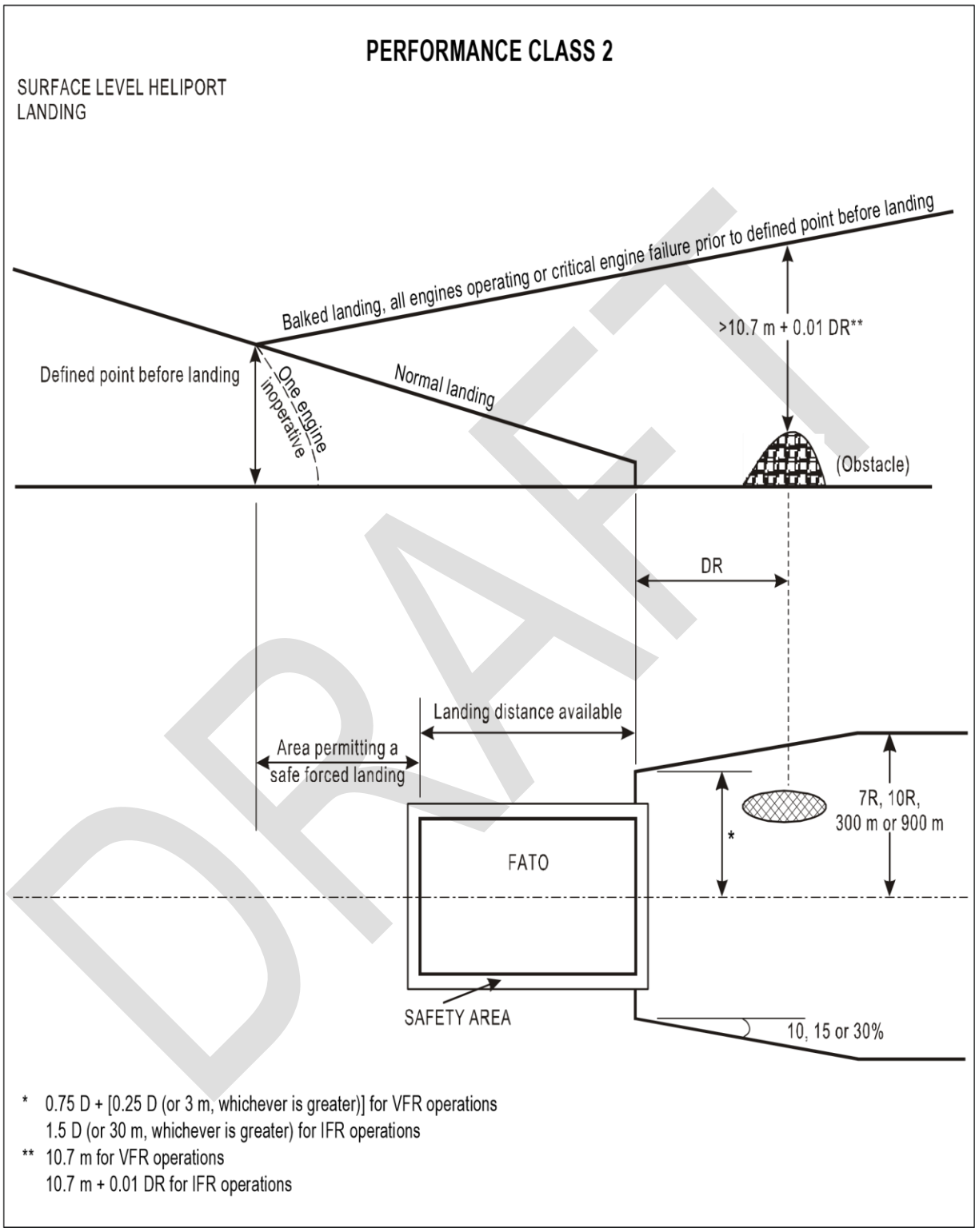

Figure A-8

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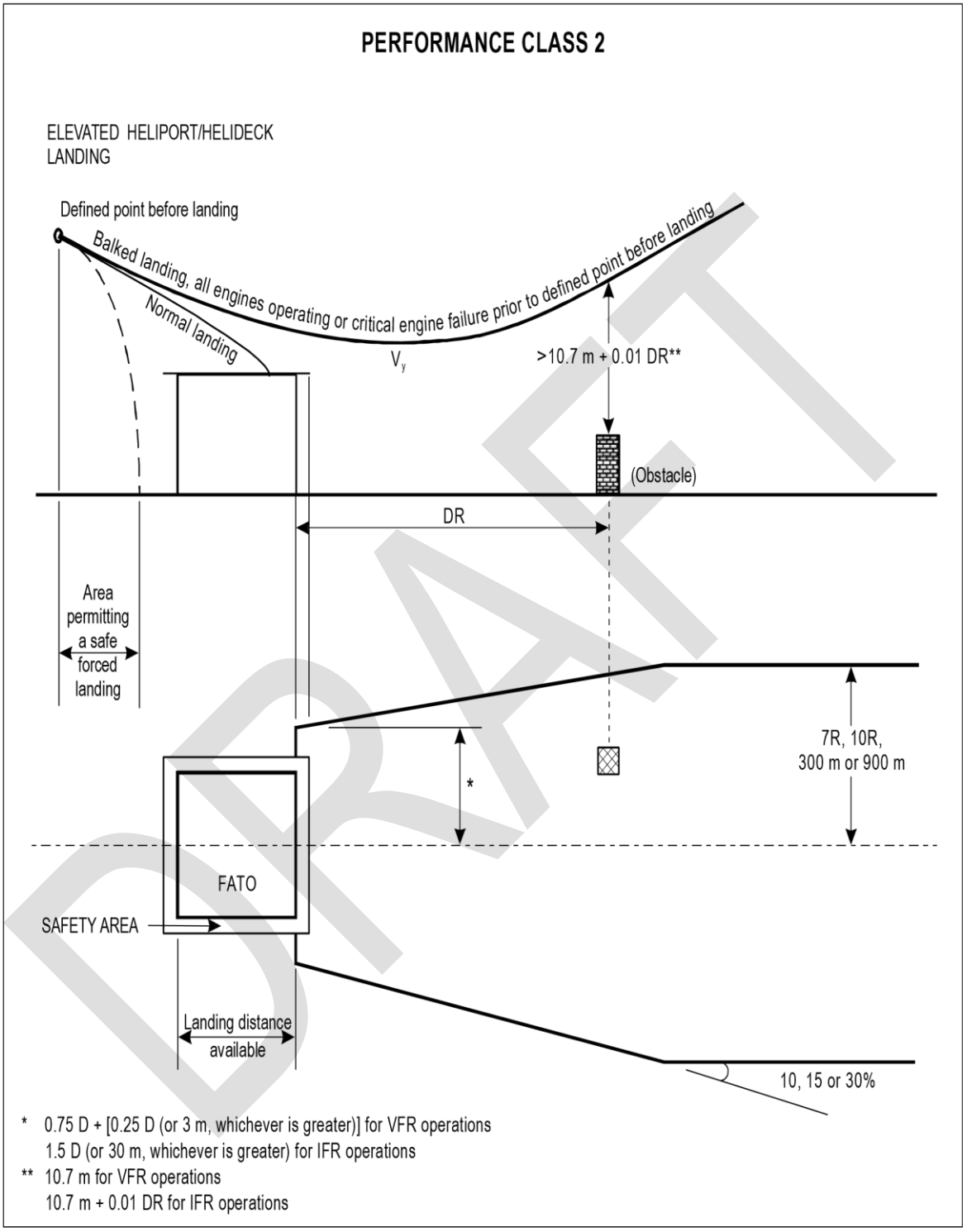

Figure A-9

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APPENDIX C

AIR OPERATOR CERTIFICATE (AOC)

1. Purpose and scope

1.1 The AOC and its associated model-specific operations specifications shall contain the minimum information required in paragraphs 2 and 3 respectively, in a standardized format.

1.2 The air operator certificate and its associated operations specifications shall define the operations for which an operator is authorized, including specific approvals, conditions and limitations.

2. AOC template

Note.— Para 4.1.2, requires a certified true copy of the AOC to be carried aboard.

