BELIZE

DEPARTMENT OF

CIVIL AVIATION

BELIZE CIVIL AVIATION REGULATIONS

COMECIAL AIR TRANSPORTATION (AEROPLANES)

(BCAR-OPS 1)

Issue: 2
Revision: 0
Date: 01/05/09

Issue and Revision System

REVISIONS TO THIS REGULATION WILL BE INDICATED BY A VERTICAL BAR ON THE LEFT SIDE, IN FRONT OF THE LINE, SECTION OR FIGURE THAT HAS BEEN AFFECTED. AN ISSUE WILL BE THE REPLACEMENT OF THE COMPLETE DOCUMENT.

REVISIONS MUST BE RECORDED ON THE RECORD OF REVISIONS TABLE OF THIS DOCUMENT, INDICATING THE RESPECTIVE NUMBER, DATE IT WAS ENTERED AND SIGNED BY THE PERSON ENTERING THE REVISION.

Record of Revisions

Number	Date entered:	Entered by:

CONTENTS (general layout)

BCAR- OPS 1

COMMERCIAL AIR TRANPORTATION (AEROPLANES)

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BCAR-OPS 1

COMMERCIAL AIR TRANSPORTATION (AEROPLANES)

SUBPART A — APPLICABILITY

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FOREWORD

1 The Civil Aviation Authorities of COCESNA's Member States have agreed common comprehensive and detailed aviation requirements, referred to as Civil Aviation Regulations (CAR), with a view to facilitate the export and import of aviation products, to make it easier for maintenance carried out in one COCESNA member State to be accepted by the Civil Aviation Authority in another COCESNA member State and to regulate commercial air transport operations.

2 ICAO Annex 6 has been selected to provide the basic structure of BCAR-OPS, the JAR for Air Operator Certification, but with additional sub-division where considered appropriate. The content of Annex 6 has been used and added to where necessary by making use of the Federal Aviation Requirements of the United States of America where acceptable.

3 It may be felt that the document does not contain all of the detailed compliance and interpretative information which some Civil Aviation Authorities and Industry organizations would like to see. However, it has been acceptable that BCAR-OPS should be applied in practice and the lessons learned embodied in future amendments. The Civil Aviation Authorities of the COCESNA member States are therefore committed to amendment in the light of the experience.

4 Definitions and abbreviations of terms in BCAR-OPS that are specified to a Subpart of BCAR-OPS are normally given in the Subpart concerned or, exceptionally, in the associated compliance or interpretative material.

5 New, amended and corrected text will be enclosed within heavy brackets until a subsequent 'Change' is issued.

SUBPART A - APLICABILITY

BCAR–OPS 1.001 Applicability

(a) BCAR OPS Part 1 prescribes requirements applicable to the operation of any civil airplane for the purpose of commercial air transportation by any operator whose principal place of business is in the State of Belize.

(b) The BCAR OPS 1 is applicable to the operation of airplanes with a maximum take-off weight of more than 5700 kg or a passenger seating configuration of more than 19 passengers, and to all multi-engine turbojet that operate commercially, passengers, cargo and mail, located in Belize.

(c) The BCAR OPS 1 is not applicable to:

(1) The airplanes when used in military, customs, police services, and in general by the State; nor

(2) To parachute dropping and firefighting flights, or aerial work activity nor its associated return flights in which the persons carried are those who would normally be carried on these flights; nor

(3) Operations subject to an Operating Certificate (OC).

(d) Unless specified otherwise the requirements established in the BCAR OPS 1 will be applicable upon promulgation.

(e) Propeller aircraft with an approved passenger sitting configuration of 19 passengers or less or with a maximum take of weight of 5.700 kg or less will be subject to that which is established in Annex 1 to BCAR-OPS 1.

BCAR OPS 1.003 Definitions

For the purpose of this regulation:

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

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

Aerodrome operating minima. The limits of usability of an aerodrome for:

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

(2) landing in precision approach and landing operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the category of the operation;

(3) landing in approach and landing operations with vertical guidance, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H); and

(4) landing in non-precision approach and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

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

***Aircraft operating manual*.** A manual, acceptable to the State of the Operator, containing normal, abnormal and emergency procedures, checklists, limitations, performance information, details of the aircraft systems and other material relevant to the operation of the aircraft.

Note.— The aircraft operating manual is part of the operations manual.

Air operator certificate (AOC). A certificate authorizing an operator to carry out specified commercial air transport operations.

Alternate aerodrome. An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following:

Take-off alternate. An alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate. An aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route.

ETOPS en-route alternate. A suitable and appropriate alternate aerodrome at which an aeroplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an ETOPS operation.

Destination alternate. An alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing.

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

Altimetry system error (ASE). The difference between the altitude indicated by the altimeter display, assuming a correct altimeter barometric setting, and the pressure altitude corresponding to the undisturbed ambient pressure.

Approach and landing operations using instrument approach procedures. Instrument approach and landing operations are classified as follows:

Non-precision approach and landing operations. An instrument approach and landing which utilizes lateral guidance but does not utilize vertical guidance.

Approach and landing operations with vertical guidance.
An instrument approach and landing which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations.

Precision approach and landing operations.
An instrument approach and landing using precision lateral and vertical guidance with minima as determined by the category of operation.

Note.— Lateral and vertical guidance refers to the guidance provided either by:

a) a ground-based navigation aid; or
b) computer generated navigation data.
Categories of precision approach and landing operations:

Category I (CAT I) operation. A precision instrument approach and landing with 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.

Category II (CAT II) operation. A precision instrument approach and landing with 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 350 m.

Category IIIA (CAT IIIA) operation. A precision instrument approach and landing with:

(1) a decision height lower than 30 m (100 ft) or no decision height; and

(2) a runway visual range not less than 200 m.

Category IIIB (CAT IIIB) operation. A precision instrument approach and landing with:

(1) a decision height lower than 15 m (50 ft) or no decision height; and

(2) a runway visual range less than 200 m but not less than 50 m.

Category IIIC (CAT IIIC) operation. A precision instrument approach and landing with no decision height and no runway visual range limitations.

Note.— Where decision height (DH) and runway visual range (RVR) fall into different categories of operation, the instrument approach and landing operation would be conducted in accordance with the requirements of the most demanding category (e.g. an operation with a DH in the range of CAT IIIA but with an RVR in the range of CAT IIIB would be considered a CAT IIIB operation or an operation with a DH in the range of CAT II but with an RVR in the range of CAT I would be considered a CAT II operation).

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

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

Cabin crew member. A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.

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

Configuration deviation list (CDL). A list established by the organization responsible for the type design with the approval of the State of Design which identifies any external parts of an aircraft type which may be missing at the commencement of a flight, and which contains, where necessary, any information on associated operating limitations and performance correction.

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

***Cruise relief pilot*.** A flight crew member who is assigned to perform pilot tasks during cruise flight, to allow the pilot-in- command or a co-pilot to obtain planned rest.

Cruising level. A level maintained during a significant portion of a flight.

Dangerous goods. Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the Technical Instructions or which are classified according to those Instructions.

Note.— Dangerous goods are classified in Annex 18, Chapter 3.

Decision altitude (DA) or ***decision height (DH).*** A specified altitude or height in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

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

Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation.

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

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

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

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

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

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

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

Flight data analysis. A process of analyzing recorded flight data in order to improve the safety of flight operations.

Flight duty period. The total time from the moment a flight crew member commences duty, immediately subsequent to a rest period and prior to making a flight or a series of flights, to the moment the flight crew member is relieved of all duties having completed such flight or series of flights.

Flight manual. A manual, associated with the certificate of airworthiness, containing limitations within which the aircraft is to be considered airworthy, and instructions and information necessary to the flight crew

members for the safe operation of the aircraft.

Flight operations officer/flight dispatcher. A person designated by the operator to engage in the control and supervision of flight operations, whether licensed or not, suitably qualified in accordance with Annex 1, who supports, briefs and/or assists the pilot-in-command in the safe conduct of the flight.

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

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

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

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

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

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

A basic instrument flight trainer, which is equipped with appropriate instruments, and which simulates the flight deck environment of an aircraft in flight in instrument flight conditions.

Flight time — aeroplanes. The total time from the moment an aeroplane first moves for the purpose of taking off until the moment it finally comes to rest at the end of the flight.

Note.— Flight time as here defined is synonymous with the term "block to block" time or "chock to chock" time in general usage which is measured from the time an aeroplane first moves for the purpose of taking off until it finally stops at the end of the flight.

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

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

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

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

Instrument meteorological conditions (IMC). Meteorological conditions expressed

in terms of visibility, distance from cloud, and ceiling*, less than the minima specified for visual meteorological conditions.

Large aeroplane. An aeroplane of a maximum certificated take-off mass of over 5 700 kg.

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

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

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

Maintenance release. A document which contains a certification confirming that the maintenance work to which it relates has been completed in a satisfactory manner, either in accordance with the approved data and the procedures described in the maintenance organization's procedures manual or under an equivalent system.

Master minimum equipment list (MMEL). A list established for a particular aircraft type by the organization responsible for the type design with the approval of the State of Design containing items, one or more of which is permitted to be unserviceable at the commencement of a flight. The MMEL may be associated with special operating conditions, limitations or procedures.

Maximum mass. Maximum certificated take-off mass.

Minimum descent altitude (MDA) or ***minimum descent height (MDH).*** A specified altitude or height in a non-precision approach or circling approach below which descent must not be made without the required visual reference.

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

Note 2.— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach the required visual reference is the runway environment.

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

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

Navigation specification. A set of aircraft and flight crew requirements needed to support performance-based navigation

operations within a defined airspace. There are two kinds of navigation specifications:

RNP specification. A navigation specification based on area navigation that includes the requirement for performance monitoring and alerting, designated by the prefix RNP, e.g. RNP 4, RNP APCH.

RNAV specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.

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

Night. The hours between the end of evening civil twilight and the beginning of morning civil twilight or such other period between sunset and sunrise, as may be prescribed by the appropriate authority.

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

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

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

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

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

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

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

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

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

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

Performance-based navigation (PBN). Area navigation based on performance requirements for aircraft operating along an

ATS route, on an instrument approach procedure or in a designated airspace.

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

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

Pressure-altitude. An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere*.

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

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

Required communication performance (RCP). A statement of the performance requirements for operational communication in support of specific ATM functions.

Required communication performance type (RCP type). A label (e.g. RCP 240) that represents the values assigned to RCP parameters for communication transaction time, continuity, availability and integrity.

Runway visual range (RVR). The range over which the pilot of an aircraft on the centre line of a runway can see the runway surface markings or the lights delineating the runway or identifying its centre line.

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

Safety management system. A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

Safety programme. An integrated set of regulations and activities aimed at improving safety.

Small aeroplane. An aeroplane of a maximum certificated take-off mass of 5 700 kg or less.

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

Note.— In the case of the registration of aircraft of an international operating agency on other than a national basis, the States constituting the agency are jointly and severally bound to assume the obligations which, under the Chicago Convention, attach to a State of Registry. See, in this regard, the Registration of Aircraft Operated by International Operating Agencies which can be found in Policy and Guidance Material on the Economic Regulation of International Air Transport *(Doc 9587)*.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

Target level of safety (TLS). A generic term representing the level of risk which is considered acceptable in particular circumstances.

Total vertical error (TVE). The vertical geometric difference between the actual pressure altitude flown by an aircraft and its assigned pressure altitude (flight level).

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

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SUBPART B - GENERAL

BCAR-OPS 1.005 General

(a) An operator shall not operate an aeroplane for the purpose of commercial air transportation other than in accordance with BCAR–OPS Part 1. For operations of Performance Class B aeroplanes, alleviated requirements can be found in Appendix 1 to OPS 1.005(a).

(b) An operator shall comply with the additional airworthiness requirements in the BCARs applicable to aeroplanes operated for the purpose of commercial air transportation.

(c) Each aeroplane shall be operated in compliance with the terms of its Certificate of Airworthiness, type certificate and within the approved limitations contained in its Aeroplane Flight Manual.

(d) All Synthetic Training Devices (STD), such as Flight Simulators or Flight Training Devices (FTD), replacing an aeroplane for training and/or checking purposes are to be qualified in accordance with current applicable regulations approved by the BDCA for the exercises to be conducted.

BCAR-OPS 1.010 Exemptions

(a) The BDCA may exceptionally and temporarily grant an exemption from the provisions of BCAR–OPS Part 1 when satisfied that there is a need and subject to compliance with any supplementary condition the BDCA considers necessary in order to ensure an acceptable level of safety in the particular case.

(b) The exemptions granted by the BDCA in accordance with subparagraph (a) above will be listed in the operation specifications and limitations as part of the AOC, as well as in the Operations Manual.

BCAR-OPS 1.015 Operational Directives

(a) The BDCA may direct by means of an Operational Directive that an operation shall be prohibited, limited or subject to certain conditions, in the interests of safe operations.

(b) Operational Directives state:

(1) The reason for issue;

(2) Applicability and duration; and

(3) Action required by the operator (s)

(c) The requirements of any operational directive will be considered as additional provisions to the requirements of the BCAR OPS Part 1

BCAR-OPS 1.020 Laws, Regulations and Procedures- Operator's Responsibility

(a) An operator shall ensure that all employees when abroad know that they must comply with the laws, regulations and procedures of those States in which operations are conducted.

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

(c) An operator or a designated representative shall have responsibility for operational control.

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

(e) If an emergency situation which endangers the safety of the aeroplane or persons becomes known first to the flight operations officer/flight dispatcher, action by that person in accordance with BCAR-OPS 1.195 shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.

(f) If an emergency situation which endangers the safety of the aeroplane or persons necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall notify the appropriate local authority without delay. If required by the State in which the incident occurs, the pilot-in-command shall submit a report on any such violation to the appropriate authority of such State; in that event, the pilot-in-command shall also submit a copy of it to the State of the Operator. Such reports shall be submitted as soon as possible and normally within ten days.

(g) Operators shall ensure that pilots-in-command have available on board the aeroplane all the essential information concerning the search and rescue services in the area over which the aeroplane will be flown.

(h) Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for radiotelephony communications as specified in Annex 1.

BCAR-OPS 1.025 Common Language

(a) An operator must ensure that all crew members can communicate in English

(b) An operator must ensure that all operations personnel are able to understand the language in which those parts of the Operations Manual which pertain to their duties and responsibilities are written.

BCAR-OPS 1.030 Minimum Equipment List - Operator's Responsibilities

(a) An operator shall establish, for each aeroplane, a Minimum Equipment List (MEL) and procedures for its use which must be approved by the BDCA. The MEL shall be based upon, and will be no less restrictive than, the relevant Master Minimum Equipment List (MMEL) issued by the State that approved the type certificate, accepted by the BDCA

(b) An operator shall not operate an aeroplane with inoperative instruments or equipment other than in accordance with the MEL unless approved by the BDCA.

BCAR-OPS 1.035 Quality System (See AMC/ IEM OPS 1.035)

(a) An operator shall establish one Quality System and designate one Quality Manager to monitor compliance with, and the adequacy of, procedures required to ensure safe operational practices and airworthy aeroplanes. Compliance monitoring must include a feed-back system to the Accountable Manager to ensure corrective action as necessary (See also BCAR-OPS 1.175(h))

(b) The Quality System must include a Quality Assurance Programme that contains procedures designed to verify that all operations are being conducted in accordance with all applicable requirements, standards and procedures.

(c) The Quality System and the Quality Manager must be acceptable to the BDCA.

(d) The quality system must be described in relevant documentation.

(e) Notwithstanding sub-paragraph (a) above, the BDCA may accept the nomination of two Quality Managers, one for operations and one for maintenance; provided that the operator has designated one Quality Management Unit to ensure that the Quality System is applied uniformly throughout the entire operation.

BCAR-OPS 1.037 Safety Management System and Accident prevention
(See IEM OPS 1.037)

(a) Effective 1 March 2012, an operator shall implement a safety management system acceptable to the State of the Operator that, as a minimum:

(1) Identifies safety hazards;

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

(3) Provides for continuous monitoring and regular assessment of the safety level achieved; and

(4) Aims to make continuous improvement to the overall level of safety.

(b) A safety management system shall clearly define lines of safety accountability throughout the operator's organization, including a direct accountability for safety on the part of senior management.

(c) An operator of an aeroplane of a certificated take-off mass in excess of 20 000 kg should establish and maintain a flight data analysis programme as part of its safety management system.

(d) An operator shall establish a Flight data analysis programme that shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

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

(f) Proposals for corrective action resulting from the accident prevention and flight safety programme shall be the responsibility of the person accountable for managing the programme.

(g) The effectiveness of changes resulting as a consequence of the identified corrective actions are responsibility of the manager of the Safety Management System.

BCAR OPS 1.038 Flight Safety Document System
(See AJC OPS 1.038)

The operator shall establish a flight safety document system for the use and guidance of the personnel in charge of operations.

BCAR-OPS 1.040 Crew Member

(a) An operator shall ensure that all operating flight and cabin crew members have been trained in, and are proficient to perform, their assigned duties.

(b) Where there are crew members, other than cabin crew members, who carry out their duties in the passenger compartment of an aeroplane, an operator shall ensure that they:

1. Are not confused by the passengers with the cabin crew members;

2. Do not occupy required cabin crew assigned stations;

3. Do not impede the cabin crew members in their duties

BCAR-OPS 1.050 Search and Rescue Information

An operator shall ensure that essential information pertinent to the intended flight concerning search and rescue services is easily accessible on the flight deck.

BCAR-OPS 1.055 Information on emergency and Survival Equipment Carried

An operator shall ensure that there are available for immediate communication to rescue coordination centres, lists containing information on the emergency and survival equipment carried on board all of his aeroplanes. The information shall include, as applicable, the number, colour and type of life rafts and pyrotechnics, details of emergency

medical supplies, water supplies and the type and frequencies of emergency portable radio equipment.

