

ICAO State Letter AN 11/32.3.16-22/13**SUBPART C – OPERATOR CERTIFICATION AND SUPERVISION****Appendix 2 to ANTR OPS 3.175**

The management and organisation of an AOC/Authorisation holder

The issue of an air operator certificate by the BCAA 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.

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

The continued validity of an air operator certificate/Authorisation shall depend upon the operator maintaining these requirements under the supervision of the BCAA.

If particular;

(a) General The operator must have a sound and effective management structure in order to ensure the safe conduct of air operations. Nominated post holders must have managerial competency together with appropriate technical/operational qualifications (see also AC OPS 3.175 (i)) in aviation.

(b) Nominated post holders

(1) A description of the functions and the responsibilities of the nominated post holders, including their names, must be contained in the Operations Manual and the BCAA must be given notice in writing of any intended or actual change in appointments or functions.

(2) The operator must make arrangements to ensure continuity of supervision in the absence of nominated post holders.

(3) A person nominated as a post holder by the holder of an AOC/Authorisation must not be nominated as a post holder by the holder of any other AOC/Authorisation, unless acceptable to the Authorities concerned.

(4) Persons nominated as post holders must be contracted to work sufficient hours to fulfil the management functions associated with the scale and scope of the operation.

(c) Adequacy and supervision of staff

(1) Crew members. The operator must employ sufficient flight and cabin crew for the planned operation, trained and checked in accordance with Subpart N and Subpart O as appropriate.

(2) Ground Staff

(i) The number of ground staff is dependent upon the nature and the scale of operations. Operations and ground handling departments, in particular, must be staffed by trained personnel who have a thorough understanding of their responsibilities within the organisation.

(ii) The operator contracting other organisations to provide certain services, retains responsibility for the maintenance of proper standards. In such circumstances, a nominated post

holder must be given the task of ensuring that any contractor employed meets the required standards.

(3) Supervision

(i) The number of supervisors to be appointed is dependent upon the structure of the operator and the number of staff employed.

(ii) The duties and responsibilities of these supervisors must be defined, and any other commitments arranged so that they can discharge their supervisory responsibilities.

(iii) The supervision of crew members and ground staff must be exercised by individuals possessing experience and personal qualities sufficient to ensure the attainment of the standards specified in the operations manual.

(d) Accommodation facilities

(1) The operator must ensure that working space available at each operating base is sufficient for personnel pertaining to the safety of flight operations. Consideration must be given to the needs of ground staff, those concerned with operational control, the storage and display of essential records, and flight planning by crews.

(2) Office services must be capable, without delay, of distributing operational instructions and other information to all concerned.

(e) Documentation. The operator must make arrangements for the production of manuals, amendments and other documentation.

ANTR OPS 3.430 Heliport or Landing Location Operating Minima - General

(See Appendix 1 to ANTR OPS 3.430)

(a) The BCAA requires the operator to establish, for each heliport or landing location planned to be used in operation, the landing location operating minima that are not lower than the values given in Appendix 1. The method of determination of such minima must be approved by BCAA. Such minima shall not be lower than any that may be established for such heliports or landing locations by the State in which the heliport is located, except when specifically approved by that State.

(b) Notwithstanding paragraph (a) above, in-flight calculation of minima for use at unplanned alternate heliports and/or for approaches utilising EVS shall be carried out in accordance with a method acceptable to the Authority.

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.

(c) The BCAA may approve operational credit(s) for operations with ~~helicopters equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS or CVS~~ advanced aircraft. Such approvals shall not affect the classification of the instrument approach procedure. Operational credit includes:

(1) for the purposes of an approach ban (See ANTR OPS 3.405(b)), or dispatch considerations, a ~~minima~~ **minimum** below the aerodrome operating minima;

(2) reducing or satisfying the visibility requirements; or

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

Note 1: Guidance on operational credit ~~for aircraft equipped with automatic landing systems, a HUD or equivalent displays, EVS, SVS and CVS~~ and how to express the operational credit in the operations specifications shall be in accordance with the Manual of All-Weather Operations (ICAO DOC 9365) and the guidance as published by BCAA in this regard ~~CAP 33~~ describes in detail.

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.

~~(d) Prior to the approval of an automatic landing system, HUD or equivalent displays, EVS, SVS or CVS the operator shall submit documentation to the BCAA to ensure that:~~

~~(1) the equipment meets the appropriate airworthiness certification requirements;~~

~~(2) the operator has carried out a safety risk assessment of the operations supported by the automatic landing system, HUD or equivalent displays, EVS, SVS or CVS;~~

~~(3) the operator has established and documented procedures for the use of, and training requirements for, automatic landing systems, HUD or equivalent displays, EVS, SVS or CVS.~~

~~Note: Guidance on safety risk assessment is contained in ANTR Volume III Part 19.~~

(d) For issuing a specific approval for the operational credit, the operator shall submit the documentation to ensure that:

1) the aircraft meets the appropriate airworthiness certification requirements;

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

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

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

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

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

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

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

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

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

(f) In establishing the heliport or landing location operating minima which will apply to any particular operation, the operator must take full account of:

- (1) The type, performance and handling characteristics of the helicopter;
- (2) The composition of the flight crew, their competence and experience;
- (3) The physical characteristics of the heliport, and direction of approach;
- (4) The adequacy and performance of the available visual and non-visual ground aids;
- (5) 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, the flare, the hover, the landing, roll-out and the missed approach;
- (6) For the determination of obstacle clearance, the obstacles in the approach, missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures;
- (7) The obstacles in the approach, missed approach and the climb-out areas required for the execution of contingency procedures and necessary clearance margins;
- (8) The obstacle clearance altitude/height for the instrument approach procedures; and
- (9) The means to determine and report meteorological conditions.
- (10) The flight technique to be used during the final approach.

(g) 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:

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

2) 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 800 m 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~~A~~ (CAT III~~A~~): a decision height lower than 30 m (100 ft) or no decision height and a runway visual range ~~not less than 300m or no runway visual range limitations~~ ~~175 m~~;

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 II 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 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).

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

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

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

- (i) the ground equipment shown on the chart required for the intended procedure is operative;
- (ii) the aircraft systems required for the type of approach are operative;
- (iii) the required aircraft performance criteria are met; and
- (iv) the crew is appropriately qualified.

ANTR OPS 3.295 Selection of Heliports or Landing Locations

(a) The operator shall establish procedures for the selection of destination and/or alternate heliports or landing locations in accordance with ANTR OPS 3.220 when planning a flight.

(b) The commander must select a take-off alternate heliport within one hour flight time at normal cruise speed for a flight under instrument meteorological conditions if it would not be possible to return to the heliport or landing location of departure due to meteorological reasons.

(c) 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 estimated time of arrival, be at or above the heliport operating minima.

(d) On a VFR flight a commander shall not commence take-off unless current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions along the route or that part of the route to be flown under VFR will, at the appropriate time, be such as to enable compliance with these regulations.

(e) In addition to (c) or (d) above, for a flight to be conducted in accordance with the Instrument Flight Rules or when flying VFR and navigating by means other than by reference to visual landmarks, the commander shall specify at least one alternate heliport in the operational flight plan unless:

(1) The destination is a coastal heliport or landing location (See AMC OPS 3.295(c)(1) and IEM OPS 3.295(c)(1)); or

(2) For a flight to any other land destination, the duration of the flight and the meteorological conditions prevailing are such that, at the estimated time of arrival at the heliport or landing location of intended landing, an approach and landing may be made under visual meteorological conditions as prescribed by the BCAA; or

(3) The heliport or landing location of intended landing is isolated and no alternate is available. A Point of No Return (PNR) shall be determined.