<table>
<tr><td colspan="3">AIR OPERATOR CERTIFICATE</td></tr>
<tr><td>1</td><td>STATE OF THE OPERATOR[2]</td><td>1</td></tr>
<tr><td></td><td>ISSUING AUTHORITY[3]</td><td></td></tr>
<tr><td>AOC #[4]:
Expiry date[5]:</td><td>OPERATOR NAME[6]

Dba trading name[7]:
Operator address[8]:
Telephone[9]:
Fax:
E-mail:</td><td>OPERATIONAL POINTS OF CONTACT[10]
Contact details, at which operational management can be contacted without undue delay, are listed in
_____[11].</td></tr>
<tr><td colspan="3">This certificate certifies that_____[12] is authorized to perform commercial air operations, as defined in the attached operations specifications, in accordance with the operations manual and the_____[13].</td></tr>
</table>

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Date of issue[14]:	Name and signature[15]: Title:

Notes.

1. *For use of the State of the Operator.*

2. *Replace by the name of the State of the Operator.*

3. *Replace by the identification of the issuing authority of the State of the Operator.*

4. *Unique AOC number, as issued by the State of the Operator.*

5. *Date after which the AOC ceases to be valid (dd-mm-yyyy).*

6. *Replace by the operator's registered name.*

7. *Operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").*

8. *Operator's principal place of business address.*

9. *Operator's principal place of business telephone and fax details, including the country code. E-mail to be provided if available.*

10. *The contact details include the telephone and fax numbers, including the country code, and the e-mail address (if available) at which operational management can be contacted without undue delay for issues related to flight operations, airworthiness, flight and cabin crew competency, dangerous goods and other matters as appropriate.*

11. *Insert the controlled document, carried on board, in which the contact details are listed, with the appropriate paragraph or page reference. e.g.: "Contact details are listed in the operations manual, Gen/Basic, Chapter 1, 1.1" or "… are listed in the operations specifications, page 1" or "… are listed in an attachment to this document".*

12. *Operator's registered name.*

13. *Insert reference to the appropriate civil aviation regulations.*

14. *Issuance date of the AOC (dd-mm-yyyy).*

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15. Title, name and signature of the authority representative. In addition, an official stamp may be applied on the AOC.

3. Operations specifications for each aircraft model

3.1 For each helicopter model in the operator's fleet, identified by helicopter make, model and series, the following information shall be included: issuing authority contact details, operator name and AOC number, date of issue and signature of the authority representative, aircraft model, types and area of operations, special limitations and specific approvals.

Note – If specific approvals and limitations are identical for two or more models, these models may be grouped in a single list.

3.2 The operations specifications (Op Specs) layout referred to in Para 2.2.1.6, shall be as follows:

Note – The MEL constitutes an integral part of the Operations Manual.

<table>
<tr><td colspan="5">OPERATIONS SPECIFICATIONS
(Subject to the approved conditions in the operations manual)</td></tr>
<tr><td colspan="5">ISSUING AUTHORITY CONTACT DETAILS[1]</td></tr>
<tr><td colspan="5">Telephone_____ Fax:_____ E mail: _____</td></tr>
<tr><td colspan="5">AOP[#2]_____Operator name[3] _____ Date[4]_____ Signature_____

Dba trading name: _____</td></tr>
<tr><td colspan="5">Aircraft model[5]:</td></tr>
<tr><td colspan="5">Type of operations: Commercial air transportation ☐ Passengers ☐ Cargo ☐ Other[6]: _____</td></tr>
<tr><td colspan="5">Area(s) of operation[7]:</td></tr>
<tr><td colspan="5">Special Limitations[8]:</td></tr>
<tr><td>SPECIFIC APPROVAL</td><td>YES</td><td>NO</td><td>DESCRIPTION[9]</td><td>REMARKS</td></tr>
<tr><td>Dangerous goods</td><td>☐</td><td>☐</td><td></td><td></td></tr>
<tr><td>Low visibility operations</td><td></td><td></td><td></td><td></td></tr>
</table>

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Approach & landing	☐	☐	CAT[10]:____RVR:_____m DH:_____ft	
Take- off	☐	☐	RVR[11]:_____m	
Operational credit (s)	☐	☐	[12]	
AR navigation specifications for PBN operations[13]	☐	☐	[13]	
Continuing Airworthiness			[14]	
EFB	☐	☐	[15]	
Other [16]	☐	☐		

Notes.