BCAR-OPS 1.060 Ditching

An operator shall not operate an aeroplane with an approved passenger seating configuration of more than 30 passengers on over water flights at a distance from land suitable for making an emergency landing, greater than 120 minutes at cruising speed, or 400 nautical miles, whichever is the lesser, unless the aeroplane complies with the ditching requirements prescribed in the applicable airworthiness code.

BCAR-OPS 1.065 Carriage of Weapons of War and Munitions of War
(See IEM OPS 1.065)

(a) An operator shall not transport weapons of war and munitions of war by air unless an approval to do so has been granted by all States concerned.

(b) An operator shall ensure that weapons of war and munitions of war are:

(1) Stowed in the aeroplane in a place which is inaccessible to passengers during flight; and

(2) In the case of firearms, unloaded, unless, before the commencement of the flight, approval has been granted by all States concerned that such weapons of war and munitions of war may be carried in circumstances that differ in part or in total from those indicated in this subparagraph.

(c) An operator shall ensure that the pilot in command is notified before a flight begins of the details and location on board the aeroplane of any weapons of war and munitions of war intended to be carried.

BCAR-OPS 1.070 Carriage of sporting weapons and ammunition
(See IEM OPS 1.070)

(a) An operator shall take all reasonable measures to ensure that any sporting weapons intended to be carried by air are reported to him.

(b) An operator accepting the carriage of sporting weapons shall ensure that they are:

(1) Stowed in the aeroplane in a place which is inaccessible to passengers during flight unless the BDCA has determined that compliance is impracticable and has accepted that other procedures might apply; and

(2) In the case of firearms or other weapons that can contain ammunition, unloaded.

(c) Ammunition for sporting weapons may be carried in passengers' checked baggage, subject to certain limitations, in accordance with the Technical Instructions established on BCAR-18 (see BCAR OPS 1.1150(a) (14) and BCAR OPS 1160(b) (5)).

BCAR-OPS 1.075 Method of carriage of persons

(a) An operator shall take all reasonable measures to ensure that no person is in any part of an aeroplane in flight which is not a part designed for the accommodation of persons unless temporary access has been granted by the pilot in command to any part of the aeroplane:

(1) For the purpose of taking action necessary for the safety of the aeroplane or of any person, animal or goods therein; or

(2) In which cargo or stores are carried, being a part which is designed to enable a person to have access thereto while the aeroplane is in flight.

BCAR-OPS 1.080 Transport by air of dangerous goods.

An operator shall take all reasonable measures to ensure that no person offers or accepts dangerous goods for transport by air unless the person has been trained and the goods are properly classified, documented, certificated, described, packaged, marked, labelled and in a fit condition for transport as required by the Technical Instructions and BCAR-18.

BCAR-OPS 1.085 Crew Responsibilities

(a) A crew member shall be responsible for the proper execution of his/her duties that:

1. Are related to the safety of the aeroplane and its occupants; and

2. Are specified in the instructions and procedures laid down in the Operations Manual.

(b) A crew member shall:

1. Report to the commander any fault, failure, malfunction or defect which he/she believes may affect the airworthiness or safe operation of the aeroplane including emergency systems;

2. Report to the commander any incident that endangered, or could have endangered, the safety of operation;

3. Make use of the operator's occurrence reporting schemes in accordance with OPS 1.037(a)(2). In all such cases, a copy of the report(s) shall be communicated to the commander concerned.

(c) Nothing in paragraph (b) above shall oblige a crew member to report an occurrence which has already been reported by another crew member.

(d) A crew member shall not perform duties on an aeroplane:

1. While under the influence of any drug that may affect his/her faculties in a manner contrary to safety;

2. Following deep sea diving except when a reasonable time period has elapsed;

3. Following blood donation except when a reasonable time period has elapsed;

4. If applicable medical requirements are not fulfilled, or if he/she is in any doubt of being able to accomplish his/her assigned duties; or

5. If he/she knows or suspects that he/she is suffering from fatigue, or feels unfit to the extent that the flight may be endangered.

(e) A crew member shall be subject to appropriate requirements on the consumption of alcohol which shall be established by the operator and acceptable by the Authority, and which shall not be less restrictive than the following:

1. No alcohol shall be consumed less than eight hours prior to the specified reporting time for flight duty or the commencement of standby;

2. The blood alcohol level shall not exceed 0,2 promille at the start of a flight duty period;

3. No alcohol shall be consumed during the flight duty period or whilst on standby.

(f) The commander shall:

1. be responsible for the safety of all crew members, passengers and cargo on board, as soon as he/she arrives on board, until he/she leaves the aeroplane at the end of the flight;

2. be responsible for the operation and safety of the aeroplane from the moment the aeroplane is first ready to move for the purpose of taxiing prior to take-off until the moment it finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down;

3. Have authority to give all commands he/she deems necessary for the purpose of securing the safety of the aeroplane and of persons or property carried therein;

4. Have authority to disembark any person, or any part of the cargo, which, in his/her opinion, may represent a potential hazard to the safety of the aeroplane or its occupants;

5. Not allow a person to be carried in the aeroplane who appears to be under the influence of alcohol or drugs to the extent that the safety of the aeroplane or its occupants is likely to be endangered;

6. Have the right to refuse transportation of inadmissible passengers, deportees or persons in custody if their carriage poses any risk to the safety of the aeroplane or its occupants;

7. Ensure that all passengers are briefed on the location of emergency exits and the location and use of relevant safety and emergency equipment;

8. Ensure that all operational procedures and check lists are complied with in accordance with the Operations Manual;

9. Not permit any crew member to perform any activity during take-off, initial climb, final approach and landing except those duties required for the safe operation of the aeroplane;

10. Not permit:

(i) A flight data recorder to be disabled, switched off or erased during flight nor permit recorded data to be erased after flight in the event of an accident or an incident subject to mandatory reporting;

(ii) a cockpit voice recorder to be disabled or switched off during flight unless he/she believes that the recorded data, which otherwise would be erased automatically, should be preserved for incident or accident investigation nor permit recorded data to be manually erased during or after flight in the event of an accident or an incident subject to mandatory reporting;

11. Decide whether or not to accept an aeroplane with unserviceabilities allowed by the CDL or MEL; and

12. Ensure that the pre-flight inspection has been carried out.

13. The pilot-in-command shall be responsible for the journey log book or the general declaration containing the information listed in BCAR–OPS 1.1055

(g) The commander or the pilot to whom conduct of the flight has been delegated shall, in an emergency situation that requires immediate decision and action, take any action he/she considers necessary under the circumstances.
In such cases he/she may deviate from rules, operational procedures and methods in the interest of safety.

BCAR-OPS 1.090 Authority of the pilot in command

An operator shall take all reasonable measures to ensure that all persons carried in the aeroplane obey all lawful commands given by the pilot in command for the purpose of securing the safety of the aeroplane and of persons or property carried therein.

BCAR-OPS 1.095 Authority to taxi an aeroplane

An operator shall take all reasonable steps to ensure that an aeroplane in his charge is not taxied on the movement area of an aerodrome by a person other than a flight crew member, unless that person, seated at the controls:

1. Has been duly authorised by the operator or a designated agent and is competent to;

(i) taxi the aeroplane;

(ii) Use the radio telephone; and

2. Has received instruction in respect of aerodrome layout, routes, signs, marking, lights, air traffic control signals and instructions, phraseology and procedures, and is able to conform to the operational standards required for safe aeroplane movement at the aerodrome.

BCAR–OPS 1.100 Admission to flight deck

(a) An operator must ensure that no person, other than a flight crew member assigned to a flight, is admitted to, or carried in, the flight deck unless that person is:

1. An operating crew member;

2. A representative of the Authority responsible for certification, licensing or inspection if this is required for the performance of his/her official duties; or

3. Permitted by, and carried in accordance with instructions contained in the Operations Manual.

(b) The commander shall ensure that:

1. In the interests of safety, admission to the flight deck does not cause distraction and/or interfere with the flight's operation; and

2. All persons carried on the flight deck are made familiar with the relevant safety procedures

.

(c) The final decision regarding the admission to the flight deck shall be the responsibility of the commander.

BCAR–OPS 1.105 Unauthorized carriage

An operator shall take all reasonable measures to ensure that no person secretes himself/herself or secretes cargo on board an aeroplane.

BCAR–OPS 1.110 Portable electronic devices

An operator shall not permit any person to use, and take all reasonable measures to ensure that no person does use, on board an aeroplane a portable electronic device that can adversely affect the performance of the aeroplane's systems and equipment.

BCAR–OPS 1.115 Alcohol and drugs

(a) An operator shall not permit any person to enter or be in, and take all reasonable measures to ensure that no person enters or is in, an aeroplane when under the influence of alcohol or drugs to the extent that the safety of the aeroplane or its occupants is likely to be endangered.

(b) An operator shall not permit any person on board an aeroplane to consume alcohol, except that which is provided by the cabin crewmembers.

(c) Provisions concerning the use of psychoactive substances are contained in BCAR APL 2.15

BCAR–OPS 1.118 Control programme on the use of stupefacient substances, and alcohol

(a) The operator shall establish a control programme on the use of stupefacient substances, and alcohol for those employees conducting activities related directly to flight safety. Such as the following activities:

(1) Flying aeroplanes

(2) Passengers assistance

(3) Flight instruction

(4) Aircraft dispatch

(5) Aircraft maintenance

(6) Ground security

(b) The control method may be applied in a programmed, random or under suspicion on special situations or after an aircraft accident.

(c) If an operator contacts other personnel to conduct those activities mentioned on subparagraph (a) above, must ensure that the

subcontractor is properly authorized and certified to conduct them.

BCAR–OPS 1.120 Endangering safety

(a) An operator shall take all reasonable measures to ensure that no person recklessly or negligently acts or omits to act:

(1) So as to endanger an aeroplane or person therein;

(2) So as to cause or permit an aeroplane to endanger any person or property

(b) An operator shall establish procedures to ensure that the corresponding charge is presented to the authority against the persons committing the acts mentioned in paragraph (a) above.

BCAR–OPS 1.125 Documents to be carried

(a) An operator shall ensure that the following are carried on each flight:

(1) The Certificate of Registration;

(2) The Certificate of Airworthiness;

(3) The original or a copy of the Noise Certificate (if applicable);

(4) The original or a copy of the Air Operator Certificate (AOC) and the associated operation specifications;

(5) The Aircraft Radio License; and

(6) The original or a copy of the Third party liability Insurance Certificate(s).

(b) Each flight crew member shall, on each flight, carry a valid flight crew license with appropriate rating(s) for the purpose of the flight.

BCAR–OPS 1.130 Manuals to be carried

(a) An operator shall ensure that:

(1) The current parts of the Operations Manual relevant to the duties of the crew are carried on each flight;

(2) Those parts of the Operations Manual and other documents (Charts) which are required for the conduct of a flight are easily accessible to the crew on board the aeroplane; and

(3) The current Aeroplane Flight Manual is carried in the aeroplane unless the BDCA has accepted that the Operations Manual prescribed in BCAR–OPS 1.1045, Appendix 1, Part B contains relevant information for that aeroplane.

BCAR–OPS 1.135 Additional information and forms to be carried

(a) An operator shall ensure that, in addition to the documents and manuals prescribed in BCAR–OPS 1.125 and BCAR–OPS 1.130, the following information and forms, relevant to the type and area of operation, are carried on each flight:

(1) Operational Flight Plan containing at least the information required in BCAR–OPS 1.1060;

(2) Aeroplane Technical Log containing at least the information required in BCAR–OPS 1.915(a); and BCAR OPS 1.1055 (a)

(3) Details of the filed ATS flight plan presented;

(4) Appropriate NOTAM/AIS briefing documentation;

(5) Appropriate meteorological information;

(6) Mass and balance documentation as specified in Subpart J;

(7) Notification of special categories of passenger such as security personnel, if not considered as crew, handicapped persons, inadmissible

passengers, deportees and persons in custody;

(8) Notification of special loads including dangerous goods including written information to the pilot in command as prescribed in BCAR–OPS 1.1215(d);

(9) Current maps and charts and associated documents as prescribed in BCAR–OPS 1.290(b)(7);

(10) Any other documentation which may be required by the BDCA concerned with this flight, such as cargo manifest, passenger manifest etc; and

(11) Forms to comply with the reporting requirements of the BDCA and the operator.

(b) The BDCA may permit the information detailed in sub-paragraph (a) above, or parts thereof, to be presented in a form other than on printed paper. An acceptable standard of accessibility, usability and reliability must be assured.

BCAR–OPS 1.140 Information retained on the ground

(a) An operator shall ensure that:

(1) At least for the duration of each flight or series of flights;

(i) Information relevant to the flight and appropriate for the type of operation is preserved on the ground; and

(ii) The information is retained until it has been duplicated at the place at which it will be stored in accordance with BCAR–OPS 1.1065; or, if this is impracticable,

(iii) The same information must be carried in a stainless steel container in the aeroplane.

(b) The information referred to in subparagraph (a) above includes:

(1) A copy of the operational flight plan where appropriate;

(2) Copies of the relevant part(s) of the aeroplane technical log;

(3) Route specific NOTAM documentation if specifically edited by the operator;

(4) Weight and balance documentation if required (BCAR–OPS 1.625 refers); and

(5) Special loads notification.

(6) Specified route Meteorological information.

BCAR–OPS 1.145 Power to inspect

An operator shall ensure that any person authorized by the BDCA, in the performance of his duties, is permitted at any time to board and fly in any aeroplane operated in accordance with an AOC issued by that Authority and to enter and remain on the flight deck provided that the pilot in command may refuse access to the flight deck if, in his opinion, the safety of the aeroplane would thereby be endangered. In case that the operator or the pilot in command denies the access to an authorized person, a report to the BDCA must be submitted within a maximum period of 48 hours.

BCAR–OPS 1.150 Production of documentation and records

(a) An operator shall:

(1) Give any person authorized by the BDCA access to any documents and records which are related to flight operations or maintenance; and

(2) Produce all such documents and records, when requested to do so by the BDCA, within a period of 72 hours.

(b) The pilot in command shall, within a reasonable time of being requested to do so by a person authorized by the BDCA, produce

to that person the documentation required to be carried on board.

BCAR–OPS 1.155 Preservation of documentation

(a) An operator shall ensure that:

(1) Any original documentation, or copies thereof, that he is required to preserve is preserved for the required retention period even if he ceases to be the operator of the aeroplane; and

(2) Where a crew member, in respect of whom an operator has kept a record in accordance with Subpart Q, becomes a crew member for another operator, that record is made available to the new operator.

BCAR–OPS 1.160 Preservation, production and use of flight recorder recordings

(a) *Preservation of recordings*

(1) Following an accident, the operator of an aeroplane on which a flight recorder is carried shall, to the extent possible,
Preserve the original recorded data pertaining to that accident, as retained by the recorder for a period of 60 days unless otherwise directed by the investigating authority.

(2) Unless prior permission has been granted by the BDCA, following an incident that is subject to mandatory reporting, the operator of an aeroplane on which a flight recorder is carried shall, to the extent possible, preserve the original recorded data pertaining to that incident, as retained by the recorder for a period of 60 days unless otherwise directed by the investigating authority.

(3) Additionally, when the BDCA so directs, the operator of an aeroplane on which a flight recorder is carried shall preserve the original recorded data for a period of 60 days unless otherwise directed by the investigating authority.

(4) When a flight data recorder is required to be carried aboard an aeroplane, the operator of that aeroplane shall:

(i) Save the recordings for the period of operating time as required by BCAR–OPS 1.715, except that, for the purpose of testing and maintaining flight data recorders, up to one hour of the oldest recorded material at the time of testing may be erased; and

(ii) Keep a document which presents the information necessary to retrieve and convert the stored data into engineering units.

(b) *Production of recordings.*
The operator of an aeroplane on which a flight recorder is carried shall, within a reasonable time after being requested to do so by the BDCA, produce any recording made by a flight recorder which is available or has been preserved.

(c) *Use of recordings*

(1) The cockpit voice recorder recordings may not be used for purposes other than for the investigation of an accident or incident subject to mandatory reporting except with the consent of all crew members concerned.

(2) The flight data recorder recordings may not be used for purposes other than for the investigation of an accident or incident subject to mandatory reporting except when such records are:

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

(ii) Personnel identification data is eliminated; or

(iii) Disclosed under secure procedures.

BCAR–OPS 1.165 Leasing

(a) *Terminology*

Terms used in this paragraph have the following meaning:

(1) *Dry lease* – Is when the aeroplane is operated under the AOC of the lessee.

(2) *Wet lease* – Is when the aeroplane is operated under the AOC of the lessor.

(3) *Exchange of aeroplanes* - it is the agreement between two operators to exchange their aeroplanes in approved points, agreeing under an obligation to operate the aeroplanes under the operations, maintenance, and MEL procedures approved in their OPSPECS.

(4) *Operator from a State member of COCESNA* - An operator certified in accordance with the requirements of the BCAR-OPS 1 or RAC OPS 1.

(b) *Leasing of aeroplanes between operators from COCESNA member States.*

(1) *Wet lease-out.* Is an operator providing an aeroplane and complete crew to another operator, and retaining all the functions and responsibilities prescribed in Subpart C, shall remain the operator of the aeroplane.

(2) All leases except wet lease-out

(i) Except as provided by subparagraph (b)(1) above, a COCESNA member State operator utilizing an aeroplane from, or providing it to, another COCESNA member State operator, must obtain prior approval for the operation from his respective Authority. Any conditions which are part of this approval must be included in the lease agreement. This agreement must be register in the corresponding aeronautical registry.

(ii) Those elements of lease agreements which are approved by the Authority, other than lease agreements in which an aeroplane and complete crew are involved and no transfer of functions and responsibilities is intended, are all to be regarded, with respect to the leased aeroplane, as variations of the AOC under which the flights will be operated.