(f) The operator must select two destination alternatives when:

(1) The appropriate weather reports or forecasts for the destination, or any combination thereof, indicate that during a period commencing 1 hour before and ending 1 hour after the estimated time of arrival the weather conditions will be below the applicable planning minima; or

(2) no meteorological information is available for the destination.

~~(g) Off shore alternate heliports may be specified subject to the following (see AMC OPS 3.295(e) and IEM OPS 3.295(e)):~~

~~(1) An off shore alternate heliport shall be used only after a Point of No Return (PNR). Prior to PNR, on shore alternate heliports shall be used.~~

~~(2) Mechanical reliability of critical control systems and critical components shall be considered and taken into account when determining the suitability of the alternate heliport(s).~~

~~(3) One engine inoperative landing capability shall be attainable at the alternate heliport.~~

~~(4) Deck availability shall be guaranteed. The dimensions, configuration and obstacle clearance of individual helidecks or other sites shall be assessed in order to establish operational suitability for use as an alternate by each helicopter type proposed to be used.~~

~~(5) Weather minima shall be established taking accuracy and reliability of meteorological information into account (see IEM OPS 3.295(e)(4)).~~

~~(6) The Minimum Equipment List shall reflect essential requirements for this type of operation.~~

~~(7) Unless specifically approved by the BCAA, offshore alternate heliports shall not be used when it is possible to carry enough fuel to have an onshore alternate.~~

~~(8) Offshore alternate heliports shall not be used in a hostile environment.~~

~~(9) An off shore alternate heliport shall not be selected unless the operator has published a procedure in the Operations Manual approved by the BCAA.~~

(g) Offshore destination alternate heliport

(1) The State of the Operator shall issue a specific approval for the operational use of offshore destination alternate heliports.

(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:

- i) 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;
 - ii) 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;
 - iii) the operator has established specific procedures and appropriate training programmes in the operations manual for offshore destination alternate heliport operations;
 - iv) 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);
 - v) the helicopter shall have a one engine inoperative (OEI) landing capability at the offshore alternate heliport; and
 - vi) the MEL shall contain specific provisions for this type of operation.
- (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.
- (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.
- (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.
- (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.
- (7) The operator's risk assessment process shall take into consideration at least the following:
- i) the type and circumstances of the operation;
 - ii) the area over which the operation is being conducted, including sea conditions, survivability and search and rescue facilities;
 - iii) 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;
 - iv) the type of helicopter(s) being used;
 - v) mechanical reliability of the helicopter engines and critical control systems and components;
 - vi) the training and operational procedures, including mitigation of the consequences of helicopter technical failures;

vii) specific mitigation measures;

viii) helicopter equipment;

ix) spare payload capacity for the carriage of additional fuel;

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

xi) communications 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.

(8) Training programmes should ensure that the requirements of ANTR OPS 3, 3.975 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.

(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.

(10) Offshore alternates should not be used for payload enhancement.

(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.

(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.

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

(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.

(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 the destination and the alternate.

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

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

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

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

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

v) 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.

(h) The operator shall specify any required alternate(s) in the operational flight plan.

(i) 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 BCAA, to be added to the operator's established heliport or landing location operating minima.

ANTR OPS 3.785 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)

(See Appendix 1 to ANTR OPS 3.785 HUD, VS or Equivalent)

Notwithstanding the requirement at ANTR OPS 3.430(d) & (e), the operator shall not operate a helicopter 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) or any combination of those systems, unless criteria for the use of such systems for the safe operation of a helicopter is established by the operator and approved by BCAA for the operational use of such displays :

~~(a) An approval has been issued by the BCAA for the operational use of such displays;~~

~~(b) The equipment meets the appropriate airworthiness certification requirements;~~

~~(c) The operator has carried out a safety risk assessment of the operations supported by the HUD or equivalent displays, EVS, SVS or CVS;~~

~~(d) The operator has established and documented the procedures for the use of, and training requirements for, a HUD or equivalent displays, EVS, SVS or CVS; and~~

(e) The criteria for the use of such systems for the safe operation of a helicopter as described in Appendix 1 to ANTR OPS 3.785 HUD, VS or Equivalent is complied with as applicable.

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.

ANTR OPS 3.941 Training – General

The operator shall establish and maintain a ground and flight training programme, approved by the BCAA in accordance with this Subpart, 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 the BCAA;
- (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 engine, transmission, rotor, airframe or systems malfunctions, fire or other abnormalities;
- (d) include training in knowledge and skills related to the visual and instrument flight procedures for the intended area of operation, human performance and threat and error management, the transport of dangerous goods and, where applicable, procedures specific to the environment in which the helicopter 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 equipped; and
- (g) be given on a recurrent basis, as determined by the BCAA and shall include an assessment of competence.

Note 1.— ANTR OPS 3.370 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 State of the Operator, be given in flight simulation training devices approved by the State for that purpose.

Note 3.— The scope of the recurrent training required by ANTR OPS 3.965 may be varied and need not be as extensive as the initial training given in a particular type of helicopter.

Note 4.— The use of correspondence courses and written examinations as well as other means may, to the extent deemed feasible by the State of the Operator, be utilized in meeting the requirements for periodic ground training.

Note 5.— For more information on dangerous goods operational requirements see SUBPART-R to ANTR OPS 3

Note 6.— 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).

Note 7.— 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, and knowledge of these differences is important for safety reasons.

Note 8.— Guidance material to design flight crew training programmes can be found in the Manual of Evidence-based Training (Doc 9995).

Note 9.— 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).

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

(1) the use, to the extent deemed feasible by the BCAA, of flight simulation training devices approved by that State for that purpose; or

(2) the completion within the appropriate period of the proficiency check required by ANTR OPS 3.943, 3.945 and 3.965 in that type of helicopter.

ANTR OPS 3.210 Establishment of Procedures

(a) The operator shall establish procedures and instructions, for each helicopter type, containing ground staff and crew members' duties for all types of operation on the ground and in flight. (See AMC OPS 3.210(a).)

(b) The operator shall establish a check-list system to be used by crew members for all phases of operation of the helicopter under normal, abnormal and emergency conditions as applicable, to ensure that the operating procedures in the Operations Manual are followed. (See IEM OPS 3.210(b)). The design and utilisation of checklists shall observe Human Factors and CRM principles.

(c) The operator shall not require a crew member to perform any activities during critical phases of the flight other than those required for the safe operation of the helicopter.

(d) The operator shall not permit a helicopter rotor to 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. (see AC OPS 3.210(d)).

(e) The operator shall 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 departure phase for the existing take-off conditions and intended take-off technique. This information should be included in the operations manual.

ANTR OPS 3.1150 General

The operator shall comply with the applicable provisions contained in this Subpart and the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO Doc. 9284), irrespective of whether:

(a) the flight is wholly or partly within or wholly outside the territory of the Kingdom of Bahrain; or

(b) an approval to carry dangerous goods in accordance with ANTR OPS 3.1155 is held.

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.

Note 3~~1~~: Operator responsibilities and requirements for the transport of dangerous goods and for incident and accident reporting are contained in this Subpart and Part 7 of the Technical Instructions).

Note 4 ~~2~~: The requirements pertaining to crew members or passengers carrying dangerous goods on aircraft are also set forth in this Subpart and Part 8, Chapter 1, of the Technical Instructions.

Note 5 ~~3~~: COMAT that meets the classification criteria of the Technical Instructions for dangerous goods are considered cargo and shall be transported in accordance with this Subpart and Part 1.2.2.2 or Part 1.2.2.3 of the Technical Instructions (e.g. aircraft parts such as chemical oxygen generators, fuel control units, fire extinguishers, oils, lubricants, cleaning products).