1. *Telephone contact details of the authority, including the country code. Email and fax to be provided if available*

2. *Insert the associated AOC number.*

3. *Insert the operator's registered name and the operator's trading name, if different. Insert "dba" before the trading name (for "doing business as").*

4. *Issuance date of the operations specifications (dd-mm-yyyy) and signature of the authority representative.*

5. *Insert the Commercial Aviation Safety Team (CAST)/ICAO designation of the helicopter make, model and series, or master series, if a series has been designated (e.g. Bell-47G-3 or SIKORSKY-S55). The CAST/ ICAO taxonomy is available at: http://www.intlaviationstandards.org.*

6. *Other type of transportation to be specified (e.g. emergency medical service).*

7. *List the geographical area(s) of authorized operation (by geographical coordinates or specific routes, flight information region or national or regional boundaries) as defined by the issuing authority.*

8. *List the applicable special limitations (e.g. VFR only, day only).*

9. *List in this column the most permissive criteria for each approval (with appropriate criteria).*

10. *Insert the applicable instrument approach operation classified as Type B (CAT II, etc.). Insert the minimum RVR in metres and decision height in feet. One line is used per listed approach category.*

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11. *Insert the approved minimum take-off RVR in metres, or the equivalent horizontal visibility if RVR is not used. One line per approval may be used if different approvals are granted.*

12. *List the airborne capabilities (e.g. automatic landing, HUD, EVS, SVS, CVS) and associated operational credit(s) granted.*

13. *Performance-based navigation (PBN): one line is used for each PBN AR navigation specification approval (e.g. RNP AR APCH), with appropriate limitations listed in the "Description" column.*

14. *Insert the name of the person/organization responsible for ensuring that the continuing airworthiness of the helicopter is maintained and the regulation that requires the work, i.e. within the AOC regulation or a specific approval (e.g. EC 2042/2003, Part M, Subpart G).*

15. *List the EFB functions used for the safe operation of helicopters and any applicable limitations.*

16. *Other authorizations or data can be entered here, using one line (or one multi-line block) per authorization (e.g. special approach authorization, special operations, specification of which performance class(es) the aircraft can be operated in).*

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APPENDIX D

ARTICLE 83 *bis* AGREEMENT SUMMARY

(ICAO Annex 6 Part III Section II, Chapter 4, 4.1.5.4 and Section III, Chapter 4, 4.13.4, refers)

Note.— ICAO Annex 6 Part III Section II, Chapter 4, 4.1.5.1 and Section III, Chapter 4, 4.13.1, require a certified true copy of the agreement summary to be carried on board.

1. Purpose and scope

The Article 83 bis *agreement summary should contain the information in the template at paragraph 2 or 3 as applicable, in a standardized format.*

2. Article 83 *bis* agreement summary for commercial air transport

ARTICLE 83 bis AGREEMENT SUMMARY		
Title of Agreement :		
State of Registry :		Focal point :
State of the Operator/State of the principal location of a general aviation operator :		Focal point :
Date of Signature :	By State of Registry[1] :	
	By State of the Operator[1] :	
Duration :	Start Date[1] :	End Date (if applicable)[2] :
Languages of the Agreement		
ICAO Registration No. :		
Umbrella Agreement (if any) with ICAO Registration number		

Chicago Convention	**ICAO Annexes affected by the transfer of the State of the Operator of responsibility in respect of certain functions and duties**		
Article 12 : Rules of the Air	Annex 2, all chapters	Yes	
		No	

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Article 30 (a) : Aircraft radio equipment	Radio Station Licence	Yes No	
Articles 30 b) and 32 a): Personnel Licensing	Annex 1, Chapters 1, 2, 3 and 6 and Annex 6 Part I, Radio Operator or Part III, section II, Composition of the flight crew (radio operator) and/or Part II, Qualifications and/or Flight crew member licensing or Part III, Section III, Qualifications	Yes No	Annex 6: [Specify Part and paragraph]3

Article 31: Certificates of Airworthiness	Annex 6 Part I or Part III, Section II	Yes No	[Specify Part and chapters]3
	Annex 6 Part II or Part III, Section III	Yes No	[Specify Part and chapters]3
	Annex 8 Part II, Chapters 3 and 4	Yes No	[Specify chapters]3

Aircraft affected by the transfer of responsibilities to the State of the Operator					
Aircraft make, model, series	Nationality and Registration marks	Serial No	AOC # (Commercial air transport)	Dates of transfer of responsibilities	
				From[1]	To (if applicable)[2]

Notes.—

1. dd/mm/yyyy.
2. dd/mm/yyyy or N/A if not applicable.
3. Square brackets indicate information that needs to be provided.