(c) Leasing of aeroplanes between a COCESNA member State operator and any entity which is not a COCESNA member State operator

(1) *Dry lease-in*

(i) A COCESNA member State operator shall have preference to dry-leased-in aeroplanes registered in a COCESNA member state or from any ICAO State Member provided it complies with the ICAO Annexes and the regulations that the State considers applicable then the dry-lease-in shall be approved.

(ii) A COCESNA member State operator shall ensure that, with regard to aeroplanes that are dry leased-in, any differences from the requirements prescribed in Subparts K, L, are notified to and are acceptable to the BDCA.

(2) *Wet lease-in*

(i) A COCESNA member State operator shall have preference to wet-lease-in aeroplanes including the crew from a COCESNA member state or from any ICAO State Member provided it complies with the ICAO Annexes and the regulations that the State considers applicable then the wet-leased-in shall be approved.

(ii) A COCESNA State Member operator shall ensure that, with regards to leasing including wet lease:

(A) The safety standards of the lessor with respect to maintenance and operation are equivalent to the BCARs;

(B) The lessor is an operator holding an AOC issued by a State which is a signatory to the Chicago Convention:

(C) The aeroplane has a standard Certificate of Airworthiness issued in accordance with BCAR 21.

(D) Any requirement made applicable by the Authority of the lessee is complied with.

(3) *Dry lease-out*

(i) A COCESNA Member State may dry-leased-out an aeroplane to any operator of a State which is signatory to the Chicago Convention provided that the following conditions are met:

(A) The ICAO Member State has exempted the COCESNA Member State operator from the relevant provisions of BCAR–OPS Part 1 and, after the foreign Authority has accepted for the surveillance of the operation.

(B) The aeroplane is maintained according to an approved maintenance programme.

(4) *Wet lease-out.* A COCESNA Member State operator providing an aeroplane and complete crew to another entity and retaining all the functions and responsibilities prescribed in BCAR-OPS 1, shall remain the operator of the aeroplane.

(d) *Leasing of aeroplanes at short notice.* In circumstances where a COCESNA Member State operator is faced with an immediate, urgent and unforeseen need for a replacement aeroplane, the approval required by subparagraph (c)(2)(i) above may be deemed to have been given, provided that:

(1) The lessor is an operator holding an AOC issued by a COCESNA Member State, or an ICAO signatory State; and

(2) The lease-in period does not exceed 5 consecutive days; and

(3) The BDCA is immediately notified of the use of this provision.

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SUBPART C - AIR OPERATOR CERTIFICATION AND SURVAILLANCE

BCAR–OPS 1.175 General rules for Air Operator Certification

(a) An operator shall not engage in commercial air transport operations unless in possession of a valid air operator certificate issued by the State of the Operator. The Air Operator Certificate (AOC) authorizes the operator to conduct commercial air transport operations in accordance with the operations specifications.

(b) An applicant for an AOC, or variation of an AOC, shall allow the Authority to examine all safety aspects of the proposed operation.

(c) An applicant for an AOC must:

(1) Not hold an AOC issued by another State

(2) Have his principal place of business and, if any, his registered office located in the State responsible for issuing the AOC; (See IEM OPS 1.175(c)(2));

(c) Satisfy the BDCA that he is able to conduct safe operations.

(d) If an operator has aeroplanes registered in different States, appropriate arrangements shall be made to ensure appropriate safety oversight.

(e) An operator shall grant the BDCA access to his organization and aeroplanes and shall ensure that, with respect to maintenance, access is granted to any associated BCAR–145 maintenance organization to determine continued compliance with OPS 1.

(f) When the BDCA is convinced that an operator may not undertake safe operations, its AOC will be varied, suspended or revoked.

Before situations of serious non-fulfilment that compromise safety; the BDCA for reasons of

urgency and in its safeguarding of public interest, may adopt immediate preventive suspension total or partial of the operations, and begin simultaneously the corresponding administrative procedure.

(g) The operator must satisfy the BDCA that;

(1) 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.; and

(2) Procedures for the supervision of operations have been defined.

(h) The operator must have nominated an accountable manager acceptable to the BDCA who has corporate authority for ensuring that all operations and maintenance activities can be financed and carried out to the standard required by the BDCA (See AMC OPS 1.035).

(i) The operator must have nominated post holders, acceptable to the BDCA, who are responsible for the management and supervision of the following areas,

(1) Flight operations;

(2) The maintenance system;

(3) Crew training; and

(4) Ground operations.

(5) Quality System

(j) Requisites for Responsible Managers or nominees (See AJC OPS 1.175 (j) and AJC OPS 1.175 (k)):

(1) Generally it is expected that the responsible nominees may accredit before the BDCA that they possess the experience and required licenses, listed in subparagraphs 2 to 5 below. In particular cases and in an exceptional way, the BDCA may accept a nomination that does not fulfil the requirements completely, but in this case the nominee will attest before the DBCA that has an equivalent experience and the capacity to perform in an effective way the functions associated to the position and the size of the operation.

(2) The responsible nominee must have:

(i) Practical Experience and knowledge in the application of security standards in aviation and safe operational practices.

(ii) Good knowledge of:

(A) BCAR OPS and any associated requirement or procedure;

(B) The operation specifications associated to the AOC;

(C) The necessity and content of the parts of the Operations Manual affecting him.

(3) To be familiarized with the quality system;

(4) Management experience in another comparable organization;

(5) Five (5) years of experience working in a condition related to the current position, at least two of which should be in the aeronautical industry in a suitable position.

(k) Flight Operations:

(1) The responsible nominee for flight operations or his substitute must have a valid pilot's license appropriate to the type of operation carried out in accordance with the AOC, as follows:

(i) If the AOC includes aeroplanes certified for a minimum of two pilots: An ATPL license emitted or validated by the State issuing the AOC;

(ii) If the AOC includes aeroplanes certified for a minimum of one pilot: A CPL and if appropriated to the operation, an instrument rating (IR) emitted or validated by the State issuing the AOC.

(l) Maintenance Area:

(a). The operator must nominate within the Maintenance Organization a responsible person acceptable to the BDCA to occupy one of the following positions:

(1). Director of Maintenance (or equivalent position). The Director of Maintenance shall be that person who has:

(i). A Belize Aircraft Maintenance Engineer's License with airframe and power plant ratings

(ii). Five years experience in maintaining the same aircraft category and aircraft class used by the national air operator including one year in the capacity of returning aircraft to service.

(iii). One year supervisory experience maintaining the same category and class used by the national operator.

(2) The Quality Manager shall be that person who has:

(i). A Belize Aircraft Maintenance Engineer's License with airframe and power plant ratings.

(ii). Five years experience in maintaining the same aircraft category and aircraft class used by the national air operator including one year in the capacity of returning aircraft to service.

(iii). Have attended at least 40 hrs training in quality systems and audits.

(m) Crew Training:

(1) The responsible nominee or his substitute must have a valid type rating in one of the aeroplane types included in the AOC and a current instructor's rating.

(2) The responsible nominee must have a vast knowledge of the flight crew training concept of the AOC holder.

(n) If it is acceptable to the BDCA, a person may be responsible for more than an area of responsibility. For operators that have 20 employees or less to full time employees, a minimum of two people are required to cover the four areas of responsibility. For operators that have 21 to 50 full time employees, a minimum of three people are required to cover the four areas of responsibility. For operators that have 51 or more full time employees, a minimum of four people are required to cover the four areas of responsibility. Combination of responsibilities between responsible nominees see (o). The acceptability that a person holds several positions, as well as holding the responsible manager's position, will depend on the nature and scale of the operation. The two areas to consider are competence and individual capacity to fulfil his responsibilities.

(o) For operators that have 20 or less full time employees, one or more areas of responsibility may be held by the Responsible Manager, if it is acceptable to the BDCA:

(p) The operator will guarantee that each flight is undertaken in accordance with the Operations Manual.

(q) The operator will have the appropriate means to guarantee the proper ground assistance to its flights.

(r) The operator will guarantee that its aeroplanes are equipped and their crew qualified, as it is required, for each area and type of operation.

(s) The operator will comply with the maintenance requirements, in accordance with Subpart M, for all the aeroplanes operated under the terms of its AOC.

(t) The operator shall provide the BDCA with a copy of its Operations Manual, as specified in Subpart P, as well as all its amendments and revisions.

(u) The operator will maintain in its main base of operations, appropriate means of operative support for the type and area of operation.

(v) The AOC is a personal document and non-transferable to any person or entity.

BCAR–OPS 1.180 Issue, variation and continued validity of an AOC

(a) An AOC will not be emitted or a variation issued and said AOC will cease its validity unless:

(1) Aeroplanes operated have a standard Certificate of Airworthiness issued in accordance with ICAO Annex 8;

(2) The maintenance system has been approved by the BDCA in accordance with Subpart M; and

(3) The operator has satisfied the BDCA that he has the ability to:

(4) Establish and maintain an adequate organization;

(5) Establish and maintain a quality system in accordance with BCAR–OPS 1.035;

(6) Comply with required training programs;

(7) Comply with the maintenance requirements, in accordance with the type and scope of the specified operations, including what is established in the BCAR OPS 1.175 (g) to (t) and;

(8) Comply with BCAR–OPS 1.175.

(b) Notwithstanding the provisions of BCAR–OPS 1.185(f), the operator must notify the BDCA as soon as practicable of any changes to the information submitted in accordance with BCAR–OPS 1.185(a) below.

(c) If the BDCA is not satisfied that the requirements of subparagraph (a) above have been met, the BDCA may require the conduct of one or more demonstration flights, operated as if they were commercial air transport flights.

(d) During the validity of the AOC, the BDCA shall establish a system for the supervision and permanent surveillance of the execution of the obligations of the operator in accordance with its manuals and the approved operation specifications and limitations.

(e) Where operators interrupt their operations during a period of more than two months or do not initiate operations within a month after the issuance of the AOC, must submit to the BDCA their decision to resume or to start its operations stating the reasons for the inactivity. The BDCA taking in consideration the circumstances of case shall give a resolution whether the operator should start a new certification process to obtain a new AOC.

(f) An Air Operator Certificate is issued by the Belize Department of Civil Aviation for the period of one year. It shall be renewed upon the successful compliance with the surveillance established in accordance with subparagraph (d) above.

BCAR–OPS 1.185 Administrative requirements

(a) An operator shall ensure that the following information is included in the initial application for an AOC and, when applicable, any variation or renewal applied for:

(1) The official name and business name, address and mailing address, Main Operations and Maintenance base of the applicant;

(2) A description of the proposed operation;

(3) A description of the management organization;

(4) The name of the accountable manager;

(5) The names of major post holders, including those responsible for flight operations (management), flight operations, the maintenance system, crew training, and ground operations, together with their qualifications, experience, and contact addresses; and

(6) The Operations Manual.

(b) In respect of the operator's maintenance system only, the following information must be included in the initial application for an AOC and, when applicable, any variation or renewal applied for, and for each aeroplane type to be operated (see IEM OPS 1.185(b)):

(1) The Maintenance Organization Manual;

(2) The operator's aeroplane maintenance program(s);

(3) The aeroplane technical log

(4) Where appropriate, the technical specification(s) of the maintenance contract(s) between the operator and any BCAR–145 approved maintenance organization;

(5) Description of the aircraft (model, serial number, registration and quantity).

(c) The training plan for all technical personnel involved in the operation.

(d) The proving flights plan.

(e) The emergency evacuation plan.

(f) The plan for inspections of the main base of operations, stations, aeroplanes and installations.

(g) The request for the initial issuance of an AOC must be presented within 90 days prior to begin phase 2 [see BCAR OPS 1.190 (b)].

(h) The request for an amendment or a variant to an AOC must be presented with a minimum of 60 days prior to the start of operations.

(i) It must be notified to the BDCA with a minimum of 10 days prior to the proposal to changing a responsible person in any of the four defined areas of responsibility.

BCAR OPS 1.190 Phases for issuing an Air Operator Certificate (AOC).

The technical certification process conducted by the BDCA to verify the operator's compliance with the requirements established in the BCAR-OPS 1 consists of the following phases:

a) **Phase 1 Initial Application:** Proceedings accomplished by the operator before the BDCA with the objective of acquiring information on the requirements and existing procedures for the obtaining of an AOC.

b) **Phase 2 Formal Application:** The submission on the part of the operator before the BDCA of the application for the issuance of an AOC, in accordance with the requirements of BCAR OPS 1.185.

c) **Phase 3 Document Evaluation:** The revision on the part of the BDCA of the required documentation and the communication to the operator of the discrepancies found for its correction.

d) **Phase 4 Technical Demonstration:** Technical evaluation conducted by the BDCA on the aeroplane, procedures and installations of the operator with the objective of determining its adequacy with the documentation submitted with the application. In this phase proving flights that

the BDCA considers necessary may be included.

e) **Phase 5 Certification:** Legal action by which the BDCA emits the AOC and the operation specifications and limitations once verify the compliance of the operator with the requirements established in the BCAR OPS 1.

BCAR OPS 1.193 Initial Application for an AOC.

The applicant of an AOC for the first time or the applicant for an amendment or variation of an AOC must simultaneously apply for an Operational Permit (OP); so that a reasonable margin of time exists to carry out the process of technical certification; this process will not be in excess to 180 working days from the date of formal application (Phase 2).

INTENCIONALMENTE DEJADO EN BLANCO

Appendix 1 to BCAR–OPS 1.175 Contents and conditions of the Air Operator Certificate and Operations Specifications.

(a) The air operator certificate shall contain at least the following information and, from 1 January 2010, shall follow the layout of Appendix 6, paragraph 2:

(1) The State of the Operator and the issuing authority;

(2) The air operator certificate number and its expiration date;

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

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

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

(b) The holder of an AOC must maintain a current copy of the certificate along with the associated operation specifications and limitations in its principal base of operations.

(c) The operations specifications associated with the air operator certificate shall contain at least the information listed in Appendix 6, paragraph 3, and, from 1 January 2010, shall follow the layout of Appendix 6, paragraph 3 of Annex 6 Part 1.

(d) Air operator certificates and their associated operations specifications first issued from 20 November 2008 shall follow the layouts of Appendix 6, paragraphs 2 and 3 of the Annex 6 Part 1.

Appendix 2 to BCAR–OPS 1.175 The management and organization of an AOC holder

(a) *General.* An 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 in aviation.

(b) Managers or Nominated post holders

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 BDCA must be given notice in writing of any intended or actual change in appointments or functions.

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

A person nominated as a Manager by the holder of an AOC must not be nominated as a Manager by the holder of any other AOC, unless acceptable to the Authorities concerned.

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

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 N and O as appropriate.

Ground Staff

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 organization.

An operator contracting other organizations to provide certain services retains responsibility for the compliance of proper standards. In such circumstances, it is the obligation of one of the responsible to guarantee that any contractor employed meets the required standards.

Internal supervision of the operator.

The number of supervisors to be appointed is dependent upon the structure of the operator and the number of staff employed. The functions and responsibilities must be defined, and the flight activities must be planned to perform the supervisory responsibilities.

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

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

An 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.

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.

SUBPART D – OPERATIONAL PROCEDURES

BCAR-OPS 1.195 Operational Control and flights dispatch. Functions and responsibilities.
(See Appendix 1 al BCAR-OPS 1.195)
(See AMC OPS 1.195)

An operator shall:

(a) Establish and maintain a method of exercising operational control approved by the BDCA;

(b) Exercise operational control over any flight operated under the terms of his AOC, through the establishment of an Operational and Dispatch Control Centre (ODCC), or equivalent Unit.

(c) Assign a number of flight dispatchers to the ODCC to endure the adequate operational control of each flight.

(d) Effective January1 2012 a Flight Dispatchers must hold a license issued in accordance with BCAR-APL.

(e) The flight dispatcher should have the following responsibilities:
  (1) Conduct the activities established on BCAR-OPS 1.605 and prepare the weight and balance documentation in accordance with BCAR-OPS 1.625.
  (2) Prepare the Operational Flight Plan in accordance with the requirements of BCAR-OPS 1.1060.
  (3) Assist the pilot-in-command in preparing the operational and ATS flight plans, sign when applicable and file the ATS flight plan with the appropriate ATS unit;
  (4) Help and/or coordinate with the pilot-in-command the preparation of the flight in accordance with the requirements of BCAR-OPS 1.290
  (5) Provide the pilot in command with the latest available reports or the information concerning the airport conditions and navigational facilities that may affect the flight.
  (6) Before the fight shall provide the pilot in command all weather reports or forecasts available that may affect the safety of the flight, such as clear air turbulence, low level wind-shear for the route to be flown and airports to be used
  (7) During flight the dispatcher shall provide the pilot in command any additional information concerning the meteorological conditions and irregularities on the facilities or services that may affect the safety of the flight.
  (8) The flight dispatcher shall monitor the flight from its beginning until completion.
  (9) The operator shall ensure that all dispatchers receive conversion training, differences or familiarization, and recurrent, as applicable, in accordance with Appendix 1 to BCAR-OPS 1.195.

(f) In the event of an emergency, a flight operations officer/flight dispatcher shall:

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

(2) convey safety-related information to the pilot-in-command that may be necessary for the safe conduct of the flight, including information related to any amendments to the flight plan that become necessary in the course of the flight.

(g) The Operational Dispatch Control Centre (ODCC) shall not adopt any measurement unsuitable with the procedures established by:

(1) Air Traffic Control (ATC),
(2) Meteorological service,
(3) Communications service.

BCAR–OPS 1.200 Operations manual (See AMC OPS 1.200)

(a) An operator shall provide, for the use and guidance of operations personnel concerned an operations manual in accordance with Sub part P. The operations manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up to date. All such amendments or revisions shall be issued to all personnel that are required to use this manual.