ANTR OPS 3.1152 Terminology

(a) Terms used in this Subpart have the following meanings:

- (1) *Acceptance Check List.* A document used to assist in carrying out a check on the external appearance of packages of dangerous goods and their associated documents to determine that all appropriate requirements have been met.
- (2) *Approval.* For the purposes only of compliance with ANTR OPS 3.1165(b)(2), an authorisation referred to in the Technical Instructions and issued by an authority, for the transport of dangerous goods which are normally forbidden for transport or for other reasons, as specified in the Technical Instructions;
- (3) *Cargo.* Any property carried on an aircraft other than mail and accompanied or mishandled baggage.

Note 1.— 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).

- (4) *Cargo Aircraft.* Any aircraft which is carrying goods or property but not passengers. In this context the following are not considered to be passengers:
 - (i) A crew member;
 - (ii) The operator's employee permitted by, and carried in accordance with, the instructions contained in the Operations Manual;

- (iii) An authorised representative of an Authority; or
 - (iv) A person with duties in respect of a particular shipment on board.
- (5) *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.
 - (6) *Dangerous Goods Accident*. An occurrence associated with and related to the transport of dangerous goods which results in fatal or serious injury to a person or major property damage. (See IEM OPS 3.1150(a)(3) & (a)(4)).
 - (7) *Dangerous Goods Incident*. An occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods, not necessarily occurring on board an aircraft, which results in injury to a person, property damage, fire, breakage, spillage, leakage of fluid or radiation or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardises the aircraft or its occupants is also deemed to constitute a dangerous goods incident. (See IEM OPS 3.1150(a)(3) & (a)(4))
 - (8) *Dangerous Goods Transport Document*. A document which is specified by the Technical Instructions. It is completed by the person who offers dangerous goods for air transport and contains information about those dangerous goods. The document bears a signed declaration indicating that the dangerous goods are fully and accurately described by their proper shipping names and UN/ID numbers and that they are correctly classified, packed, marked, labelled and in a proper condition for transport.
 - (9) *Exemption*. For the purposes only of compliance with this Subpart, an authorisation referred to in the Technical Instructions and issued by all the authorities concerned, providing relief from the requirements of the Technical Instructions.
 - (10) *Freight Container*. A freight container is an article of transport equipment for radioactive materials, designed to facilitate the transport of such materials, either packaged or unpackaged, by one or more modes of transport.

Note: See Unit Load Device where the dangerous goods are not radioactive materials.

- (11) *Handling Agent*. An agency which performs on behalf of the operator some or all of the latter's functions including receiving, loading, unloading, transferring or other processing of passengers or cargo.
- (12) *ID number*. A temporary identification number for an item of dangerous goods which has not been assigned a UN number.
- (13) *Overpack*. An enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

Note: A unit load device is not included in this definition.

- (14) *Package*. The complete product of the packing operation consisting of the packaging and its contents prepared for transport.
- (15) *Packaging*. Receptacles and any other components or materials necessary for the receptacle to perform its containment function and to ensure compliance with the packing

requirements.

- (16) *Proper Shipping Name.* The name to be used to describe a particular article or substance in all shipping documents and notifications and, where appropriate, on packagings.
- (17) *Serious Injury.* An injury which is sustained by a person in an accident and which:
- (i) Requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
 - (ii) Results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
 - (iii) Involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
 - (iv) Involves injury to any internal organ; or
 - (v) Involves second or third degree burns, or any burns affecting more than 5% of the body surface; or
 - (vi) Involves verified exposure to infectious substances or injurious radiation.
- (18) *State of Origin.* The BCAA in whose territory the dangerous goods were first loaded on an aircraft.
- (19) *Technical Instructions.* The latest effective edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284AN/905), including the Supplement and any Addendum, approved and published by decision of the Council of the International Civil Aviation Organisation.
- (20) *Unit Load Device.* Any type of aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.
- Note: An overpack is not included in this definition; for a container containing radioactive materials see the definition for freight container.*
- (21) *UN Number.* The four-digit number assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods to identify a substance or a particular group of substances.

ANTR OPS 3.1155 ~~Approval to transport Dangerous Goods~~

Operators with a specific approval for the transport of dangerous goods as cargo

The operator shall not transport dangerous goods unless a specific approval issued by BCAA to do so.

Before the issue of a specific approval for the transport of dangerous goods, the operator shall satisfy the BCAA that:

- (a) an adequate dangerous goods training programme has been established that meets the requirements of ANTR OPS 3.1220 and the Technical Instructions, Part 1, Chapter 4, Table 1-4, as appropriate. Details of the dangerous goods training programme shall be included in the operator's operations manuals;

(b) that all relevant documents (e.g. for ground handling, aeroplane handling, training) contain information and instructions on dangerous goods, and that there are dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of this Subpart and the Technical Instructions to enable operator personnel to:

(1) identify and reject undeclared or misdeclared dangerous goods, including COMAT classified as dangerous goods;

(2) report to the BCAA and the State in which it occurred any:

(i) occasions when undeclared or misdeclared dangerous goods are discovered in cargo or mail; and

(ii) dangerous goods accidents and incidents;

(3) report to the BCAA and the State of Origin any 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, Chapter 2; and

(ii) without information having been provided to the pilot-in-command;

(4) accept, handle, store, transport, load and unload dangerous goods, including COMAT classified as dangerous goods as cargo on board an aircraft; and

(5) 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).

Note 1: The exemption or approval indicated in ANTR OPS 3.1165(b) (1) or (2) is in addition to the above and the conditions in (b) may not necessarily apply.

Note 2: Article 35 of the Convention refers to certain classes of cargo restrictions.

ANTR OPS 3.1160 Scope

(a) The operator shall comply with the provisions contained in the Technical Instructions on all occasions when dangerous goods are carried, irrespective of whether the flight is wholly or partly within or wholly outside the territory of a State. ~~(See IEM OPS 3.1160(a).)~~

(b) Refer to ICAO Technical Instruction, Part-1, Chapter-1 for the scope, applicability, and the referenced Parts / Chapters therein for the detailed requirements as applicable.

~~(b) Articles and substances which would otherwise be classed as dangerous goods are excluded from the provisions of this Subpart, to the extent specified in the Technical Instructions, provided:~~

~~(1) They are required to be aboard the helicopter in accordance with the relevant CARs or for operating reasons (see IEM OPS 3.1160(b)(1));~~

~~(2) They are carried as catering or cabin service supplies;~~

~~(3) They are carried for use in flight as veterinary aid or as a humane killer for an animal (see IEM OPS 3.1160(b)(3));~~

~~(4) They are carried for use in flight for medical aid for a patient, provided that (see IEM OPS 3.1160(b)(4));~~

~~(i) Gas cylinders have been manufactured specifically for the purpose of containing and transporting that particular gas;~~

~~(ii) Drugs, medicines and other medical matter are under the control of trained personnel during the time when they are in use in the helicopter;~~

~~(iii) Equipment containing wet cell batteries is kept and, when necessary secured, in an upright position to prevent spillage of the electrolyte; and~~

~~(iv) Proper provision is made to stow and secure all the equipment during take-off and landing and at all other times when deemed necessary by the commander in the interests of safety; or~~

~~(5) They are carried by passengers or crew members (see IEM OPS 3.1160(b)(5)).~~

~~(e) — Articles and substances intended as replacements for those in (b)(1) and (b)(2) above shall be transported on a helicopter as specified in the Technical Instructions.~~

ANTR OPS 3.1165 Limitations on the transport of Dangerous Goods

(a) The operator shall take all reasonable measures to ensure that articles and substances that are specifically identified by name or generic description in the Technical Instructions as being forbidden for transport under any circumstances are not carried on any helicopter.