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APPENDIX E

DANGEROUS GOODS

(Supplementary to Para 12)

1. **Purpose and Scope**. The material in this attachment provides guidance regarding the carriage of dangerous goods as cargo. Para 12 includes dangerous goods operational requirements that apply to all operators. Operators that are approved to transport dangerous goods as cargo need to meet additional requirements. In addition to the operational requirements contained in Annex 6, there are other requirements in Annex 18 and in the Technical Instructions that also need to be complied with.

2. **Definitions**. Where the term below is used in this attachment, it has the following meaning:

Cargo. Any property carried on an aircraft other than mail and accompanied or mishandled baggage.

Note 1.— This definition differs from the definition of "cargo" given in Annex 9 — Facilitation.

Note 2.— COMAT that meets the classification criteria of dangerous goods, and which is transported in accordance with Part 1;2.2.2, Part 1;2.2.3 or Part 1;2.2.4 of the Technical Instructions, are considered as "cargo" (e.g., aircraft parts such as chemical oxygen generators, fuel control units, fire extinguishers, oils, lubricants and cleaning products).

3. States

3.1 DGCA shall indicate in the operations specification if the operator has been issued a specific approval to transport dangerous goods as cargo. Any limitations should be included.

3.2 A specific approval may be granted for the transport of specific types of dangerous goods only (e.g., dry ice; biological substance, Category B and dangerous goods in excepted quantities) or COMAT.

3.3 The Supplement to the Technical Instructions contains guidance on a State's responsibilities with respect to operators. This includes additional information to Part 7 of the Technical Instructions on storage and loading, provision of information, inspections, enforcement and Annex 6 information relevant to the State's responsibilities for dangerous goods.

3.4 The carriage of dangerous goods other than as cargo (e.g., medical flights, search and rescue) is addressed in Part 1;1 of the Technical Instructions. The exceptions for the carriage of dangerous goods that are either equipment or for

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use on board the aircraft during flight are detailed in Part 1;2;2.2.1 of the Technical Instructions.

4. Operator

4.1 The operator's training programme should cover, as a minimum, the aspects of the transport of dangerous goods, listed in the Technical Instructions, Part I, Chapter 4. Instruction on Dangerous Goods. Recurrent training must be provided within 24 months of previous training, except as otherwise provided by the Technical Instructions.

4.2 Details of the dangerous goods training programme, including the policies and procedures regarding third-party personnel involved in the acceptance, handling, loading and unloading of dangerous goods cargo, should be included in the operations manual.

4.3 The Technical Instructions require that operators provide information in the operations manual, and/or other appropriate manuals that will enable flight crews, other employees and ground handling agents to carry out their responsibilities with regard to the transport of dangerous goods, and that initial training be conducted prior to performing a job function involving dangerous goods.

4.4 Operators should meet and maintain requirements established by the States, in which operations are conducted in accordance with Section III, Chapter 2, Para 2.2.2.3 of ICAO Annex 6 Part III.

4.5 Operators may seek specific approval to transport, as cargo, specific dangerous goods only, such as dry ice, biological substance, Category B, COMAT and dangerous goods in excepted quantities.

4.6 Attachment 1 to Part S-7; 7 of the Supplement to the Technical Instructions contains additional guidance and information on requirements regarding operators not approved to transport dangerous goods as cargo and for operators that are approved to transport dangerous goods as cargo.

4.7 All operators should develop and implement a system that ensures they will remain current with regulatory changes and updates. The Technical Instructions contain detailed instructions necessary for the safe transport of dangerous goods by air. These instructions are issued biennially, becoming effective on 1 January of an odd-numbered year.

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