(b) The operator shall provide a copy of the operations manual together with all amendments and/or revisions, for review and acceptance and, where required, approval. The operator shall incorporate in the operations manual such mandatory material as the BDCA may require.

BCAR–OPS 1.205 Competence of operations personnel

(a) An operator shall ensure that all personnel assigned to, or directly involved in, ground and flight operations are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and the relationship of such duties to the operation as a whole

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

(c) A flight operations officer/flight dispatcher should not be assigned to duty after 12 consecutive months of absence from such duty, unless the provisions of the BCAR-APL are met.

BCAR–OPS 1.210 Establishment of Procedures

(a) An operator shall establish procedures and instructions, for each aeroplane type, containing ground staff and crew members' duties for all types of operation on the ground and in flight. (See AMC OPS 1.210(a).)

(b) An operator shall establish a check-list system to be used by crew members for all phases of operation of the aeroplane under normal, abnormal and emergency conditions as applicable, to ensure that the operating procedures in the Operations Manual are followed. (See IEM OPS 1.210 (b).)

(c) An 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 aeroplane. (See IEM OPS 1.210(c).)

BCAR–OPS 1.215 Use of Air Traffic Services

An operator shall ensure that Air Traffic Services are used for all flights whenever available.

BCAR–OPS OPS 1.216 In-flight operational instructions

An operator shall ensure that his in-flight operational instructions involving a change to the air traffic flight plan shall, when practicable, be coordinated with the appropriate air traffic service unit before transmission to an aeroplane.

BCAR–OPS 1.220 Authorization of Aerodromes by the Operator (See IEM OPS 1.220)

(a) An operator shall ensure that the selected aerodromes are adequate for the type(s) of aeroplane and operation(s) concerned.

(b) Subject to their published conditions of use, aerodromes and their facilities shall be kept continuously available for flight operations during their published hours of operations, irrespective of weather conditions.

BCAR–OPS 1.225 Aerodrome Operating Minima

(a) An operator shall specify aerodrome operating minima, established in accordance with BCAR–OPS 1.430 for each departure, destination or alternate aerodrome authorized to be used in accordance with BCAR–OPS 1.220.

(b) Any increment imposed by the BDCA must be added to the minima specified in accordance with sub-paragraph (a) above.

(c) The minima for a specific type of approach and landing procedure are considered applicable if:

(1) The ground equipment shown on the respective chart required for the intended procedure is operative;

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

(3) The required aeroplane performance criteria are met; and

(4) The crew is qualified accordingly.

BCAR–OPS 1.230 Instrument departure and approach procedures

(a) An operator shall ensure that instrument departure and approach procedures established shall be approved and promulgated by the State in which the aerodrome is located are used. All aeroplanes operated in accordance with instrument flight rules shall comply with the instrument flight procedures approved by the State in which the aerodrome is located.

(b) Notwithstanding sub-paragraph (a) above, a pilot in command may accept an ATC clearance to deviate from a published departure or arrival route, provided obstacle clearance criteria are observed and full account is taken of the operating conditions. The final approach must be flown visually or in accordance with the established instrument approach procedure.

(c) Different procedures to those required to be used in accordance with sub-paragraph (a) above may only be implemented by an operator provided they have been approved by the State in which the aerodrome is located, if required, and accepted by the BDCA.

BCAR–OPS 1.235 Noise abatement procedures

(a) In no case shall the mass at the start of take-off, or at the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, exceed the relevant maximum masses at which compliance has been demonstrated with the applicable noise certification Standards in Annex 16, Volume I, unless otherwise authorized in exceptional circumstances for a certain aerodrome or a runway where there is no noise disturbance problem, by the competent authority of the State in which the aerodrome is situated.

(b) An operator shall establish appropriate operating departure and arrival/approach procedures for each aircraft type in accordance with the following:

(1) The operator shall ensure that safety has priority over noise abatement, and

(2) These procedures shall be designed to be simple and safe to operate with no significant increase in crew workload during critical phases of flight, and

(3) Noise abatement procedures specified by an operator for any one aeroplane type should be the same for all aerodromes.

(4) For each aeroplane type two departure procedures shall be defined, in accordance with ICAO Doc. 8168 (Procedures for air navigation services, 'PANS-OPS'), Volume I:

(i) Noise abatement departure procedure one (NADP 1), designed to meet the close-in noise abatement objective; and

(ii) Noise abatement departure procedure two (NADP 2), designed to meet the distant noise abatement objective; and

(iii) In addition, each NADP climb profile can only have one sequence of actions.

BCAR–OPS 1.240 Routes and areas of operation

(a) An operator shall ensure that operations are only conducted along such routes or within such areas, for which:

(1) Ground facilities and services, including meteorological services, are provided which are adequate for the planned operation;

(2) The performance of the aeroplane intended to be used is adequate to comply with minimum flight altitude requirements;

(3) The equipment of the aeroplane intended to be used meets the minimum requirements for the planned operation;

(4) Appropriate maps and charts are available [see BCAR–OPS 1.135(a)(9)];

(5) If twin engine aeroplanes are used, adequate aerodromes are available within the time/distance limitations of BCAR–OPS 1.245.

(6) If single-engine aeroplanes are used, surfaces are available which permit a safe forced landing to be executed.

(b) An operator shall ensure that operations are conducted in accordance with any restriction on the routes or the areas of operation, imposed by the BDCA.

BCAR-OPS 1.241 Operation in defined airspace with Reduced Vertical Separation Minima (RVSM) (See Annex 2 to BCAR-OPS 1)

An operator shall not operate an aeroplane in defined portions of airspace where, based on Regional Air Navigation Agreement, a vertical separation minimum of 300 m (1 000ft) applies unless approved to do so by the BDCA (RVSM Approval). (See also BCAR-OPS 1.872.)

BCAR OPS 1.243 Operations in areas with specific navigation performance requirements (See IEM OPS 1.243)

(a) An operator shall ensure that an aeroplane operated in areas or through portions of airspace, or on routes where navigation performance requirements have been specified, is certified according to these requirements, and, if required, that the Authority has granted the relevant operational approval.
(See also OPS 1.865 (c)(2), OPS 1.870 and OPS 1.872).

(b) An operator of an aeroplane operating in areas referred to in (a) shall ensure that all contingency procedures, specified by the authority responsible for the airspace concerned, have been included in the Operations Manual.

BCAR-OPS 1.245 Maximum distance from an adequate aerodrome for twin engine aeroplanes without an ETOPS Approval

(a) unless specifically approved by the BDCA in accordance with BCAR-OPS 1.246(a) ETOPS Approval), an operator shall not operate a twin engine aeroplane over a route which contains a point further from an adequate aerodrome than, in the case of:

(1) Performance Class A aeroplanes with either:

(i) A maximum approved passenger seating configuration of 20 or more; or

(ii) A maximum take-off weight of 45 360 kg or more, the distance flown in 60 minutes at single engine cruise speed determined in accordance with subparagraph (b) below;

(2) Performance Class A aeroplanes with:

(i) A maximum approved passenger seating configuration of 19 or less; and

(ii) A maximum take-off weight less than 45 360 kg, the distance flown in 120 minutes or, if approved by the BDCA, up to 180 minutes for turbo-jet aeroplanes, at the one engine inoperative cruise speed determined in accordance with subparagraph (b) below (See AMC OPS 1.245(a)(2));

(3) Performance Class B or C aeroplanes:

(i) The distance flown in 120 minutes at the one-engine-inoperative cruise speed determined in accordance with subparagraph (b) below; or

(ii) 300 nautical miles, whichever is less. (See IEM OPS 1.245(a).)

b) An operator shall determine a speed for the calculation of the maximum distance to an adequate aerodrome for each twin engine aeroplane type or variant operated, not exceeding VMO, based upon the airspeed that the aeroplane can maintain with one-engine-inoperative.

(c) An operator must ensure that the following data, specific to each type or variant, is included in the Operations Manual:

1. The one-engine-inoperative cruise speed determined in accordance with subparagraph (b) above; and

2. The maximum distance from an adequate aerodrome determined in accordance with subparagraphs (a) and (b) above.

Note: The speeds specified above are only intended to be used for establishing the maximum distance from an adequate aerodrome.

BCAR-OPS 1.246 Extended range operations with twin engine aeroplane. (ETOPS)

(a) An operator shall not conduct operations beyond the threshold distance determined in accordance with BCAR-OPS 1.245 unless approved to do so by the BDCA (ETOPS approval)

(b) Prior to conducting an ETOPS flight, an operator shall ensure that a suitable ETOPS en-route alternate is available, and the available information indicates that conditions at those aerodromes will be at or above the aerodrome operating minima approved for the operation.within either the approved diversion time or a diversion time based on the MEL generated serviceability status of the

aeroplane, whichever is shorter. (See also BCAR-OPS 1.297(d).)

BCAR-OPS 1.247 Additional requirements for operations of single-engine turbine-powered aeroplanes at night and/or in Instrument Meteorological Conditions (IMC)

(a) Prior to conducting an operation using a single-engine turbine-powered aeroplane at night and/or in IMC, the Operator shall ensure that the airworthiness certification of the aeroplane is appropriate and that the overall level of safety intended by the provisions of BCAR OPS 1 is provided by:

(1) The reliability of the turbine engine;

(2) The operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programmes; and

(3) Equipment and other requirements provided in accordance with Sub-part K.

(b) All single-engine turbine-powered aeroplanes operated at night and/or in IMC shall have an engine trend monitoring system, and those aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 2005 shall have an automatic trend monitoring system.

(c) this operation shall be approved by the BDCA

BCAR–OPS 1.250 Establishment of minimum flight altitudes (See IEM OPS 1.250)

(a) An operator shall establish minimum flight altitudes and the methods to determine those altitudes for all route segments to be flown which provide the required terrain clearance taking into account the requirements of Subparts F to I.

(b) Every method for establishing minimum flight altitudes must be approved by the BDCA and be included in the Operations Manual.

(c) Where minimum flight altitudes established by States overflown are higher than those established by the operator, the higher values shall apply.

(d) An operator shall take into account the following factors when establishing minimum flight altitudes:

(1) The accuracy with which the position of the aeroplane can be determined;

(2) The probable inaccuracies in the indications of the altimeters used;

(3) The characteristics of the terrain (e.g. sudden changes in the elevation) along the routes or in the areas where operations are to be conducted.

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

(5) Possible inaccuracies in aeronautical charts.

(e) In fulfilling the requirements prescribed in sub-paragraph (d) above due consideration shall be given to:

(1) Corrections for temperature and pressure variations from standard values;

(2) The ATC requirements; and

(3) Any foreseeable contingencies along the planned route.

BCAR–OPS 1.255 Fuel policy

(a) *All aeroplanes.* A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the aeroplane carries sufficient fuel and oil to ensure that it can safely complete the flight. In

addition, a reserve shall be carried to provide for contingencies.

(b) *Propeller-driven aeroplanes.* The fuel and oil carried in order to comply with BCAR OPS 1.255 shall, in the case of propeller-driven aeroplanes, be at least the amount sufficient to allow the aeroplane:

(c) When a destination alternate aerodrome is required, either:

(1) to fly to the aerodrome to which the flight is planned thence to the most critical (in terms of fuel consumption) alternate aerodrome specified in the operational and ATS flight plans and thereafter for a period of 45 minutes; or

(2) To fly to the alternate aerodrome via any predetermined point and thereafter for 45 minutes, provided that this shall not be less than the amount required to fly to the aerodrome to which the flight is planned and thereafter for:

(i) 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or

(ii) two hours,

(iii) whichever is less.

(d) When a destination alternate aerodrome is not required:

(1) In terms of BCAR OPS 1.295 (c)(1)(i), to fly to the aerodrome to which the flight is planned and thereafter for a period of 45 minutes; or

(2) in terms of BCAR OPS 1.295 (c)(2), to fly to the aerodrome to which the flight is planned and thereafter for:

(i) 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or

(ii) two hours,

(iii) whichever is less.

(e) *Aeroplanes equipped with turbo-jet engines.* The fuel and oil carried in order to comply with BCAR OPS 1.255 (a) shall, in the case of turbo-jet aeroplanes, be at least the amount sufficient to allow the aeroplane:

(f) When a destination alternate aerodrome is required, either:

(1) to fly to and execute an approach, and a missed approach, at the aerodrome to which the flight is planned, and thereafter:

(i) to fly to the alternate aerodrome specified in the operational and ATS flight plans; and then

(ii) to fly for 30 minutes at holding speed at 450 m (1 500 ft) above the alternate aerodrome under standard temperature conditions, and approach and land; and

(iii) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the State of the Operator; or

(2) to fly to the alternate aerodrome via any predetermined point and thereafter for 30 minutes at 450 m (1 500 ft) above the alternate aerodrome, due provision having been made for an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the State of the Operator; provided that fuel shall not be less than the amount of fuel required to fly to the aerodrome to which the flight is planned and thereafter for two hours at normal cruise consumption.

(g) When a destination alternate aerodrome is not required:

(1) in terms of BCAR OPS 1.295 (c)(1)(i), to fly to the aerodrome to which the flight is planned and additionally:

(i) to fly 30 minutes at holding speed at 450 m (1 500 ft) above the aerodrome to which the flight is planned under standard temperature conditions; and

(ii) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the State of the Operator; and

(2) in terms of BCAR OPS 1.295 (c)(2), to fly to the aerodrome to which the flight is planned and thereafter for a period of two hours at normal cruise consumption.

(h) In computing the fuel and oil required in BCAR OPS 1.255(a), at least the following shall be considered:

(1) meteorological conditions forecast;

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

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

(4) the procedures prescribed in the operations manual for loss of pressurization, where applicable, or failure of one power-unit while en route; and

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

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BCAR–OPS 1.260 Carriage of Persons with Reduced Mobility (See IEM OPS 1.260)

(a) An operator shall establish procedures for the carriage of Persons with Reduced Mobility (PRMs).

(b) An operator shall ensure that PRMs are not allocated, nor occupy, seats where their presence could:

(1) Impede the crew in their duties;

(2) Obstruct access to emergency equipment; or

(3) Impede the emergency evacuation of the aeroplane.

(c) Information should be provided to the pilot in command relative to the number and location of PRMs being transported on board.

BCAR–OPS 1.265 Carriage of inadmissible passengers, deportees or persons in custody

An operator shall establish procedures for the transportation of inadmissible passengers, deportees or persons in custody to ensure the safety of the aeroplane and its occupants. The pilot in command must be notified when the above-mentioned persons are to be carried on board.

BCAR–OPS 1.270 Stowage of baggage and cargo (See Appendix 1 to BCAR–OPS 1.270 & AMC OPS 1.270)

(a) An operator shall establish procedures to ensure that only such hand baggage is taken into the passenger cabin as can be adequately and securely stowed.

(b) An operator shall establish procedures to ensure that all baggage and cargo on board, which might cause injury or damage, or obstruct aisles and exits if displaced, is placed in stowages designed to prevent movement.

BCAR–OPS 1.280 Passenger Seating (See IEM OPS 1.280)

An operator shall establish procedures to ensure that passengers are seated, during takeoffs and landings, turbulence or in the event of an emergency evacuation

BCAR–OPS 1.285 Passenger briefing

An operator shall ensure that:

(a) *General.*

(1) Passengers are given a verbal briefing about safety matters. Parts or all of the briefing may be provided by an audio-visual presentation.

(2) Passengers are provided with a safety briefing card on which picture type instructions indicate the operation of emergency equipment and exits likely to be used by passengers.

(b) *Before take-off*

(1) Passengers are briefed on the following items if applicable:

(i) Smoking regulations;

(ii) Back of the seat to be in the upright position and tray table stowed;

(iii) Location and method of opening emergency exits;

(iv) Location and use of floor proximity escape path markings;

(v) Stowage of hand baggage;

(vi) Restrictions on the use of portable electronic devices; and

(vii) The location and the contents of the safety briefing card, and,

(2) Passengers receive a demonstration of the following:

(i) The use of safety belts and/or safety harnesses, including how to fasten and unfasten the safety belts and/or safety harnesses;

(ii) The location and use of oxygen equipment if required (BCAR–OPS 1.770 and BCAR–OPS 1.775 refer). Passengers must also be briefed to extinguish all smoking materials when oxygen is being used; and

(iii) The location and use of life jackets if required (BCAR–OPS 1.825 refers).

(c) *After take-off*

(1) Passengers are reminded of the following if applicable:

(i) Smoking regulations; and

(ii) Use of safety belts and/or safety harnesses including the safety benefits of having safety belts fastened when seated irrespective of seat belt sign illumination.

(d) *Before landing*

(1) Passengers are reminded of the following if applicable:

(i) Smoking regulations;

(ii) Use of safety belts and/or safety harnesses;

(iii) Back of the seat to be in the upright position and tray table stowed;

(iv) Re-stowage of hand baggage; and

(v) Restrictions on the use of portable electronic devices.

(e) *After landing*

(1) Passengers are reminded of the following:

(i) Smoking regulations; and

(ii) Use of safety belts and/or safety harnesses.

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

BCAR–OPS 1.290 Flight preparation

(a) An operator shall ensure that an operational flight plan is completed for each intended flight.

(b) The pilot in command shall not commence a flight unless he is satisfied that:

(1) The aeroplane is airworthy;

(2) The aeroplane is not operated contrary to the provisions of the Configuration Deviation List (CDL);

(3) The instruments and equipment required for the flight to be conducted, in accordance with Subparts K and L, are available;

(4) A Certificate of Return to Service as prescribed in BCAR OPS 1.925 has been issued in respect of the aeroplane;

(5) The instruments and equipment are in operable condition except as provided in the MEL;

(6) Those parts of the operations manual which are required for the conduct of the flight are available;

(7) The documents, additional information and forms required to be available by BCAR–OPS 1.125 and BCAR–OPS 1.135 are on board;

(8) Current applicable maps, charts and associated documentation or equivalent data are available to cover the intended operation of the aeroplane including any diversion which may reasonably be expected;

(9) The ground and/or water facilities available and directly required on such flight, for the safe operation of the aeroplane and the protection of the passengers, are adequate for the type of operation under which the flight is to be conducted and are adequately operated for this purpose.