(b) The operator shall take all reasonable measures to ensure that articles and substances or other goods that are identified in the Technical Instructions as being forbidden for transport in normal circumstances are only transported when:

(1) They are exempted by the States concerned under the provisions of the Technical Instructions ~~(see IEM OPS 3.1165(b)(1));~~ or

(2) The Technical Instructions indicate they may be transported under an approval issued by the State of Origin.

ANTR OPS 3.1180 Labelling and Marking

(a) The operator shall take all reasonable measures to ensure that packages, overpacks and freight containers are labelled as specified in the Technical Instructions.

(b) The operator shall take all reasonable measures to ensure packages, overpacks and freight containers are marked as specified in the Technical Instructions ~~or as specified by the BCAA.~~ (See AMC OPS 3.1180(b).)

(c) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of a State, labelling and marking must be in the English language in addition to any other language requirements.

ANTR OPS 3.1190 Operators with no specific approval for the transport of dangerous goods as cargo

The operator with no specific approval to transport dangerous goods shall:

(a) establish a dangerous goods training programme that meets the requirements of ANTR OPS 3.1220 and the Technical Instructions, Part 1, Chapter 4, as appropriate. Details of the dangerous goods training programme shall be included in the operator's operations manuals.

(b) establish dangerous goods policies and procedures in its operations manual to meet, at a minimum, the requirements of this Subpart, Annex 18, and the Technical Instructions to allow operator personnel to:

(1) identify and reject undeclared dangerous goods, including COMAT classified as dangerous goods; and

(2) report to the BCAA and the State in which it occurred any:

(i) occasions when undeclared dangerous goods are discovered in cargo or mail; and

(ii) dangerous goods accidents and incidents.

ANTR OPS 3.1210 Loading Restrictions

(See AMC OPS 3.1210(a))

(a) *Passenger Cabin, Flight Deck and Cargo Compartments.* The operator shall ensure that dangerous goods are loaded, segregated, stowed, secured and carried in a helicopter as specified in the Technical Instructions or as approved by the BCAA.

(b) *Dangerous Goods Designated for Carriage Only on Cargo Aircraft.* The operator shall ensure that packages of dangerous goods bearing the 'Cargo Aircraft Only' label are carried on a cargo aircraft and loaded as specified in the Technical Instructions.

(c) 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.

ANTR OPS 3.1211 Dispensing or expending of dangerous goods from helicopter

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).

(a) 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.

(b) 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.

(c) 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.

ANTR OPS 3.1215 Provision of Information

(a) *Information to Ground Staff.* The operator shall ensure that:

(1) Information is provided to enable ground staff to carry out their duties with regard to the transport of dangerous goods, including the actions to be taken in the event of incidents and accidents involving dangerous goods; and

(2) Where applicable, the information referred to in sub-paragraph (a)(1) above is also provided to his handling agent.

(b) *Information to Passengers and Other Persons* (see AMC OPS 3.1215(b))

(1) The operator shall ensure that information is promulgated as required by the Technical Instructions so that passengers are warned as to the types of goods which they are forbidden from transporting aboard a helicopter; and

(2) The operator and, where applicable, his handling agent shall ensure that notices are provided at acceptance points for cargo giving information about the transport of dangerous goods.

(c) *Information to Crew Members.* The operator shall ensure that information is provided in the Operations Manual to enable crew members to carry out their responsibilities in regard to the transport of dangerous goods, including the actions to be taken in the event of emergencies arising involving dangerous goods.

(d) *Information to the Commander.* The operator shall ensure that the commander is provided with written information, as specified in the Technical Instructions (See Table 1 of Appendix 1 to ANTR-OPS 3.1065 for the document storage period).

(e) *Information in the Event of a helicopter Incident or Accident* (See AMC OPS 3.1215(e))

(1) The operator of a helicopter which is involved in a helicopter incident shall, on request, provide any information required to minimise the hazards created by any dangerous goods carried.

(2) The operator of a helicopter which is involved in a helicopter accident shall, as soon as possible, inform the appropriate authority of the State in which the helicopter accident occurred of any dangerous goods carried.

(f) 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.

AC/AMC/IEM R – TRANSPORT OF DANGEROUS GOODS BY AIR

IEM OPS 3.115 2 0(a)(3 5) & (a)(4 6)

Terminology - Dangerous Goods Accident and Dangerous Goods Incident See ANTR OPS 3.1152 0(a)(3 5) & (a)(4 6)

As a dangerous goods accident (see ANTR OPS 3.115 2 0(a)(3 5)) and dangerous goods incident (see ANTR OPS 3.115 2 0(a)(3 6)) may also constitute an aircraft accident or incident the criteria for reporting both types of occurrence should be satisfied.

IEM OPS 3.1155

Approval to transport dangerous goods See ANTR OPS 3.1155

- 1 Permanent approval for the transport of dangerous goods will be reflected on the Air Operator Certificate. In other circumstances an approval may be issued separately.
- 2 Before the issue of an approval for the transport of dangerous goods, the operator should satisfy the BCAA that adequate training has been given, that all relevant documents (e.g. for ground handling, helicopter handling, training) contain information and instructions on dangerous goods, and that there are procedures in place to ensure the safe handling of dangerous goods at all stages of air transport.
- 3 The exemption or approval indicated in ANTR OPS 3.1165(b)(1) or (2) is in addition to that indicated by ANTR OPS 3.1155.

IEM OPS 3.1160(a)

Scope

See ANTR OPS 3.1160(a)

- 1 ~~Although the Technical Instructions use the term 'aircraft' throughout the document, the wording may suggest that the provisions are relevant only to fixed wing scheduled operations.~~ The Technical Instructions contain all the information which is relevant to the transport of dangerous goods by air, irrespective of what type of aircraft is used and in what circumstances.
- 2 Unless the wording in the Technical Instructions makes it otherwise apparent, all the provisions of the Technical Instructions apply on every occasion when dangerous goods are carried by helicopter. Dangerous goods may be carried other than in accordance with the Technical Instructions only when:
 - a They have been exempted under ANTR OPS 3.1165(b)(1); or
 - b An approval has been issued under ANTR OPS 3.1175 or 3.1210; or
 - c The BCAA has specified different markings under ANTR OPS 3.1180(b).

The following are deleted to remove conflicts if any may arise due to frequent revisions to the Technical Instructions for the safe transport of dangerous goods by air. (Doc 9284)

~~IEM OPS 3.1160(b)(1)~~

~~Dangerous goods on a helicopter in accordance with the relevant regulations or for operating reasons See ANTR OPS 3.1160(b)(1)~~

- 1 ~~Dangerous goods required to be on board a helicopter in accordance with the relevant parts of CARs or for operating reasons are those which are for:~~
 - a. ~~The airworthiness of the helicopter;~~
 - b. ~~The safe operation of the helicopter; or~~
 - c. ~~The health of passengers or crew.~~
- 2 ~~Such dangerous goods include but are not limited to:~~
 - a. ~~Batteries;~~
 - b. ~~Fire extinguishers;~~
 - c. ~~First-aid kits;~~
 - d. ~~Insecticides/Air fresheners;~~
 - e. ~~Life saving appliances; and~~
 - f. ~~Portable oxygen supplies.~~

~~IEM OPS 3.1160(b)(3)~~

~~Veterinary aid or a humane killer for an animal See ANTR OPS 3.1160(b)(3)~~

~~The dangerous goods referred to in ANTR OPS 3.1160(b)(3) may also be carried on a flight made by the same helicopter or preceding the flight on which the animal is carried and/or on a flight made by the same helicopter after that animal has been carried when it is impracticable to load or unload the goods at the time of the flight on which the animal is carried.~~