(10) The provisions specified in the operations manual in respect of fuel, oil and oxygen requirements, minimum safe altitudes, aerodrome operating minima and availability of alternate aerodromes, where required, can be complied with for the planned flight;

(11) The load is properly distributed and safely secured;

(12) The weight of the aeroplane, at the commencement of take-off roll, will be such that the flight can be conducted in compliance with Subparts F to I as applicable; and

(13) Any operational limitation in addition to those covered by sub-paragraphs (9) and (11) above can be complied with.

BCAR–OPS 1.295 Selection of aerodromes (See ACJ OPS 1.295)

(a) An operator shall establish procedures for the selection of destination and/or alternate

aerodromes in accordance with BCAR–OPS 1.220 when planning a flight.

(b) An operator must select and specify in the operational flight plan a take-off alternate if it would not be possible to return to the aerodrome of departure for meteorological or performance reasons. The take-off alternate shall be located within:

(1) For twin engine aeroplanes, either:

(i) One hour flight time at a single engine cruising speed according to the AFM in still air standard conditions based on the actual take-off weight; or

(ii) The operator's approved ETOPS diversion time, subject to any MEL restriction, up to a maximum of two hours**,** at single engine cruising speed according to the AFM in still air standard conditions based on the actual take-off weight for aeroplanes and crews authorized for ETOPS; or

(2) Two hours flight time at single engine cruising speed according to the AFM in still air standard conditions based on the actual take-off weight for three and four engine aeroplanes; and

(3) If the AFM does not contain a single engine cruising speed, the speed to be used for calculation must be that which is achieved with the remaining engine(s) set at maximum continuous power.

(c) An operator must select at least one destination alternate for each IFR flight unless:

(1) Both:

(i) The duration of the planned flight from take-off to landing or, in the event of in-flight re-planning in accordance with OPS 1.255(d), the remaining flying time to destination does not exceed six hours, and

(ii) Two separate runways are available and useable at the destination and the appropriate weather reports or forecasts for the destination aerodrome, or any combination thereof, indicate that for the period from one hour before until one hour after the expected time of arrival at destination, the ceiling will be at least 2 000 ft or circling height + 500 ft, whichever is greater, and the visibility will be at least 5 km. (see IEM OPS 1.295(c)(1)(ii)); or

(2) The destination is isolated and no adequate destination alternate exists.

(d) An operator must select two destination alternates 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.

(e) An operator shall specify any required alternate(s) in the operational flight plan.

BCAR–OPS 1.297 Planning minima for IFR flights

(a) *Planning minima for take-off alternates.*

An operator shall not select an aerodrome as a takeoff alternate aerodrome unless the appropriate weather reports or forecasts or any combination thereof indicate that, during a period commencing 1 hour before and ending 1 hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the applicable landing minima specified in accordance with BCAR–OPS 1.225. The ceiling must be taken into account when the only approaches available are non-precision and/or circling approaches. Any limitation related to one engine inoperative operations must be taken into account.

(b) *Planning minima for destination and destination alternate aerodromes.* (except isolated destination aerodromes)

1. An operator shall only select the

Type of approach	Planning Minima
Cat II y III	Cat I (Note 1)
Cat I	Non-precision (Notes 1 & 2)
Non-precision	Non-precision (Notes 1 & 2) plus 200 ft/1 000 m
Circling	Circling

destination aerodrome and/or destination alternate aerodrome(s) when the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing 1 hour before and ending 1 hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the applicable planning minima as follows:

(i) RVR/visibility specified in accordance with BCAR–OPS 1.225; and

(ii) For a non-precision approach or a circling approach, the ceiling at or above MDH; and

(2)Two destination alternate aerodromes are selected under OPS 1.295(d).

*(*c) Planning minima for a:

Destination alternate aerodrome, or

Isolated aerodrome, or

3 % ERA aerodrome, or

En-route alternate aerodrome required at the planning stage. An operator shall only select an aerodrome for one of those purposes when the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing one hour before and ending one hour after the estimated time of arrival at the aerodrome, the weather conditions will be at or above the planning minima in Table 1 below.

Table 1 Planning minima – En-route and destination alternates

Note 1. RVR.
Note 2. The ceiling must be at o r above the MDH

(d) *Planning minima for an ETOPS en-route alternate.* An operator shall not select an aerodrome as an ETOPS en-route alternate aerodrome unless the appropriate weather reports or forecasts, or any combination thereof, indicate that, during a period commencing 1 hour before and ending 1 hour after the expected time of arrival at the aerodrome, the weather conditions will be at or above the planning minima prescribed in Table 2 below, and in accordance with the operator's ETOPS approval. En-route alternate aerodromes, required by BCAR OPS 1.247 for extended range operations by aeroplanes with two turbine power-units, shall be selected and specified in the operational and air traffic services (ATS) flight plans.

Table 2 Planning minima – ETOPS

Approach facility	Alternate airfield ceiling	Weather minima Visibility/RVR
Precision approach procedure.	Authorised DH/DA plus an increment of 200 ft	Authorised visibility plus an increment of 800 metres
Non-precision approach or circling approach	Authorised MDH/MDA plus an increment of 400 ft	Authorised visibility plus an increment of 1 500 metres

BCAR–OPS 1.300 Submission of ATS Flight Plan (See AMC OPS 1.300)

An operator shall ensure that a flight is not commenced unless an ATS flight plan has been submitted, or adequate information has been deposited in order to permit alerting services to be activated if required.

BCAR–OPS 1.305 Refuelling/defueling with passengers embarking, on board or disembarking (See Appendix 1 to BCAR–OPS 1.305) (See IEM OPS 1.305)

(a) An operator shall ensure that no aeroplane is refuelled/defueled with Avgas or wide cut type fuel (e.g. Jet-B or equivalent) or when a mixture of these types of fuel might occur, when passengers are embarking, on board or disembarking. In all other cases necessary precautions must be taken and the aeroplane must be properly manned by qualified personnel ready to initiate and direct an evacuation of the aeroplane by the most practical and expeditious means available.

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

BCAR-OPS 1.307 Refuelling/defueling with wide-cut fuel (See IEM OPS 1.307)

An operator shall establish procedures for refuelling/defueling with wide-cut fuel (e.g. Jet-B or equivalent) if this is required.

BCAR-OPS OPS 1.308 Push back and towing

(a) The operator shall ensure that all push back and towing procedures comply with appropriate aviation standards and procedures.

(b) The operator shall ensure that pre- or post-taxi positioning of the aeroplanes is not executed by towbarless towing unless:

1. An aeroplane is protected by its own design from damage to the nose wheel steering system due to towbarless towing operation, or

2. A system/procedure is provided to alert the flight crew that such damage may have or has occurred, or

3. The towbarless towing vehicle is designed to prevent damage to the aeroplane type.

BCAR–OPS 1.310 Crew Members at stations

(a) *Flight crew members*

(1) During take-off and landing each flight crew member required to be on flight deck duty shall be at his station.

(2) During all other phases of flight each flight crew member required to be on flight deck duty shall remain at his station unless his absence is necessary for the performance of his duties in connection with the operation, or for physiological needs provided at least one suitably qualified pilot remains at the controls of the aeroplane at all times.

(3) During all phases of flight each flight crew member required to be on flight deck duty shall remain alert. If a lack

of alertness is encountered, appropriate countermeasures shall be used. If unexpected fatigue is experienced a controlled rest procedure, organised by the commander, can be used if workload permits. Controlled rest taken in this way may never be considered to be part of a rest period for purposes of calculating flight time limitations nor used to justify any duty period.

(b) Cabin crew members. On all the decks of the aeroplane that are occupied by passengers, required cabin crew members shall be seated at their assigned stations during take-off and landing, and whenever deemed necessary by the pilot in command in the interest of safety. (See IEM OPS 1.310(b).)

BCAR–OPS OPS 1.311 Minimum number of cabin crew required to be on board an aeroplane during ground operations with passengers
(See Appendix 1 to OPS 1.311)

An operator shall ensure that, whenever any passengers are on board an aeroplane, the minimum number of cabin crew required in accordance with OPS 1.990(a), (b), (c) and (d) are present in the passenger cabin, except:

(a) When the aeroplane is on the ground at a parking place, the number of cabin crew present in the passenger cabin may be reduced below the number determined by OPS 1.990(a), (b) and (c). The minimum number of cabin crew required in these circumstances shall be one per pair of floor-level emergency exits on each passenger deck, or one for every 50, or fraction of 50, passengers present on board, whichever is greater, provided that:

1. The operator has established a procedure for the evacuation of passengers with this reduced number of cabin crew that has been accepted by the BDCA as providing equivalent safety; and

2. No refuelling/defuelling is taking place; and

3. The senior cabin crew member has performed the pre-boarding safety briefing to the Cabin Crew; and

4. The senior cabin crew member is present in the passenger cabin; and

5. The pre-boarding cabin checks have been completed. This reduction is not permitted when the number of cabin crew is determined by using OPS 1.990(d).

(b) During disembarkation when the number of passengers remaining on board is less than 20, the minimum number of cabin crew present in the passenger cabin may be reduced below the minimum number of cabin crew required in accordance with OPS 1.990(a), (b), (c) and (d), provided that:

1. The operator has established a procedure for the evacuation of passengers with this reduced number of cabin crew that has been accepted by the BDCA as providing equivalent safety; and

2. The senior cabin crew member is present in the passenger cabin.

BCAR–OPS 1.313 Use of headset
(a) Each flight crew member required to be on flight deck duty shall wear the headset with boom microphone or equivalent required by OPS 1.650(p) and/or 1.652(s) and use it as the primary device to listen to the voice communications with air traffic services:

— On the ground:

— When receiving the ATC departure clearance via voice communication,

— In flight below transition altitude or 10 000 feet, whichever is higher, and

— Whenever deemed necessary by the commander.

(b) In the conditions of paragraph 1 above, the boom microphone or equivalent shall be in a position which permits its use for two-way radio communications.

BCAR–OPS 1.315 Assisting means for emergency evacuation

An operator shall establish procedures to ensure that before taxing, take-off and landing, and when safe and practicable to do so, an assisting means for emergency evacuation that deploys automatically, is armed.

BCAR–OPS 1.320 Seats, safety belts and harnesses

(a) *Crew members*

(1) During take-off and landing, and whenever deemed necessary by the pilot in command in the interest of safety, each crew member shall be properly secured by all safety belts and harnesses provided.

(2) During other phases of the flight each flight crew member on the flight deck shall keep his safety belt fastened while at his station.

(b) *Passengers*

(1) Before take-off and landing, and during taxing, and whenever deemed necessary in the interest of safety, the pilot in command shall ensure that each passenger on board occupies a seat or berth with his safety belt, or harness where provided, properly secured.

(2) An operator shall make provision for, and the pilot in command shall ensure that multiple occupancy of aeroplane seats may only be allowed on specified seats and does not occur other than by one adult and one infant who is properly secured by a supplementary loop belt or other restraint device.

BCAR–OPS 1.325 Securing of passenger cabin and galley(s)

(a) An operator shall establish procedures to ensure that before taxing, take-off and landing all exits and escape paths are unobstructed.

(b) The pilot in command shall ensure that before take-off and landing, and whenever deemed necessary in the interest of safety, all equipment and baggage is properly secured.

BCAR–OPS 1.330 Accessibility of emergency equipment

The pilot in command shall ensure that relevant emergency equipment remains easily accessible for immediate use.

BCAR–OPS 1.335 Smoking on board

The pilot in command shall ensure that no person on board is allowed to smoke in the passenger cabin, cargo compartments, galleys and toilets.

BCAR–OPS 1.340 Meteorological Conditions

(a) On an IFR flight a pilot in command shall not:

(1) Commence take-off; nor

(2) Continue beyond the point from which a revised flight plan applies in the event of in-flight replanning, unless information is available indicating that the expected weather conditions at the destination and/or required alternate aerodrome(s) prescribed in BCAR–OPS 1.295 are at or above the planning minima, prescribed in BCAR–OPS 1.297.

(b) On an IFR flight, a pilot in command shall not continue towards the planned destination aerodrome unless the latest information available indicates that, at the expected time of arrival, the weather conditions at the destination, or at least one destination alternate aerodrome, are at or above the applicable aerodrome operating minima.

(c) On an IFR flight a commander shall only continue beyond:

1. The decision point when using the reduced contingency fuel procedure (see Appendix 1 to OPS 1.255); or

2. The pre-determined point when using the pre-determined point procedure (see Appendix 1 to OPS 1.255), when information is available indicating that the expected weather conditions, at the time of arrival, at the destination and/or required alternate aerodrome(s) prescribed in OPS 1.295 are at or above the applicable aerodrome operating minima prescribed in OPS 1.225.

(d) On a VFR flight a commander shall only commence take-off when the appropriate weather reports or forecasts, or any combination thereof, 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 render compliance with these rules possible.

BCAR–OPS 1.345 Ice and other contaminants – [ground procedures]

(a) An operator shall establish procedures to be followed when ground de-icing and anti-icing and related inspections of the aeroplane(s) are necessary.

(b) A pilot in command shall not commence take-off unless the external surfaces are clear of any deposit which might adversely affect the performance and/or controllability of the aeroplane except as permitted in the Aeroplane Flight Manual.

BCAR–OPS 1.346 Ice and other contaminants flight procedures

(a) An operator shall establish procedures for flights in expected or actual icing conditions. (See ACJ OPS 1.346 and BCAR-OPS 1.675)

(b) A pilot in command shall not commence a flight nor intentionally fly into expected or actual icing conditions unless the aeroplane is certificated and equipped to cope with such conditions.

BCAR–OPS 1.350 Fuel and oil supply

A pilot in command shall not commence a flight unless he is satisfied that the aeroplane carries at least the planned amount of fuel and oil to complete the flight safely, taking into account the expected operating conditions.

BCAR–OPS 1.355 Take-off conditions

Before commencing take-off, a pilot in command must satisfy himself that, according to the information available to him, the weather at the aerodrome and the condition of the runway intended to be used should not prevent a safe take-off and departure.

BCAR–OPS 1.360 Application of take-off minima

Before commencing take-off, a pilot in command must satisfy himself that the RVR or visibility in the takeoff direction of the aeroplane is equal to or better than the applicable minimum.

BCAR–OPS 1.365 Minimum flight altitudes (See IEM OPS 1.250)

The pilot in command or the pilot to whom conduct of the flight has been delegated shall not fly below specified minimum altitudes except when necessary for take-off or landing.

BCAR–OPS 1.370 Simulated abnormal situations in flight

An operator shall establish procedures to ensure that abnormal or emergency situations requiring the application of part or all of abnormal or emergency procedures and simulation of IMC by artificial means are not simulated during commercial air transportation flights.

BCAR–OPS 1.375 In-flight fuel management
(See Appendix 1 to BCAR–OPS 1.375)

An operator shall establish a procedure to ensure that in-flight fuel checks and fuel management are carried out according to the following criteria:

(a) In-flight fuel checks.

1. A commander must ensure that fuel checks are carried out in-flight at regular intervals. The usable remaining fuel must be recorded and evaluated to:

(i) Compare actual consumption with planned consumption;

(ii) Check that the usable remaining fuel is sufficient to complete the flight, in accordance with paragraph (b) 'In-flight fuel management' below; and

(iii) Determine the expected usable fuel remaining on arrival at the destination aerodrome;

2. The relevant fuel data must be recorded.

(b) In-flight fuel management.

1. The flight must be conducted so that the expected usable fuel remaining on arrival at the destination aerodrome is not less than:

(i) The required alternate fuel plus final reserve fuel, or

(ii) The final reserve fuel if no alternate aerodrome is required;

2. However, if, as a result of an in-flight fuel check, the expected usable fuel remaining on arrival at the destination aerodrome is less than:

(i) The required alternate fuel plus final reserve fuel, the commander must take into account the traffic and the operational conditions prevailing at the destination aerodrome, at the destination alternate aerodrome and at any other adequate aerodrome, in deciding whether to proceed to the destination aerodrome or to divert so as to perform a safe landing with not less than final reserve fuel, or

(ii) The final reserve fuel if no alternate aerodrome is required, the commander must take appropriate action and proceed to an adequate aerodrome so as to perform a safe landing with not less than final reserve fuel;

3. The commander shall declare an emergency when calculated usable fuel on landing, at the nearest adequate aerodrome where a safe landing can be performed, is less than final reserve fuel.

4. Additional conditions for specific procedures.

(i) On a flight using the RCF procedure, in order to proceed to the Destination 1 aerodrome, the commander must ensure that the usable fuel remaining at the decision point is at least the total of:

A. Trip fuel from the decision point to the Destination 1 aerodrome; and

B. Contingency fuel equal to 5 % of trip fuel from the decision point to the Destination 1 aerodrome; and

C. Destination 1 aerodrome alternate fuel, if a destination 1 alternate aerodrome is required; and

D. Final reserve fuel

(ii) On a flight using the PDP procedure in order to proceed to the destination aerodrome, the commander must ensure that the usable fuel remaining at the PDP is at least the total of:

A. Trip fuel from the PDP to the destination aerodrome; and

B. Contingency fuel from the PDP to the destination aerodrome calculated in accordance with Appendix 1 to OPS 1.255

C. Paragraph 1.3; and

D. Fuel required according to Appendix 1 to OPS 1.255 Paragraph 3.1.d

BCAR–OPS 1.385 Use of supplemental oxygen

A pilot in command shall ensure that flight crew members engaged in performing duties essential to the safe operation of an aeroplane in flight use supplemental oxygen continuously whenever cabin altitude exceeds 10 000 ft for a period in excess of 30 minutes and whenever the cabin altitude exceeds 13 000 ft.

BCAR–OPS 1.390 Cosmic radiation

(a) An operator shall take account of the in-flight exposure to cosmic radiation of all crew members while on duty (including positioning) and shall take the following measures for those crew liable to be subject to exposure of more than 1 mSv per year (See ACJ OPS 1.390(a)(1));

(1) Assess their exposure

(2) Take into account the assessed exposure when organizing working schedules with a view to reduce the doses of highly exposed crew members (See ACJ OPS 1.390(a)(2));

(3) Inform the crew members concerned of the health risks their work involves (See ACJ OPS 1.390(a)(3));

(4) Ensure that the working schedules for female crew members, once they have notified the operator that they are pregnant, keep the equivalent dose to the fetus as low as can reasonably be achieved and in any case ensure that the dose does not exceed 1 mSv for the remainder of the pregnancy;

(5) Ensure that individual records are kept for those crew members who are liable to high exposure. These exposures are to be notified to the individual on an annual basis, and also upon leaving the operator.

(b)

(1) An operator shall not operate an aeroplane above 15 000m (49 000ft) unless the equipment specified in BCAR-OPS 1.680(a)(1) is serviceable, or the procedure prescribed in BCAROPS 1.680(a)(2) is complied with.

(2) The pilot in command or the pilot to whom conduct of the flight has been delegated shall initiate a descent as soon as practicable when the limit values of cosmic radiation dose rate specified in the Operations Manual are exceeded. (See BCAR-OPS 1.680(a)(1))

BCAR–OPS 1.395 Ground proximity detection

When undue proximity to the ground is detected by any flight crew member or by a ground proximity warning system, the pilot in command or the pilot to who conduct of the flight has been delegated shall ensure that corrective action is initiated immediately to establish safe flight conditions.

BCAR–OPS 1.398 Use of Airborne Collision Avoidance System (ACAS) (See ACJ OPS 1.398)

An operator shall establish procedures to ensure that:
(a) When ACAS is installed and serviceable, it shall be used in flight in a mode that enables Resolution Advisories (RA) to be produced unless to do so would not be appropriate for conditions existing at the time.

(b) When undue proximity to another aircraft (RA) is detected by ACAS, the commander or the pilot to whom conduct of the flight has been delegated must ensure that any corrective action indicated by the RA is initiated immediately, unless doing so would jeopardise the safety of the aeroplane.

The corrective action must:

(i) Never be in a sense opposite to that indicated by the RA;

(ii) Be in the correct sense indicated by the RA even if this is in conflict with the vertical element of an ATC instruction;

(iii) Be the minimum possible to comply with the RA indication.

(c) Prescribed ACAS ATC communications are specified.

(d) When the conflict is resolved the aeroplane is promptly returned to the terms of the ATC instructions or clearance.

BCAR–OPS 1.400 Approach and landing conditions (See IEM OPS 1.400)

Before commencing an approach to land, the pilot in command must satisfy himself that, according to the information available to him, the weather at the aerodrome and the condition of the runway intended to be used should not prevent a safe approach, landing or missed approach, having regard to the performance information contained in the Operations Manual.

BCAR–OPS 1.405 Commencement and continuation of approach

(a) The pilot in command or the pilot to whom conduct of the flight has been delegated may commence an instrument approach regardless of the reported RVR/Visibility but the approach shall not be continued beyond the outer marker, or equivalent position, if the reported RVR/visibility is less than the applicable minima. (See IEM OPS 1.405(a).)

(b) Where RVR is not available, RVR values may be derived by converting the reported visibility in accordance with Appendix 1 to BCAR- OPS 1.430, sub-paragraph (h).

(c) If, after passing the outer marker or equivalent position in accordance with (a) above, the reported RVR/visibility falls below the applicable minimum, the approach may be continued to DA/H or MDA/H.

(d) Where no outer marker or equivalent position exists, the pilot in command or the pilot to whom conduct of the flight has been delegated shall make the decision to continue or abandon the approach before descending below 1000 ft above the aerodrome on the final approach segment. If the MDA/H is at or above 1000 ft above the aerodrome, the operator shall establish a height, for each approach procedure, below which the approach shall not be continued if the RVR/visibility is less than the applicable minima.

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

(f) The touch-down zone RVR is always controlling. If reported and relevant, the midpoint and stop end RVR are also controlling. The minimum RVR value for the mid-point is 125 m or the RVR required for the touch-down zone if less, and 75 m for the stop-end. For aeroplanes equipped with a roll-out guidance or control system, the minimum RVR value for the mid-point is 75 m.

Note. “Relevant”, in this context, means that part of the runway used during the high speed phase of the landing down to a speed of approximately 60 knots.

BCAR–OPS 1.410 Operating procedures – Threshold crossing height

An operator must establish operational procedures designed to ensure that an aeroplane being used to conduct precision approaches crosses the threshold by a safe margin, with the aeroplane in the landing configuration and attitude.

BCAR–OPS 1.415 Journey log

A pilot in command shall ensure that the Journey log is completed.

BCAR–OPS 1.420 Occurrence reporting

(a) *Terminology*

(1) *Incident:* An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

(2) Serious Incident: An incident involving circumstances indicating that an accident nearly occurred.

(3) *Accident:* An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all persons have disembarked, in which:

(i) a person is fatally or seriously injured as a result of:

(A) being in the aircraft;

(B) direct contact with any part of the aircraft, including parts which have become detached from the aircraft; or,

(C) direct exposure to jet blast;

except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

(ii) the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft; and would normally require major repair or replacement of the affected component; except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin: or

(iii) the aircraft is missing or is completely inaccessible.

(b) *Incident Reporting:* An operator shall establish procedures for reporting incidents taking into account responsibilities described below and circumstances described in sub-paragraph (d) below.

(1) BCAR-OPS 1.085(b) specifies the responsibilities of crew members for reporting incidents that endanger, or could endanger, the safety of operation.

(2) The pilot in command or the operator of an aeroplane shall submit a report to the BDCA of any incident that endangers or could endanger the safety of operation.

(3) Reports must be dispatched within 72 hours of the time when the incident was identified unless exceptional circumstances prevent this.

(4) A pilot in command shall ensure that all known or suspected technical defects and all exceedance of technical limitations occurring while he was responsible for the flight are recorded in the aircraft technical log. If the deficiency or exceedance of technical limitations endangers or could endanger the safety of operation, the pilot in command must in addition initiate the submission of a report to the BDCA in accordance with paragraph (b)(2) above.

(5) In the case of incidents reported in accordance with sub-paragraphs (b)(1), (b)(2) and (b)(3) above, arising from, or relating to, any failure, malfunction or defect in the aeroplane, its equipment or any item of ground support equipment, or which cause or might cause adverse effects on the

continuing airworthiness of the aeroplane, the operator must also inform the organization responsible for the design or the supplier or, if applicable, the organization responsible for continued airworthiness, at the same time as a report is submitted to the BDCA.

(c) *Accident and Serious Incident Reporting*

An operator shall establish procedures for reporting accidents and serious incidents taking into account responsibilities described below and circumstances described in sub-paragraph (d) below.

(1) A pilot in command shall notify the operator of any accident or serious incident occurring while he was responsible for the flight. In the event that the pilot in command is incapable of providing such notification, this task shall be undertaken by any other member of the crew if they are able to do so, taken in consideration the succession of command specified by the operator.

(2) An operator shall ensure that the BDCA of the State of the operator, the nearest appropriate Authority (if not the BDCA of the State of the operator), and any other organization required by the State of the operator to be informed, are notified by the quickest means available of any accident or serious incident and in the case of accidents only at least before the aeroplane is moved unless exceptional circumstances prevent this

(3) The pilot in command or the operator of an aeroplane shall submit a report to the BDCA of the State of the operator within 72 hours of the time when the accident or serious incident occurred.

(d) *Specific Reports.*

Occurrences for which specific notification and reporting methods must be used are described below;

(1) *Air Traffic Incidents:* A pilot in command shall without delay notify the air traffic service unit concerned of the incident and shall inform them of his intention to submit an air traffic incident report after the flight has ended whenever an aircraft in flight has been endangered by:

(i) A near collision with any other flying device;

(ii) Faulty air traffic procedures or lack of compliance with applicable procedures by air traffic services or by the flight crew;

(iii) Failure of air traffic services facilities. In addition, the pilot in command shall notify the BDCA of the incident.

(2) *Airborne Collision Avoidance System Resolution Advisory* A pilot in command shall notify the air traffic service unit concerned and submit an ACAS report to the BDCA whenever an aircraft in flight has manoeuvred in response to an ACAS Resolution Advisory.

(3) Bird Hazards and Strikes

(i) A pilot in command shall immediately inform the local air traffic service unit
(ii) whenever a potential bird hazard is observed.

(iii) If he is aware that a bird strike has occurred, a pilot in command shall submit a written bird strike report after landing to the BDCA whenever an aircraft for which he is responsible suffers a bird strike that results in significant

damage to the aircraft or the loss or malfunction of any essential service. If the bird strike is discovered when the pilot in command is not available, the operator is responsible for submitting the report.

(4) Dangerous goods incidents and accidents.

An operator shall report dangerous goods incidents and accidents to the BDCA and the appropriate Authority in the State where the accident or incident occurred, as provided for in Appendix 1 to OPS 1.1225. The first report shall be dispatched within 72 hours of the event unless exceptional circumstances prevent this and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible giving whatever additional information has been established. (See also OPS 1.1225). (See AMC OPS 1.420(d)(4))

(5) *Unlawful Interference* Following an act of unlawful interference on board an aircraft, the pilot in command or, in his absence, the operator shall submit a report as soon as practicable to the local Authority and to the BDCA in the State of the operator. (See also BCAR-OPS 1.1245)

(6) *Encountering Potential Hazardous Conditions* A pilot in command shall notify the appropriate air traffic services unit as soon as practicable whenever a potentially hazardous condition such as an irregularity in a ground or navigational facility, a meteorological phenomenon or a volcanic ash cloud is encountered during flight.

Appendix 1 to BCAR-OPS 1.195 Flight dispatcher training (See AMC OPS 1.195)

(a) Conversion training

(1) The operator shall ensure that:

(i) Each flight dispatcher completes the conversion course every time he changes from aircraft type or class as required by the BCAR APL (while the BCAR APL is adopted national regulation apply);

(ii) An operator conversion course when change of operator.

(2) The conversion training is carried out by properly qualified personnel as specified in a program included in the Operations Manual. The operator shall ensure that the personnel in charge of the CRM items of the conversion training are properly qualified;

(3) The operator's conversion training must be determined having into account the previous training of the flight dispatcher according to the training records.

(4) The minimum qualification levels and experience required for flight dispatchers are specified in the Operations Manual before undertaking conversion training; and

(5) CRM training elements are incorporated in the conversion course.

(6) The content of this training is adjusted in accordance with MAC-OPS 1.195(a)

(7) The flight dispatcher conducts a one-way qualifying flight in the flight deck over any area where authorized to conduct a supervision flight.

(b) Differences or familiarization training

The operator shall ensure that the flight dispatcher completes:

(1) *Differences training* requiring additional knowledge:

(i) When operates a variant of an aeroplane of the same type or another type of the same class that is currently operating; or;

(ii) When there are changes in the equipment and/or procedures in the types or variants that are currently operating.

(2) *Familiarization Training* requiring additional knowledge:

(i) When operating another aeroplane of the same type; or

(ii) When there are changes in the equipment and/or procedures in the types or variants that are currently operating.

(3) The operator shall specify in the operations manual when differences or familiarization training is required and the contents of each training.

(c) Recurrent training

(1) The operator shall ensure that each flight dispatcher undergoes recurrent training every 12 calendar months.

(2) The operator shall specify in the Operations Manual the content of the dispatcher recurrent curse.

(3) The content of this course must be adjusted in accordance to MAC OPS 1.195(c)

Appendix 1 to OPS 1.255 *Fuel* policy

An operator must base the company fuel policy, including calculation of the amount of fuel to be on board for departure, on the following planning criteria:

1. Basic procedure

The usable fuel to be on board for departure must be the amount of:

1.1. Taxi fuel, which shall not be less than the amount, expected to be used prior to take-off. Local conditions at the departure aerodrome and APU consumption shall be taken into account;

1.2. Trip fuel, which shall include:

(a) fuel for take-off and climb from aerodrome elevation to initial cruising level/altitude, taking into account the expected departure routing; and

(b) Fuel from top of climb to top of descent, including any step climb/- descent; and

(c) Fuel from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and

(d) Fuel for approach and landing at the destination aerodrome;

1.3. Contingency fuel, except as provided for in Paragraph 2 ‘Reduced Contingency Fuel’, which shall be the higher of a. or b. below:

(a) Either:

(i) 5 % of the planned trip fuel or, in the event of in-flight replanning, 5 % of the trip fuel for the remainder of the flight; or

(ii) Not less than 3 % of the planned trip fuel or, in the event of inflight re-planning, 3 % of the trip fuel for the remainder of the flight, provided that an en-route alternate aerodrome is available in accordance with Appendix 2 to OPS 1.255; or

(iii) An amount of fuel sufficient for 20 minutes flying time based upon the planned trip fuel consumption provided that the operator has established a fuel consumption monitoring programme for individual aeroplanes and uses valid data determined by means of such a programme for fuel calculation; or

(iv) An amount of fuel based on a statistical method approved by the Authority which ensures an appropriate statistical coverage of the deviation from the planned to the actual trip fuel. This method is used to monitor the fuel consumption on each city pair/aeroplane combination and the operator uses this data for a statistical analysis to calculate contingency fuel for that city pair/aeroplane combination.

(b) An amount to fly for five minutes at holding speed at 1 500 ft (450 m), above the destination aerodrome in standard conditions.

1.4. Alternate fuel which shall:

(a) Include:

(i) Fuel for a missed approach from the applicable MDA/DH at the destination aerodrome to missed approach altitude, taking into account the complete missed approach procedure; and

(ii) Fuel for climb from missed approach altitude to cruising level/altitude, taking into account the expected departure routing; and

(iii) Fuel for cruise from top of climb to top of descent, taking into account the expected routing; and

(iv) Fuel for descent from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and

(v) Fuel for executing an approach and landing at the destination alternate aerodrome selected in accordance with OPS 1.295.

(b) Where two destination alternate aerodromes are required in accordance with OPS 1.295(d), be sufficient to proceed to the alternate aerodrome which requires the greater amount of alternate fuel.

1.5. Final reserve fuel, which shall be:

(a) For aeroplanes with reciprocating engines, fuel to fly for 45 minutes; or

(b) For aeroplanes with turbine engines, fuel to fly for 30 minutes at holding speed at 1 500 ft (450 m) above aerodrome elevation in standard conditions, calculated with the estimated mass on arrival at the destination alternate aerodrome or the destination aerodrome, when no destination alternate aerodrome is required.

1.6. The minimum additional fuel, which shall permit:

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

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

(ii) Make an approach and landing, except that additional fuel is only required, if the minimum amount of fuel calculated in accordance with subparagraphs 1.2. to 1.5. above is not sufficient for such an event, and

(b) Holding for 15 minutes at 1 500 ft (450 m) above destination aerodrome elevation in standard conditions, when a flight is operated without a destination alternate aerodrome;

1.7. Extra fuel, which shall be at the discretion of the commander.

2. Reduced Contingency Fuel (RCF) Procedure

If an operator's fuel policy includes pre-flight planning to a Destination 1 aerodrome (commercial destination) with a reduced contingency fuel procedure using a decision point along the route and a Destination 2 aerodrome (optional refuel destination), the amount of usable fuel, on board for departure, shall be the greater of 2.1. or 2.2. below:

2.1. The sum of:

(a) Taxi fuel; and

(b) Trip fuel to the Destination 1 aerodrome, via the decision point; and

(c) Contingency fuel equal to not less than 5 % of the estimated fuel consumption from the decision point to the Destination 1 aerodrome; and

(d) Alternate fuel or no alternate fuel if the decision point is at less than six hours from the Destination 1 aerodrome and the requirements of OPS 1.295(c)(1)(ii) are fulfilled; and

(e) Final reserve fuel; and

(f) Additional fuel; and

(g) Extra fuel if required by the commander.

2.2. The sum of:

(a) taxi fuel; and

(b) trip fuel to the Destination 2 aerodrome, via the decision point; and

(c) contingency fuel equal to not less than the amount calculated in accordance with subparagraph 1.3 above from departure aerodrome to the Destination 2 aerodrome; and

(d) alternate fuel, if a Destination 2 alternate aerodrome is required; and

(e) final reserve fuel; and

(f) additional fuel; and

(g) extra fuel if required by the commander.

3. pre-determined point (PDP) procedure

If an operator's fuel policy includes planning to a destination alternate aerodrome where the distance between the destination aerodrome and the destination alternate aerodrome is such that a flight can only be routed via a predetermined point to one of these aerodromes, the amount of usable fuel, on board for departure, shall be the greater of 3.1 or 3.2 below:

3.1. the sum of:

(a) taxi fuel; and

(b) trip fuel from the departure aerodrome to the destination aerodrome, via the predetermined point; and

(c) contingency fuel calculated in accordance with subparagraph 1.3. above; and

(d) additional fuel if required, but not less than:

(i) for aeroplanes with reciprocating engines, fuel to fly for 45 minutes plus 15 % of the flight time planned to be spent at cruising level or two hours, whichever is less; or

(ii) for aeroplanes with turbine engines, fuel to fly for two hours at normal cruise consumption above the destination aerodrome.