~~IEM OPS 3.1160(b)(4)~~

~~Medical Aid for a Patient~~

~~See ANTR OPS 3.1160(b)(4)~~

~~1 Gas cylinders, drugs, medicines, other medical material (such as sterilising wipes) and wet cell or lithium batteries are the dangerous goods which are normally provided for use in flight as medical aid for a patient. However, what is carried may depend on the needs of the patient. These dangerous goods are not these which are a part of the normal equipment of the helicopter.~~

~~2 The dangerous goods referred to in paragraph 1 above may also be carried on a flight made by the same helicopter to collect a patient or after that patient has been delivered when it is impracticable to load or unload the goods at the time of the flight on which the patient is carried.~~

~~IEM OPS 3.1160(b)(5)~~~~Scope – Dangerous goods carried by passengers or crew See ANTR OPS 3.1160(b)(5)~~

~~1 The Technical Instructions exclude some dangerous goods from the requirements normally applicable to them when they are carried by passengers or crew members, subject to certain conditions.~~

~~2 For the convenience of operators who may not be familiar with the Technical Instructions, these requirements are repeated below.~~

~~3 The dangerous goods which each passenger or crew member can carry are:~~

~~a. Alcoholic beverages containing more than 24% but not exceeding 70% alcohol by volume, when in retail packagings not exceeding 5 litres and with a total not exceeding 5 litres per person.~~

~~b. Non-radioactive medicinal or toilet articles (including aerosols, hair sprays, perfumes, medicines containing alcohol); and, in checked baggage only, aerosols which are non-flammable, non-toxic and without subsidiary risk, when for sporting or home use. The net quantity of each single article should not exceed 0.5 litre or 0.5 kg and the total net quantity of all articles should not exceed 2 litres or 2 kg;~~

~~c. Safety matches or a lighter for the person's own use and when carried on him. 'Strike anywhere' matches, lighters containing unabsorbed liquid fuel (other than liquefied gas), lighter fuel and lighter refills are not permitted;~~

~~d. A hydrocarbon gas-powered hair curler, providing the safety cover is securely fitted over the heating element. Gas refills are not permitted;~~

~~e. Small carbon dioxide gas cylinders worn for the operation of mechanical limbs and spare cylinders of similar size if required to ensure an adequate supply for the duration of the journey;~~

~~f. Radioisotopic cardiac pacemakers or other devices (including those powered by lithium batteries) implanted in a person, or radio-pharmaceuticals contained within the body of a person as a result of medical treatment;~~

~~g. A small medical or clinical thermometer containing mercury, for the person's own use, when in its protective case;~~

~~h. Dry ice, when used to preserve perishable items, providing the quantity of dry ice does not exceed 2 kg and the package permits the release of the gas. Carriage may be in carry-on (cabin) or checked baggage, but when in checked baggage the operator's agreement is required;~~

~~i. When carriage is allowed by the operator, small gaseous oxygen or air cylinders for medical use;~~

~~j. When carriage is allowed by the operator, not more than two small carbon dioxide cylinder fitted into a self-inflating life-jacket and not more than two spare cylinder;~~

~~k. When carriage is allowed by the operator, wheelchairs or other battery-powered mobility aids with non-spillable batteries, providing the equipment is carried as checked baggage. The battery should be securely attached to the equipment, be disconnected and the terminals insulated to prevent accidental short circuits;~~

~~l. When carriage is allowed by the operator, wheelchairs or other battery-powered mobility aids with spillable batteries, providing the equipment is carried as checked baggage. When the equipment can be loaded, stowed, secured and unloaded always in an upright position, the battery should be securely attached to the equipment, be disconnected and the terminals insulated to prevent accidental short circuits. When the equipment cannot be kept upright, the battery should be removed and carried in a strong, rigid packaging, which should be leak-tight and impervious to battery fluid. The battery in the packaging should be protected against accidental short circuits, be held upright and be surrounded by absorbent material in sufficient quantity to absorb the total liquid contents. The package containing the battery should have on it 'Battery wet, with wheelchair' or 'Battery wet, with mobility aid', be a 'Corrosives' label and be marked to indicate its correct orientation. The package should be~~

~~protected from upset by securement in the cargo compartment of the helicopter. The commander should be informed of the location of a wheelchair or mobility aid with an installed battery or of a packed battery;~~

~~m. When carriage is allowed by the operator, cartridges for sporting weapons, providing they are in Division 1.4S (See Note), they are for that person's own use, they are securely boxed and in quantities not exceeding 5 kg gross mass and they are in checked baggage. Cartridges with explosive or incendiary projectiles are not permitted;~~

~~*Note: Division 1.4S is a classification assigned to an explosive. It refers to cartridges which are packed or designed so that any dangerous effects from the accidental functioning of one or more cartridges in a package are confined within the package unless it has been degraded by fire, when the dangerous effects are limited to the extent that they do not hinder fire fighting or other emergency response efforts in the immediate vicinity of the package. Cartridges for sporting use are likely to be within Division 1.4S.*~~

~~n. When carriage is allowed by the operator, a mercurial barometer or mercurial thermometer in carry-on (cabin) baggage when in the possession of a representative of a government weather bureau or similar official agency. The barometer or thermometer should be packed in a strong packaging having inside a sealed inner liner or bag of strong leak-proof and puncture resistant material impervious to mercury closed in such a way as to prevent the escape of mercury from the package irrespective of its position. The commander should be informed when such a barometer or thermometer is to be carried;~~

~~o. When carriage is allowed by the operator, heat producing articles (i.e. battery operated equipment, such as under-water torches and soldering equipment, which if accidentally activated will generate extreme heat which can cause a fire), providing the articles are in carry-on (cabin) baggage. The heat producing component or energy source should be removed to prevent accidental functioning;~~

**The following has no value addition, the ANTR itself is good enough and hence deleted
IEM OPS 3.1165(b)(1)**

~~States concerned with exemptions See ANTR OPS 3.1165(b)(1)~~

~~1 The Technical Instructions provide that in certain circumstances dangerous goods, which are normally forbidden on a helicopter, may be carried. These circumstances include cases of extreme urgency or when other forms of transport are inappropriate or when full compliance with the prescribed requirements is contrary to the public interest. In these circumstances all the States concerned may grant exemptions from the provisions of the Technical Instructions provided that every effort is made to achieve an overall level of safety which is equivalent to that provided by the Technical Instructions.~~

~~2 The States concerned are those of origin, transit, overflight and destination of the consignment and that of the operator.~~

~~3 Where the Technical Instructions indicate that dangerous goods which are normally forbidden may be carried with an approval, the exemption procedure does not apply.~~

~~4 The exemption required by ANTR OPS 3.1165(b)(1) is in addition to the approval required by ANTR OPS 3.1155.~~

AMC OPS 3.1175**Packing****See ANTR OPS 3.1175**

Refer to the packing requirements stipulated at the relevant chapters of Part-4 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~1 — The Technical Instructions detail the packagings which may be used to pack dangerous goods and the quantities allowed in the packagings. In general the packagings are those which are described as 'specification packagings' in that the Technical Instructions set down both specifications and testing for them; they bear UN specification packaging markings on them.~~

~~2 — However, there may be some circumstances when it is impractical or impossible to use UN specification packagings, such as when dangerous goods are being carried from an off-shore oil or gas rig. In these circumstances, whenever possible, the provisions for limited quantities of dangerous goods as detailed in the Technical Instructions should be used.~~

~~3 — If it is not possible to use either UN specification packagings or the limited quantity provisions of the Technical Instructions, the Competent Authority may issue an exemption from the requirements of the Technical Instructions to allow the use of other packagings, providing an equivalent level of safety is achieved.~~