This shall not be less than final reserve fuel; and

(e) extra fuel if required by the commander; or

3.2. the sum of:

(a) taxi fuel; and

(b) trip fuel from the departure aerodrome to the destination alternate aerodrome, via the predetermined point; and

(c) contingency fuel calculated in accordance with subparagraph 1.3 above; and

(d) additional fuel if required, but not less than:

(i) For aeroplanes with reciprocating engines: fuel to fly for 45 minutes; or

(ii) For aeroplanes with turbine engines: fuel to fly for 30 minutes at holding speed at 1 500 ft (450 m) above the destination alternate aerodrome elevation in standard conditions.

This shall not be less than final reserve fuel; and

(e) Extra fuel if required by the commander.

4. Isolated aerodrome procedure

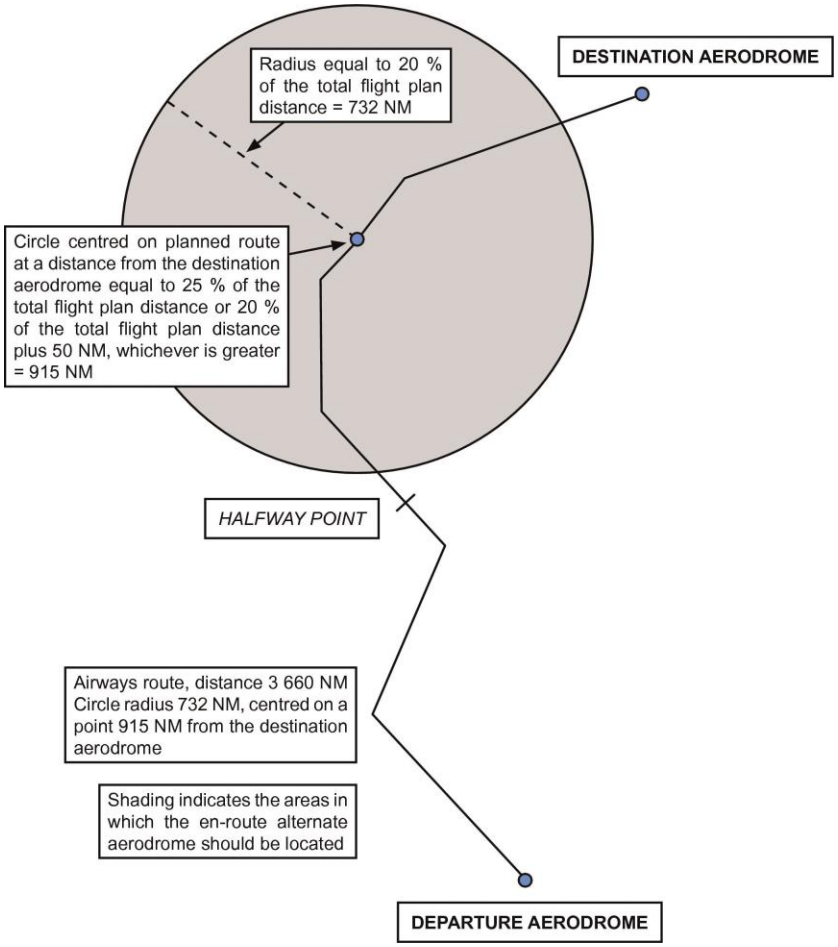
If an operator's fuel policy includes planning to an isolated aerodrome, the last possible point of diversion to any available en-route alternate aerodrome shall be used as the pre-determined point. See paragraph 3 above.

Appendix 2 to OPS 1.255 Fuel policy

Location of the 3 % En-Route Alternate (3 % ERA) aerodrome for the purposes of reducing contingency fuel to 3 % (See Appendix 1 to OPS 1.255 (1.3)(a)(ii) and OPS 1.192).

The 3 % ERA aerodrome shall be located within a circle having a radius equal to 20 % of the total flight plan distance, the centre of which lies on the planned route at a distance from the destination aerodrome of 25 % of the total flight plan distance, or at least 20 % of the total flight plan distance plus 50 nm, whichever is greater, all distances are to be calculated in still air conditions (see figure 1).

Figure 1
Location of the 3 % en-route alternate (3 % ERA) aerodrome for the purposes of reducing contingency fuel to 3 %



Appendix 1 to BCAR–OPS 1.270 Stowage of baggage and cargo

(a) Procedures established by an operator to ensure that hand baggage and cargo is adequately and securely stowed must take account of the following:

(1) Each item carried in a cabin must be stowed only in a location that is capable of restraining it;

(2) Weight limitations placarded on or adjacent to stowages must not be exceeded;

(3) Underseat stowages must not be used unless the seat is equipped with a restraint bar and the baggage is of such size that it may adequately be restrained by this equipment;

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

(5) Baggage and cargo placed in lockers must not be of such size that they prevent latched doors from being closed securely;

(6) Baggage and cargo must not be placed where it can impede access to emergency equipment; and

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

Appendix 1 to BCAR–OPS 1.305 Refuelling/defueling with passengers embarking, on board or disembarking

(a) An operator must establish operational procedures for re/defueling with passengers embarking, on board or disembarking to ensure the following precautions are taken:

(1) One qualified person must remain at a specified location during fuelling operations with passengers on board. This qualified person must be capable of handling emergency procedures concerning fire protection and fire-fighting, handling communications and initiating and directing an evacuation;

(2) A two-way communication shall be established and shall remain available by the aeroplane's inter-communication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the aeroplane;

(3) Crew, staff and passengers must be warned that re/defueling will take place;

(4) 'Fasten Seat Belts' signs must be off;

(5) 'NO SMOKING' signs must be on, together with interior lighting to enable emergency exits to be identified;

(6) Passengers must be instructed to unfasten their seat belts and refrain from smoking;

(7) Sufficient qualified personnel must be on board and be prepared for an immediate emergency evacuation;

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

(9) The ground area beneath the exits intended for emergency evacuation and slide deployment areas must be kept clear; and

(10) Provision is made for a safe and rapid evacuation.

Appendix 1 to OPS 1.311 Minimum number of cabin crew required to be on board an aeroplane during ground operations with passengers

When operating under OPS 1.311 an operator shall establish operational procedures to ensure that:

1. electrical power is available on the aeroplane;

2. a means of initiating an evacuation is available to the senior cabin crew member, or at least one member of the flight crew is on the flight deck;

3. cabin crew stations and associated duties are specified in the operations manual; and

4. cabin crew remain aware of the position of servicing and loading vehicles at and near the exits.

Appendix 1 to BCAR–OPS 1.375 In-flight fuel management

(a) *In-flight fuel checks.*

(1) A pilot in command must ensure that fuel checks are carried out in flight at regular intervals. The remaining fuel must be recorded and evaluated to:

(i) Compare actual consumption with planned consumption;

(ii) Check that the remaining fuel is sufficient to complete the flight; and

(iii) Determine the expected fuel remaining on arrival at the destination.

(2) The relevant fuel data must be recorded.

(b) *In-flight fuel management.*

(1) If, as a result of an in-flight fuel check, the expected fuel remaining on arrival at the destination is less than the required alternate fuel plus final reserve fuel, the pilot in command must take into account the traffic and the operational conditions prevailing at the destination aerodrome, along the diversion route to an alternate aerodrome and at the destination alternate aerodrome, when deciding whether to proceed to the destination aerodrome or to divert, so as to land with not less than final reserve fuel.

(2) On a flight to an isolated aerodrome:

The last possible point of diversion to any available en-route alternate aerodrome shall be determined. Before reaching this point, the pilot in command shall assess the fuel expected to remain overhead the isolated aerodrome, the weather conditions, and the traffic and operational conditions prevailing at the isolated aerodrome and at any of the en-route aerodromes before deciding whether to proceed to the isolated aerodrome or to divert to an en-route aerodrome. (See AMC to Appendix 1 to BCAR-OPS 1.375(b)(2))

SUBPART E - ALL WEATHER OPERATION

BCAR–OPS 1.430 Aerodrome Operating Minima – General
(See Appendix 1 to BCAR–OPS 1.430 & IEM OPS to BCAR–OPS 1.430)

(a) An operator shall establish, for each aerodrome planned to be used, aerodrome operating minima that are not lower than the values given in Appendix 1. The method of determination of such minima must be acceptable to the BDCA. Such minima shall not be lower than any that may be established for such aerodromes by the State in which the aerodrome is located, except when specifically approved by that State.

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

(b) In establishing the aerodrome operating minima which will apply to any particular operation, an operator must take full account of:

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

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

(3) The dimensions and characteristics of the runways which may be selected for use;

(4) The adequacy and performance of the available visual and non-visual ground aids; [See AMC OPS 1.430(b)(4)]

(5) The equipment available on the airplane for the purpose of navigation and/or control of the flight path, as appropriate, during the take-off, the approach, the flare, the landing, roll-out and the missed approach;

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

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

(8) The means to determine and report meteorological conditions.

(c) The airplane categories referred to in this Subpart must be derived in accordance with the method given in Appendix 2 to BCAR–OPS 1.430(c).

BCAR–OPS 1.435 Terminology

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

(1) *Circling.* The visual phase of an instrument approach to bring an aircraft into position for landing on a runway which is not suitably located for a straight-in approach.

(2) *Low Visibility Procedures (LVP).*Procedures applied at an aerodrome for the purpose of ensuring safe operations during Category II and III approaches and Low Visibility Take-offs.

(3) *Low Visibility Take-Off (LVTO).* A take-off where the Runway Visual Range (RVR) is less than 400 m.

(4) *Flight control system.* A system which includes an automatic landing system and/or a hybrid landing system.

(5) *Fail-Passive flight control system.* A flight control system is fail-passive if, in the

event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude but the landing is not completed automatically. For a fail-passive automatic flight control system the pilot assumes control of the airplane after a failure.

(6) *Fail-Operational flight control system.* A flight control system is fail-operational if, in the event of a failure below alert height, the approach, flare and landing, can be completed automatically. In the event of a failure, the automatic landing system will operate as a fail passive system.

(7) *Fail-operational hybrid landing system.* A system which consists of a primary fail-passive automatic landing system and a secondary independent guidance system enabling the pilot to complete a landing manually after failure of the primary system.

Note: A typical secondary independent guidance system consists of a monitored heads-up display providing guidance which normally takes the form of command information but it may alternatively be situation (or deviation) information.

(8) *Visual approach.* An approach when either part or all of an instrument approach procedure is not completed and the approach is executed with visual reference to the terrain.

BCAR–OPS 1.440 Low visibility operations – General operating rules

(See Appendix 1 to BCAR–OPS 1.440)

(a) An operator shall not conduct Category II or III operations unless:

(1) Each airplane concerned is certificated for operations with decision heights below 200 ft, or no decision height.

(2) A suitable system for recording approach and/or automatic landing success and failure is established and maintained to monitor the overall safety of the operation;

(3) The operations are approved by the BDCA;

(4) The flight crew consists of at least 2 pilots; and

(5) Decision Height is determined by means of a radio altimeter.

(b) An operator shall not conduct low visibility take-offs in less than 150 m RVR (Category A, B and C airplanes) or 200 m RVR (Category D airplanes) unless approved by the BDCA.

BCAR–OPS 1.445 Low visibility operations – Aerodrome considerations

(a) An operator shall not use an aerodrome for Category II or III operations unless the aerodrome is approved for such operations by the State in which the aerodrome is located.

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

(c) An operator shall verify that Low Visibility Procedures (LVP) have been established, and will be enforced, at those aerodromes where low visibility operations are to be conducted.

BCAR–OPS 1.450 Low visibility operations – Training and Qualifications

(See Appendix 1 to BCAR–OPS 1.450)

(a) An operator shall ensure that, prior to conducting Low Visibility Take-Off, Category II and III operations:

(1) Each flight crew member:

(i) Completes the training and checking requirements prescribed in Appendix 1 including Flight Simulator training in operating to the limiting values of RVR and Decision Height appropriate to the operator's Category II/III approval; and

(ii) Is qualified in accordance with Appendix 1;

(2) The training and checking is conducted in accordance with a detailed syllabus approved by the BDCA and included in the Operations Manual. This training is in addition to that prescribed in Subpart N; and

(3) The flight crew qualification is specific to the operation and the airplane type.

BCAR–OPS 1.455 Low visibility operations –Operating Procedures

(See Appendix 1 to BCAR–OPS 1.455)

(a) An operator must establish procedures and instructions to be used for Low Visibility Take-Off and Category II and III operations. These procedures must be included in the Operations Manual and contain the duties of flight crew members during taxiing, take-off, approach, flare, landing, roll-out and missed approach as appropriate.

(b) The commander shall satisfy himself that:

(1) The status of the visual and non-visual facilities is sufficient prior to commencing a Low Visibility Take-Off or a Category II or III approach;

(2) Appropriate LVPs are in force according to information received from Air Traffic Services, before commencing a Low Visibility Take-off or a Category II or III approach; and

(3) The flight crew members are properly qualified prior to commencing a Low Visibility Take-off in an RVR of less than 150 m (Category A, B and C airplanes) or 200 m (Cat D airplanes) or a Category II or III approach.

BCAR–OPS 1.460 Low visibility operations – Minimum equipment

(a) An operator must include in the Operations Manual the minimum equipment that has to be serviceable at the commencement of a Low Visibility Take-off or a Category II or III approach in accordance with the AFM or other approved document.

(b) The commander shall satisfy himself that the status of the airplane and of the relevant airborne systems is appropriate for the specific operation to be conducted.

BCAR–OPS 1.465 VFR Operating minima

(See Appendix 1 to BCAR–OPS 1.465)

(a) An operator shall ensure that:

(1) VFR flights are conducted in accordance with the Visual Flight Rules and in accordance with the Table in Appendix 1 to BCAR– OPS 1.465.

(2) Special VFR flights are not commenced when the visibility is less than 3

km and not otherwise conducted when the visibility is less than 1·5 km.

Appendix 1 to BCAR–OPS 1.430 Aerodrome Operating Minima

(See IEM to Appendix 1 to BCAR-OPS 1.430)

(a) *Take-off Minima*

(1) *General*

(i) Take-off minima established by the operator must be expressed as visibility or RVR limits, taking into account all relevant factors for each aerodrome planned to be used and the airplane characteristics. Where there is a specific need to see and avoid obstacles on departure and/or for a forced landing, additional conditions (e.g. ceiling) must be specified.

(ii) The commander shall not commence take-off unless the weather conditions at the aerodrome of departure are equal to or better than applicable minima for landing at that aerodrome unless a suitable take-off alternate aerodrome is available.

(iii) When the reported meteorological visibility is below that required for take-off and RVR is not reported, a take-off may only be commenced if the commander can determine that the RVR/visibility along the take-off runway is equal to or better than the required minimum.

(iv) When no reported meteorological visibility or RVR is available, a take-off may only be commenced if the commander can determine that the RVR/visibility along the take-off runway is equal to or better than the required minimum.

(2) *Visual reference.* The take-off minima must be selected to ensure sufficient guidance to control the airplane in the event of both a discontinued take-off in adverse circumstances and a continued take-off after failure of the critical power unit.

(3) *Required RVR/Visibility*

(i) For multiengine airplanes, whose performance is such that, in the event of a critical power unit failure at any point during take-off, the airplane can either stop or continue the take-off to a height of 1500 ft above the aerodrome while clearing obstacles by the required margins, the take-off minima established by an operator must be expressed as RVR/Visibility values not lower than those given in Table 1 below except as provided in paragraph (4) below:

Table 1 – RVR/Visibility for take-off

Take-off RVR/Visibility	
Facilities	**RVR/Visibility** (Note 3)
Nil (day only)	500 m
Runway edge lighting and/or centreline marking	250/300 m (Notes 1 & 2)
Runway edge and/or centreline lighting	200/250 m (Note 1)
Runway edge and centreline lighting and multiple RVR information	150/200 m (Notes 1 & 4)

Note 1: The higher values apply to Category D airplanes.

Note 2: For night operations at least runway edge and runway end lights are required.

Note 3: The reported RVR/Visibility value representative of the initial part of the take-off run can be replaced by pilot assessment.

Note 4: The required RVR value must be achieved for all of the relevant RVR reporting points with the exception given in Note 3 above.

(ii) For multiengine airplanes whose performance is such that they cannot comply with the performance conditions in sub-paragraph (a)(3)(i) above in the event of a critical power unit failure, there may be a need to re-land immediately and to see and avoid obstacles in the take-off area. Such airplanes may be operated to the following take-off minima provided they are able to comply with the applicable obstacle clearance criteria, assuming engine failure at the height specified. The take-off minima established by an operator must be based upon the height from which the one engine inoperative net take-off flight path can be constructed. The RVR minima used may not be lower than either of the values given in Table 1 above or Table 2 below.

Table 2 – Assumed engine failure height above the runway versus RVR/Visibility

Take-off RVR/Visibility – flight path	
Assumed engine failure height above the take-off runway	**RVR/Visibility** (Note 2)
< 50 ft	200 m
51 - 100 ft	300 m
101 - 150 ft	400 m
151 - 200 ft	500 m
201 - 300 ft	1.000 m
> 300 ft	1.500 m (Note 1)

Note 1: 1 500 m is also applicable if no positive take-off flight path can be constructed.

Note 2: The reported RVR/Visibility value representative of the initial part of the take-off run can be replaced by pilot assessment.

(iii) When reported RVR, or meteorological visibility is not available, the commander shall not commence takeoff unless he can determine that the actual conditions satisfy the applicable take-off minima.

(4) *Exceptions to sub-paragraph (a) (3) (i) above:*

(i) Subject to the approval of the BDCA, and provided the requirements in paragraphs (A) to (E) below have been satisfied, an operator may reduce the takeoff minima to 125 m RVR (Category A, B and C airplanes) or 150 m RVR (Category D airplanes) when:

(A) Low Visibility Procedures are in force;

(B) High intensity runway centreline lights spaced 15 m or less and high intensity edge lights spaced 60 m or less are in operation;

(C) Flight crew members have satisfactorily completed training in a Flight Simulator;

(D) A 90 m visual segment is available from the cockpit at the start of the take-off run; and

(E) The required RVR value has been achieved for all of the relevant RVR reporting points.