~~4 — An equivalent level of safety can be achieved if the packagings used comply with Part 3; 1.1 of the Technical Instructions, (except where this makes reference to the need for the packagings to comply with requirements in Part 7 of those Instructions) and they are capable of withstanding a 1-8 m drop test onto a rigid, non-resilient, flat and horizontal surface. This level of safety may also be achieved if the dangerous goods conform to the requirements of the International Maritime Dangerous Goods Code, the Regulations for the International Carriage of Dangerous Goods by Rail (RID Regulations), the European Agreement on the International Carriage of Dangerous Goods by Road (ADR Regulations) or the European provisions for the International Carriage of Dangerous Goods by Inland Waterway (ADN Regulations).~~

~~5 — The quantities should not exceed those specified in the relevant packing instruction for the type of packaging used (e.g. fibreboard box, metal drum).~~

AMC OPS 3.1180(b)**Marking****See ANTR OPS 3.1180(b)**

Refer to the packaging & marking requirements stipulated at the relevant chapters of Part-6 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~If it is impractical or unreasonable to require that all the markings specified by the Technical Instructions appear on packages of dangerous goods, the Competent Authority may issue an exemption from the requirements of those Instructions to allow markings to be omitted when their appearance would not contribute to the level of safety. In such circumstances it should be ensured that the flight crew members are given sufficient information before a flight so they can identify the dangerous goods.~~

AMC OPS 3.1210(a)**Loading Restrictions****See ANTR OPS 3.1210(a)**

Refer to loading restriction requirements stipulated at the relevant chapters of Part-7 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~1 — On the occasions when it is not possible or reasonable to apply the full loading restrictions of the Technical Instructions to helicopters, the Competent Authority may grant an exemption from the normal requirements to allow dangerous goods to be carried on the same helicopter as passengers.~~

~~2 — An exemption should only be issued when there is an essential reason for doing so. The dangerous goods may be carried in the cabin, in accessible cargo areas behind the cabin or under the cabin floor or in panniers affixed to the outside of the helicopter. The requirements in Part 5; Chapter 2 of the Technical Instructions, concerning the segregation of incompatible dangerous goods, shall be met at all times. Where radioactive materials are to be carried, the separation distances set down in Part 5; Chapter 2 shall be met, except that the distance shall be measured from the nearest point occupied by a passenger to the surface of the package, overpack or freight container containing the radioactive material.~~

AMC OPS 3.1215(b)

Provision of information See ANTR OPS 3.1215(b)

Refer to the provision of information stipulated at the relevant chapters of Part-7 & Part-8 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~1 — *Information to Passengers*~~

~~1.1 — Information to passengers should be promulgated in such a manner that passengers are warned as to the types of dangerous goods that must not be carried on board a helicopter.~~

~~1.2 — As a minimum, this information should consist of:~~

~~a. — Warning notices or placards sufficient in number and prominently displayed, at each of the places at an airport where tickets are issued and passengers checked in, in helicopter boarding areas and at any other place where passengers are checked in; and~~

~~b. — A warning with the passenger ticket. This may be printed on the ticket or on a ticket wallet or on a leaflet.~~

~~1.3 — The information to passengers may include reference to those dangerous goods which may be carried.~~

~~2 — *Information to Other Persons*~~

~~2.1 — Information to persons offering cargo for transport by air should be promulgated in such a manner that those persons are warned as to the need to properly identify and declare dangerous goods.~~

~~2.2 — As a minimum this information should consist of warning notices or placards sufficient in number and prominently displayed at any location where cargo is accepted.~~

~~3 — *General*~~

~~3.1 — Information should be easily understood and identify that there are various classes of dangerous goods.~~

~~3.2 — Pictographs may be used as an alternative to providing written information or to supplement such information.~~

AMC OPS 3.1215(e)**Information in the Event of a helicopter Incident or Accident** See ANTR OPS 3.1215(e)

Refer to the reporting requirement stipulated at the relevant chapters of Part-7 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~The information to be provided should include the proper shipping name, UN/ID number, class, subsidiary risk(s) for which labels are required, the compatibility group for Class 1 and the quantity and location on board the helicopter.~~

AMC OPS 3.1220**Training****See ANTR OPS 3.1220**

Refer to the training requirement stipulated at the chapter 4 of Part-1 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

~~1 ——— Application for Approval of Training Programmes. Applications for approval of training programmes should indicate how the training will be carried out. Training intended to give general information and guidance may be by any means including handouts, leaflets, circulars, slide presentations, videos, etc, and may take place on-the-job or off-the-job. Training intended to give in-depth and detailed appreciation of the whole subject or particular aspects of it should be by formal training courses, which should include a written examination the successful passing of which will result in the issue of the proof of qualification. Applications for formal training courses should include the course objectives, the training programme syllabus/curricula and examples of the written examination to be undertaken.~~

~~2 ——— Instructors. Instructors should have knowledge not only of training techniques but also of the transport of dangerous goods by air, in order that the subject be covered fully and questions adequately answered.~~

~~3 ——— Areas of training. The areas of training given in Tables 1 and 2 of ANTR OPS 3.1220 are applicable whether the training is for general information and guidance or to give an in-depth and detailed appreciation. The extent to which any area of training should be covered is dependent upon whether it is for general information or to give in-depth appreciation. Additional areas not identified in Tables 1 and 2 may be needed, or some areas omitted, depending on the responsibilities of the individual.~~

~~4 ——— Levels of Training~~~~4.1 ——— There are two levels of training:~~

~~a. ——— Where it is intended to give an in-depth and a detailed appreciation of the whole subject or of the area(s) being covered, such that the person being trained gains in knowledge so as to be able to apply the detailed requirements of the Technical Instructions. This training should include establishing, by means of a written examination covering all the areas of the training programme, that a required minimum level of knowledge has been acquired; or~~

~~b. ——— Where it is intended to give general information and guidance about the area(s) being covered, such that the person being trained receives an overall awareness of the subject. This training should include establishing by means of a written or oral examination covering all areas of the training programme, that a required minimum level of knowledge has been acquired.~~

~~4.2 ——— In the absence of other guidance, the staff referred to in ANTR OPS 3.1220(c)(1) should receive training to the extent identified in sub-paragraph 4.1.a, above; all other staff referred to in ANTR~~

~~OPS 3.1220(b) and (c) should receive training to the extent identified in sub-paragraph 4.1.b above. However, where flight crew or other crew members, such as loadmasters, are responsible for checking the dangerous goods to be loaded, their training should also be to the extent identified in paragraph 4.1.a, above.~~

~~5 Training in Emergency Procedures. The training in emergency procedures should include as a minimum:~~

~~a. For those personnel covered by ANTR OPS 3.1220(b) and (c), except for crew members whose emergency procedures training is covered in sub-paragraphs 5b or 5c (as applicable) below:~~

~~i. Dealing with damaged or leaking packages; and~~

~~ii. Other actions in the event of ground emergencies arising from dangerous goods.~~

~~b. For flight crew members:~~

~~i. Actions in the event of emergencies in flight occurring in the passenger cabin or in the cargo compartments; and~~

~~ii. The notification to Air Traffic Services should an in-flight emergency occur. (See ANTR OPS 3.420(e).)~~

~~c. For crew members other than flight crew members:~~

~~i. Dealing with incidents arising from dangerous goods carried by passengers; or~~

~~ii. Dealing with damaged or leaking packages in flight.~~

~~6 Recurrent training. Recurrent training should cover the areas in Table 1 or Table 2 relevant to initial Dangerous Goods training unless the responsibility of the individual has changed.~~

~~7. Test to verify understanding. It is necessary to have some means of establishing that a person has gained in understanding as a result of training; this is achieved by requiring the person to undertake a test. The complexity of the test, the manner of conducting it and the questions asked should be commensurate with the duties of the person being trained; and the test should demonstrate that the training has been adequate. If the test is completed satisfactorily a certificate should be issued confirming this.~~

IEM OPS 3.1220

Training

See ANTR OPS 3.1220

Refer to the training requirement stipulated at the chapter 4 of Part-1 to the Technical Instruction for safe transport of dangerous goods by air (Doc 9284).

OR

Delete the IEM in lieu of AC OPS

~~1 Areas of Training. The areas of training identified in Tables 1 and 2 of ANTR OPS 3.1220 are applicable whether the training is:~~

~~a. For general information and guidance; or~~

~~b. To give an in-depth and detailed appreciation of the subject.~~

~~1.1 The extent to which the training should be covered and whether areas not identified in Table 1 or Table 2 need to be added or the identified areas varied, is dependent on the responsibilities of the person being trained. In particular, if a crew member is a loadmaster the appropriate areas of training required may be those in column 4 of Table 2 and not those in column 5. Also, if the operator~~

~~carries only cargo, those areas relating to passengers and their baggage may be omitted from the training.~~

~~2 How to Achieve Training~~

~~2.1 Training providing general information and guidance is intended to give a general appreciation of the requirements for the transport by air of dangerous goods. It may be achieved by means of handouts, leaflets, circulars, slide presentations, videos, etc, or a mixture of several of these means. The training does not need to be given by a formal training course and may take place 'on-the-job' or 'off-the-job'.~~

~~2.2 Training providing in-depth guidance and a detailed appreciation of the whole subject or particular areas of it is intended to give a level of knowledge necessary for the application of the requirements for the transport by air of dangerous goods. It should be given by a formal training course which takes place at a time when the person is not undertaking normal duties. The course may be by means of tuition or as a self-study programme or a mixture of both of these. It should cover all the areas of dangerous goods relevant to the person receiving the training, although areas not likely to be relevant may be omitted (for instance, training in the transport of radioactive materials may be excluded where they will not be carried by the operator).~~

AMC OPS 3.1225

Dangerous Goods Incident and Accident Reports See ANTR OPS 3.1225

Refer to the form ASSD-OF-03-DGR for reporting of DG incidents and accidents.

~~1 Any type of dangerous goods incident or accident should be reported, irrespective of whether the dangerous goods are contained in cargo, mail, passengers' baggage or crew baggage. The finding of undeclared or misdeclared dangerous goods in cargo, mail or baggage should also be reported.~~

~~2 Initial reports may be made by any means, but in all cases a written report should be made as soon as possible.~~

~~3 The report should be as precise as possible and contain all data known at the time the report is made, for example:~~

~~a. Date of the incident or accident, or the finding of undeclared or misdeclared dangerous goods;~~

~~b. Location, the flight number and flight date, if applicable;~~

~~c. Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc.;~~

~~d. Proper shipping name (including the technical name, if appropriate) and UN/ID number, where known;~~

~~e. Class or division and any subsidiary risk;~~

~~f. Type of packaging, if applicable, and the packaging specification marking on it;~~

~~g. Quantity involved;~~

~~h. Name and address of the shipper, passenger, etc.;~~

~~i. Any other relevant details;~~

~~j. Suspected cause of the incident or accident;~~

~~k. Action taken;~~

~~l. Any other reporting action taken; and~~

~~m. Name, title, address and contact number of the person making the report.~~

~~4 Copies of the relevant documents and any photographs taken should be attached to the report.~~

ANTR OPS 3.700 Flight Recorders - General

(See IEM OPS 3.700)

- (a) Crash protected flight recorders comprise one or more of the following systems: a flight data recorder (FDR), a cockpit voice recorder (CVR), an airborne image recorder (AIR) and/or a data link recorder (DLR). Image and data link information may be recorded on either the CVR or the FDR.
- (b) Combination recorders (FDR/CVR) may be used to meet the flight recorder equipage requirements given in this ANTR OPS 3 / ICAO Annex 6, Part – III.

Note 1: For helicopters for which the application for type certification is submitted to a Contracting State before 1 January 2016, specifications applicable to crash-protected flight recorders may be found in EUROCAE ED-112, ED-56A, ED-55, Minimum Operational Performance Specifications (MOPS), or earlier equivalent documents.

Note 2: For helicopters for which the application for type certification is submitted to a Contracting State on or after 1 January 2016, specifications applicable to crash-protected flight recorders may be found in EUROCAE ED-112A, Minimum Operational Performance Specification (MOPS), or equivalent documents.

Note 3: Specifications applicable to lightweight flight recorders may be found in EUROCAE ED-155, Minimum Operational Performance Specification (MOPS), or equivalent documents.

Note 4: As of 7 November 2019, Chapter 1 contains requirements for States regarding the use of voice, image and/or data recordings and transcripts.

- (c) Non-deployable flight recorder containers shall:
 - (i) be painted a distinctive orange or yellow colour;
 - (ii) carry reflective material to facilitate their location; and
 - (iii) have securely attached an automatically activated underwater locating device operating at a frequency of 37.5kHz and, by no later than 1 January 2018, be capable of operating for a minimum of 90 days.
- (d) Automatic deployable flight recorder containers shall:
 - (i) be painted a distinctive orange colour, however the surface visible from outside the aircraft may be of another colour;

- (ii) carry reflective material to facilitate their location; and
 - (iii) have an integrated automatically activated ELT.
- (e) The flight recorder systems shall be installed so that:
- (i) the probability of damage to the recordings is minimized;
 - (ii) there is an aural or visual means for pre-flight checking that the flight recorder systems are operating properly; and
 - (iii) if the flight recorder systems have a bulk erasure device, the installation shall be designed to prevent operation of the device during flight time or crash impact and
 - (iv) helicopters for which the individual certificate of airworthiness is first issued on or after 1 January 2023, a flight crew-operated erase function shall be provided on the flight deck which, when activated, modifies the recording of a CVR and AIR so that it cannot be retrieved using normal replay or copying techniques. The installation shall be designed to prevent activation during flight. In addition, the probability of an inadvertent activation of an erase function during an accident shall also be minimized.

Note: The erase function is intended to prevent access to CVR and AIR recordings by normal replay or copying means, but would not prevent accident investigation authorities access to such recordings by specialized replay or copying techniques.

- (f) The flight recorder systems shall be installed so that they receive electrical power from a bus that provides the maximum reliability for operation of the flight recorder systems without jeopardizing service to essential or emergency loads.
- (g) The flight recorder systems, when tested by methods approved by the appropriate certificating authority, shall be demonstrated to be suitable for the environmental extremes over which they are designed to operate.
- (h) Means shall be provided for an accurate time correlation between the flight recorder systems recordings.
- (i) The flight recorder system manufacturer usually shall provide the appropriate certificating authority with the following information in respect of the flight recording systems:
- (i) manufacturer's operating instructions, equipment limitations and installation procedures;
 - (ii) parameter origin or source and equations which relate counts to units of measurement; and
 - (iii) manufacturer's test reports; and

- (iv) detailed information to ensure the continued serviceability of the flight recorder system.
- (j) The holder of the airworthiness approval for the installation design of the flight recorder system shall make available the relevant continuing airworthiness information to the operator of the helicopter to be incorporated in the continuing airworthiness maintenance programme. This continuing airworthiness information shall cover in detail all the tasks required to ensure the continued serviceability of the flight recorder system.

Note 1.— The flight recorder system is composed of the flight recorder as well as any dedicated sensors, hardware and software that provide information required per this ANTR.

Note 2.— Conditions related to the continued serviceability of a flight recorder system are defined in Section 6 of this Appendix. The Manual on Flight Recorder System Maintenance (FRSM) (Doc 10104) provides guidance on maintenance tasks associated with flight recorder systems.

(k) Operation

- (1) Flight recorders shall not be switched off during flight time.
- (2) To preserve cockpit voice recorder records, cockpit voice recorder shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with ANTR Part VI – Aircraft Accident and Incident Investigation, chapter 3, paragraph 3.2.2.4.

Note 1: The need for removal of the cockpit voice recorder records from the aircraft will be determined by the investigation authority in the State conducting the investigation with due regard to the seriousness of an occurrence and the circumstances, including the impact on the operation.

Note 2: The operator shall ensure, to the extent possible, in the event the helicopter becomes involved in an accident or incident, the preservation of all related cockpit voice recorder records and, if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with ANTR Part VI, chapter 3, paragraph 3.2.2.4.

(l) Continued Serviceability

Operational checks and evaluations of recordings from the flight recorder systems shall be conducted to ensure the continued serviceability of the recorders.

Note: Procedures for the inspections of the flight recorder systems are given in Appendix I to ANTR OPS 3.700.

(m) Flight recorder electronic documentation

The documentation requirement concerning FDR and ADRS parameters provided by operators to accident investigation authorities shall be in an electronic format, acceptable to the accident investigation authority, and take account of industry specifications.

Note: Industry specification for documentation concerning flight recorder parameters may be found in the Specification of Aeronautical Radio Incorporated, ARINC 647A, Flight Recorder Electronic Documentation, or equivalent document.

Appendix 1 to ANTR OPS 3.700
Flight Recorder - General

(a) Inspections of flight recorder systems

- (1) Prior to the first flight of the day, the built-in test features for the flight recorders and Flight Data Acquisition Unit (FDAU), when installed, shall be monitored by manual and/or automatic checks.
- (2) FDR systems or ADRS, CVR systems or CARS, and AIR systems or AIRS shall have recording inspection intervals of one year; subject to the approval from the appropriate regulatory authority, this period may be extended to two years provided these systems have demonstrated a high integrity of serviceability and self-monitoring. DLR systems or DLRS shall have recording inspection intervals of two years; subject to the approval from the appropriate regulatory authority, this period may be extended to four years provided these systems have demonstrated high integrity of serviceability and self-monitoring.

(b) Annual inspections shall be carried out as follows:

- (1) an analysis of the recorded data from the flight recorders shall ensure that the recorder operates correctly for the nominal duration of the recording;
- (2) the analysis of the FDR shall evaluate the quality of the recorded data to determine if the bit error rate (including those introduced by recorder, the acquisition unit, the source of the data on the helicopter and by the tools used to extract the data from the recorder) is within acceptable limits and to determine the nature and distribution of the errors;
- (3) a complete flight from the FDR shall be examined in engineering units to evaluate the validity of all recorded parameters. Particular attention shall be given to parameters from sensors dedicated to the FDR. Parameters taken from the aircraft's electrical bus system need not be checked if their serviceability can be detected by other aircraft systems;
- (4) the readout facility shall have the necessary software to accurately convert the recorded values to engineering units and to determine the status of discrete signals;

- (5) an examination of the recorded signal on the CVR shall be carried out by replay of the CVR recording. While installed in the aircraft, the CVR shall record test signals from each aircraft source and from relevant external sources to ensure that all required signals meet intelligibility standards;
 - (6) where practicable, during the examination, a sample of in-flight recordings of the CVR shall be examined for evidence that the intelligibility of the signal is acceptable; and
 - (7) an examination of the recorded images on the AIR shall be carried out by replay of the AIR recording. While installed in the aircraft, the AIR shall record test images from each aircraft source and from relevant external sources to ensure that all required images meet recording quality standards.
- (c) Flight recorder systems shall be considered unserviceable if there is a significant period of poor quality data, unintelligible signals, or if one or more of the mandatory parameters is not recorded correctly.
 - (d) A report of the annual inspection shall be made available on request to regulatory authorities for monitoring purposes.
 - (e) Calibration requirements of the FDR system shall be as follows:
 - (1) For those parameters which have sensors dedicated only to the FDR and are not checked by other means, recalibration shall be carried out ~~at least every five years or in accordance with the recommendations of the sensor manufacturer to~~ at an interval determined by the continuing airworthiness information for the FDR system. In the absence of such information, a recalibration shall be carried out at least every five years. The recalibration shall determine any discrepancies in the engineering conversion routines for the mandatory parameters, and ~~to~~ ensure that parameters are being recorded within the calibration tolerances;
 - (2) ~~Where~~ When the parameters of altitude and airspeed are provided by sensors that are dedicated to the FDR system, there shall be a recalibration performed at an interval determined by the continuing airworthiness information for the FDR system. In absence of such information, a recalibration shall be carried out at least every two years. ~~as recommended by the sensor manufacturer, or at least every two years.~~

Appendix 1 to ANTR OPS 3.175

Contents and conditions of the Air Operator Certificate

1. The air operator certificate shall follow the layout of ICAO Annex 6, Part III, Appendix 3, paragraph 2 and shall contain at least the following information:
 - (a) The State of the Operator and the issuing authority (the BCAA);

- (b) The air operator certificate number and its expiration date;
 - (c) The operator name, trading name (if different) address of the (principal place of business);
 - (d) Date of issue and name, signature and title of the BCAA representative; and
 - (e) the location, in a controlled document carried on board, where the contact details of operational management can be found.
2. The operations specifications associated with the air operator certificate shall follow the layout of ICAO Annex 6, Part III, Appendix 3, paragraph 3 and shall contain at least the information for each aircraft model in the operator's fleet, identified by aircraft make, model and series, the following list of authorisations, conditions and limitations shall be included:
- (a) issuing authority contact details, operator name and AOC number, date of issue and signature of the BCAA representative, aircraft model, types and area of operations.
 - (b) Special limitations; and
 - (c) Special authorisations/Specific Approvals/Remarks e.g.:
 - (1) Dangerous Goods
 - (2) CAT II/CAT III (including approved minima)
 - (3) Offshore operations
 - (4) HEMS
 - (5) Navigation specifications for PBN operations
 - (6) Other; such as
 - (i) Helicopter operations over a hostile environment located outside a congested area (See Appendix 1 to ANTR-OPS 3.005(e)).
 - (ii) Operations for small helicopters (VFR Day only) (See Appendix 1 to ANTR OPS 3.005(f)).
 - (iii) Local Area Operations (VFR Day only) (See Appendix 1 to ANTR OPS 3.005(g))
 - (iv) Helicopter Hoist Operations (See Appendix 1 to ANTR OPS 3.005(h))
 - (v) Operations to Public Interest Sites (See Appendix 1 to ANTR OPS 3.005(i));
 - (vi) Helicopter operations with an exposure time to a power unit failure during take-off or landing. (See ANTR OPS 3.517 and ANTR OPS 3.540(a)(4).)

Note 1: Private Authorisations may follow the same format

Note 2: Provide all relevant information given under the "Notes" to the format of operations specification given in Appendix 3 to Annex 6, Part III

Note to the review persons- The AOC & Ops Spec format is not given under the ANTR OPS 3 and it refers to the Annex 6, Part-III and hence, to cater for the revision as indicated under the ICAO State Letter No.13(e), Note 2 added.

Appendix 1 to ANTR OPS 3.1045 Operations Manual Contents

A. General / Basic

8. Operating Procedure

8.4 AWO. A description of the operational procedures associated with All Weather Operations. (See OPS Part 3 Subparts D & E) including instructions and requirements for the use of ~~head-up display (HUD) and enhanced vision system (EVS) equipment~~ . automatic landing systems, or equivalent displays and EVS, SVS or CVS equipment as applicable.

Instruction for the use of aerodrome operating minima for instrument approaches applicable to the use of eligible equipment for operational credit.