(ii) object to the approval of the BDCA, an operator of an airplane using an approved lateral guidance system for take-off may reduce the take-off minima to an RVR less than 125 m (Category A, B and C airplanes) or 150 m (Category D airplanes) but not lower than 75 m

provided runway protection and facilities equivalent to Category III landing operations are available.

(b) *Non-Precision approach*

(1) *System minima*

(i) An operator must ensure that system minima for non-precision approach procedures, which are based upon the use of ILS without glidepath (LLZ only), VOR, NDB, SRA and VDF are not lower than the MDH values given in Table 3 below.

Table 3 – System minima for nonprecision approach aids

System Minima	
Facility	**Lowest MDH**
ILS (No glide path - LLZ)	250 ft
SRA (terminating to 0,5 MN)	250 ft
SRA (terminating to 1 MN)	300 ft
SRA (terminating to 2 MN)	350 ft
VOR	300 ft
VOR/DME	250 ft
NDB	300 ft
VDF (QDM and QGH)	300 ft

(2) *Minimum Descent Height.* An operator must ensure that the minimum descent height for a non-precision approach is not lower than either:

(i) The OCH/OCL for the category of airplane; or

(ii) The system minimum.

(3) *Visual Reference.* A pilot may not continue an approach below MDA/MDH unless at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) Elements of the approach light system;

(ii) The threshold;

(iii) The threshold markings;

(iv) The threshold lights;

(v) The threshold identification lights;

(vi) The visual glide slope indicator;

(vii) The touchdown zone or touchdown zone markings;

(viii) The touchdown zone lights;

(ix) Runway edge lights; or

(x) Other visual references accepted by the BDCA.

(4) *Required RVR.* The lowest minima to be used by an operator for non-precision approaches are:

Table 4a – RVR for non-precision approach – full facilities

Non-precision approach minima- Full facilities (Notes (1), (5), (6) and (7)				
MDH	**RVR/Airplane Category**			
	A	**B**	**C**	**D**
250-299 ft	800 m	800 m	800 m	1200 m
300-449 ft	900 m	1000 m	1000 m	1400 m
450-649 ft	1000 m	1200 m	1200 m	1600 m
650 ft and above	1200 m	1400 m	1400 m	1800 m

Table 4b- RVR for non-precision approach – intermediate facilities

Non-precision approach minima- Nil approach intermediate facilities (Notes (2),(5),(6) and (7)				
MDH	**RVR/Airplane Category**			
	A	**B**	**C**	**D**
250-299 ft	1000 m	1100 m	1200 m	1400 m
300-449 ft	1200 m	1300 m	1400 m	1600 m
450-649 ft	1400 m	1500 m	1600 m	1800 m
650 ft and above	1500 m	1500 m	1800 m	2000 m

Table 4c- RVR for non-precision approach – basic facilities

Non-precision approach minima Nil approach basic facilities (Notes (3),(5),(6) and (7)				
MDH	**RVR/ Airplane Category**			
	A	**B**	**C**	**D**
250-299 ft	1200 m	1300 m	1400 m	1600 m
300-449 ft	1300 m	1400 m	1600 m	1800 m
450-649 ft	1500 m	1500 m	1800 m	2000 m
650 ft and above	1500 m	1500 m	2000 m	2000 m

Table 4d- RVR for non-precision approach – Nil approach light facilities

Non-precision approach minima light facilities (Notes (4), (5), (6) and (7)				
MDH	**RVR/Airplane Category**			
	A	**B**	**C**	**D**
250-299 ft	1500 m	1500 m	1600 m	1800 m
300-449 ft	1500 m	1500 m	1800 m	2000 m
450-649 ft	1500 m	1500 m	2000 m	2000 m
650 ft and above	1500 m	1500 m	2000 m	2000 m

Note 1: Full facilities comprise runway markings, 720 m or more of HI/MI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 2: Intermediate facilities comprise runway markings, 420–719 m of HI/MI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 3: Basic facilities comprise runway markings, <420 m of HI/MI approach lights, any length of LI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 4: Nil approach light facilities comprise runway markings, runway edge lights, threshold lights, runway end lights or no lights at all.

Note 5: The tables are only applicable to conventional approaches with a nominal descent slope of not greater than 4°. Greater descent slopes will usually require that visual glide slope guidance (e.g. PAPI) is also visible at the Minimum Descent Height.

Note 6: The above figures are either reported RVR or meteorological visibility converted to RVR as in sub-paragraph (h) below.

Note 7: The MDH mentioned in Table 4a, 4b, 4c and 4d refers to the initial calculation of MDH. When selecting the associated RVR, there is no need to take account of a rounding up to the nearest ten feet, which may be done for operational purposes, e.g. conversion to MDA.

(5) *Night operations.* For night operations at least runway edge, threshold and runway end lights must be on.

(c) *Precision approach – Category I operations*

(1) *General.* A Category I operation is a precision instrument approach and landing using ILS, MLS or PAR with a decision height not lower than 200 ft and with a runway visual range not less than 550 m.

(2) *Decision Height.* An operator must ensure that the decision height to be used for a Category I precision approach is not lower than:

(i) The minimum decision height specified in the Airplane Flight Manual (AFM) if stated;

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

(iii) The OCH/OCL for the category of airplane; or

(iv) 200 ft.

(3) *Visual Reference.* A pilot may not continue an approach below the Category I decision height, determined in accordance with sub-paragraph (c)(2) above, unless at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) Elements of the approach light system;

(ii) The threshold;

(iii) The threshold markings;

(iv) The threshold lights;

(v) The threshold identification lights;

(vi) The visual glide slope indicator;

(vii) The touchdown zone or touchdown zone markings;

(viii) The touchdown zone lights; or

(ix) Runway edge lights.

(4) *Required RVR.* The lowest minima to be used by an operator for Category I operations are:

Table 5 – RVR for Cat I approach vs. facilities and DH

Category I minima				
Decision height (Note 7)	**Facilities/RVR** (Note 5)			
	Full (Note 1 & 6)	Intermediate (Note 2 & 6)	Basic (Note 3 & 6)	Nil (Note 4 & 6)
200 ft	550 m	700 m	800 m	1000m
201-250 ft	600 m	700 m	800 m	1000m
251-300 ft	650 m	800 m	900 m	1200m
301 ft and above	800 m	900 m	1000 m	1200m

Note 1: Full facilities comprise runway markings, 720 m or more of HI/MI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 2: Intermediate facilities comprise runway markings, 420–719 m of HI/MI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 3: Basic facilities comprise runway markings, <420 m of HI/MI approach lights, any length of LI approach lights, runway edge lights, threshold lights and runway end lights. Lights must be on.

Note 4: Nil approach light facilities comprise runway markings, runway edge lights, threshold lights, runway end lights or no lights at all.

Note 5: The above figures are either the reported RVR or meteorological visibility converted to RVR in accordance with paragraph (h).

Note 6: The Table is applicable to conventional approaches with a glide slope angle up to and including 4¡.

Note 7: The DH mentioned in the Table 5 refers to the initial calculation of DH. When selecting the associated RVR, there is no need to take account of a rounding up to the nearest ten feet, which may be done for operational purposes, (e.g. conversion to DA).

(5) *Single pilot operations.* For single pilot operations, an operator must calculate the minimum RVR for all approaches in accordance with BCAR–OPS 1.430 and this Appendix. An RVR of less than 800 m is not permitted except when using a suitable autopilot coupled to an ILS or MLS, in which case normal minima apply. The Decision Height applied must not be less than 1·25 x the minimum use height for the autopilot.

(6) *Night operations.* For night operations at least runway edge, threshold and runway end lights must be on.

(d) *Precision approach – Category II operations*

(1) *General.* A Category II operation is a precision instrument approach and landing using ILS or MLS with:

(i) A decision height below 200 ft but not lower than 100 ft; and

(ii) A runway visual range of not less than 300 m.

(2) *Decision Height.* An operator must ensure that the decision height for a Category II operation is not lower than:

(i) The minimum decision height specified in the AFM, if stated;

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

(iii) The OCH/OCL for the category of airplane;

(iv) The decision height to which the flight crew is authorized to operate; or

(v) 100 ft.

(3) *Visual reference.* A pilot may not continue an approach below the Category II decision height determined in accordance with sub-paragraph (d)(2) above unless visual reference containing a segment of at least 3 consecutive lights being the centre line of the approach lights, or touchdown zone lights, or runway centre line lights, or runway edge lights, or a combination of these is attained and can be maintained. This visual reference must include a lateral element of the ground pattern, i.e. an approach lighting crossbar or the landing threshold or a barrette of the touchdown zone lighting.

(4) *Required RVR.* The lowest minima to be used by an operator for Category II operations are:

Table 6 – RVR for Cat II approach vs. DH

Category II minima		
Decision height	**Auto-coupled to below DH** (Note 1)	
	RVR/Airplane Category A, B & C	**RVR/Airplane Category D**
100-120 ft	300 m	300 m (Note 2)/350 m
121-140 ft	400 m	400 m
141ft and above	450 m	450 m

Note 1: The reference to 'auto-coupled to below DH' in this table means continued use of the automatic flight control system down to a height which is not greater than 80% of the applicable DH. Thus airworthiness requirements may, through minimum engagement height for the automatic flight control system, affect the DH to be applied.

Note 2: 300 m may be used for a Category D airplane conducting an auto land. (See IEM to Appendix 1 to BCAR-OPS 1.430 paragraphs (d) and (e).)

(e) *Precision approach – Category III operations*

(1) *General.* Category III operations are subdivided as follows:

(i) *Category III A operations.* A precision instrument approach and landing using ILS or MLS with:

(A) A decision height lower than 100 ft; and

(B) A runway visual range not less than 200 m.

(ii) *Category III B operations.* A precision instrument approach and landing using ILS or MLS with:

(A) A decision height lower than 50 ft, or no decision height; and

(B) A runway visual range lower than 200 m but not less than 75 m.

Note: Where the decision height (DH) and runway visual range (RVR) do not fall within the same Category, the RVR will determine in which Category the operation is to be considered.

(2) *Decision Height.* For operations in which a decision height is used, an operator must ensure that the decision height is not lower than:

(i) The minimum decision height specified in the AFM, if stated;

(ii) The minimum height to which the precision approach aid can be used without the required visual reference; or

(iii) The decision height to which the flight crew is authorized to operate.

(3) *No Decision Height Operations.* Operations with no decision height may only be conducted if:

(i) The operation with no decision height is authorized in the AFM;

(ii) The approach aid and the aerodrome facilities can support operations with no decision height; and

(iii) The operator has an approval for CAT III operations with no decision height.

Note: In the case of a CAT III runway it may be assumed that operations with no decision height can be supported unless specifically restricted as published in the AIP or NOTAM.

(4) *Visual reference*

(i) For Category IIIA operations, and for Category IIIB operations with fail passive flight control systems, a pilot may not continue an approach below the decision height determined in accordance with sub-paragraph (e)(2) above unless a visual reference containing a segment of at least 3 consecutive lights being the centreline of the approach lights, or touchdown zone lights, or runway lights, or runway edge lights, or a combination of these is attained and can be maintained.

(ii) For Category IIIB operations with fail-operational flight control systems using a decision height a pilot may not continue an approach below the Decision Height, determined in accordance with subparagraph (e)(2) above, unless a visual reference containing at least one centreline light is attained and can be maintained.

(iii) For Category III operations with no decision height there is no requirement for visual contact with the runway prior to touchdown.

(5) *Required RVR.* The lowest minima to be used by an operator for Category III operations are:

Table 7 – RVR for Cat III approach vs. DH and roll-out control/guidance system
(See IEM to Appendix 1 to BCAR-OPS 1.430 paragraph (e)(5))

Category III Minima			
Approach Category	Decision Height (ft)	Roll-out Control/ Guidance System	RVR (m)
IIIA	Less than 100 ft	Not Required	200 m Note 1
IIIB	Less than 100 ft	Fail passive	150 m (Note 1)
IIIB	Less than 50 ft	Fail passive	125 m
IIIB	Less than 50 ft or no Decision Height	Fail Operational	75 m

Note 1: For fail-passive operations see IEM to Appendix 1 to BCAR-OPS 1.430, paragraph (e)(5). Crew actions in case of autopilot failure at or below decision height in fail-passive Category III operations.

(f) *Circling*

(1) The lowest minima to be used by an operator for circling are:

Table 8 - Visibility and MDH for circling vs. Airplane category

Airplane Category				
	A	**B**	**C**	**D**
MDH	400 ft	500 ft	600 ft	700 ft
Minimum meteorological visibility	1500 m	1600 m	2400 m	3600 m

(2) Circling with prescribed tracks is an accepted procedure within the meaning of this paragraph. (See IEM to Appendix 1 to BCAR-OPS 1.430 (f)).

(g) Visual Approach. An operator shall not use an RVR of less than 800 m for a visual approach.

(h) Conversion of Reported Meteorological Visibility to RVR

(1) An operator must ensure that a meteorological visibility to RVR conversion is not used for calculating take-off minima, Category II or III minima or when a reported RVR is available.

Note: If the RVR is reported as being above the maximum value assessed by the aerodrome operator, e.g. “RVR more than 1 500 meters”, it is not considered to be a reported RVR in this context and the Conversion Table may be used.

(2) When converting meteorological visibility to RVR in all other circumstances than those in sub-paragraph (h)(1) above, an operator must ensure that the following Table is used:

Table 9 – Conversion of visibility to RVR

Lighting Elements in operation	RVR = Reported Met. Visibility X	
	Day	Night
Hi approach and runway lighting	1-5	2-0
Any type of lighting installation other than above	1-0	1-5
No lighting	1-0	Not applicable

Appendix 2 to BCAR–OPS 1.430 (c) Airplane categories – All Weather Operations

(a) *Classification of airplanes* The criteria taken into consideration for the classification of airplanes by categories is the indicated airspeed at threshold (VAT) which is equal to the stalling speed (VSO) multiplied by 1·3 or VS1G multiplied by 1.23 in the landing configuration at the maximum certificated landing weight. If both VSO and VS1G are available, the higher resulting VAT shall be used. The airplane categories corresponding to VAT values are in the Table below:

Airplane Category	V_{AT}
A	Less than 91 kts
B	From 9l to l20 kts
C	From l2l to l40 kts
D	From l4l to l65 kts
E	From 166 to 2l0 kts

The landing configuration which is to be taken into consideration shall be defined by the operator or by the airplane manufacturer.

(b) *Permanent change of category (maximum landing weight)*

(1) An operator may impose a permanent, lower, landing weight, and use this weight for determining the VAT if approved by the BDCA.

(2) The category defined for a given airplane shall be a permanent value and thus independent of the changing conditions of day-today operations.

Appendix 1 to BCAR–OPS 1.440 Low Visibility Operations – General Operating Rules

(a) *General.* The following procedures apply to the introduction and approval of low visibility operations.

(b) *Operational Demonstration.* The purpose of the operational demonstration is to determine or validate the use and effectiveness of the applicable aircraft flight guidance systems, training, flight crew procedures, maintenance program, and manuals applicable to the Category II/III program being approved.

(1) At least 30 approaches and landings must be accomplished in operations using the Category II/III systems installed in each aircraft type if the requested DH is 50 ft or higher. if the DH is less than 50 ft, at least 100 approaches and landings will need to be accomplished unless otherwise approved by the BDCA.

(2) If an operator has different variants of the same type of aircraft utilizing the same basic flight control and display systems, or different basic flight control and display systems on the same type of aircraft, the operator must show that the various variants have satisfactory performance, but the operator need not conduct a full operational demonstration for each variant. The BDCA may also accept a reduction of the number of approach and landings based on credit given for the experience gained by another operator with an AOC issued in accordance with BCAR-OPS 1 using the same airplane type or variant and procedures.

(3) If the number of unsuccessful approaches exceeds 5 % of the total (e.g. unsatisfactory landings, system disconnects) the evaluation program must be extended in steps of at least 10 approaches and landings until the overall failure rate does not exceed 5 %.

(c) *Data Collection For Operational Demonstrations*. Each applicant must develop a data collection method (e.g. a form to be used by the flight crew) to record approach and landing performance. The resulting data and a summary of the demonstration data shall be made available to the BDCA for evaluation.

(d) *Data Analysis*. Unsatisfactory approaches and/or automatic landings shall be documented and analyzed.

(e) *Continuous Monitoring*

(1) After obtaining the initial authorization, the operations must be continuously monitored by the operator to detect any undesirable trends before they become hazardous. Flight crew reports may be used to achieve this.

(2) The following information must be retained for a period of 12 months:

(i) The total number of approaches, by airplane type, where the airborne Category II or III equipment was utilized to make satisfactory, actual or practice, approaches to the applicable Category II or III minima; and

(ii) Reports of unsatisfactory approaches and/or automatic landings, by aerodrome and airplane registration, in the following categories:

(A) Airborne equipment faults;

(B) Ground facility difficulties;

(C) Missed approaches because of ATC instructions; or

(D) Other reasons.

(3) An operator must establish a procedure to monitor the performance of the automatic landing system of each airplane.

(f) *Transitional periods*

(1) *Operators with no previous Category II or III experience*

(i) An operator without previous Category II or III operational experience may be approved for Category II or IIIA operations, having gained a minimum experience of 6 months of Category I operations on the airplane type.

(ii) On completing 6 months of Category II or IIIA operations on the airplane type the operator may be approved for Category IIIB operations. When granting such an approval, the BDCA may impose higher minima than the lowest applicable for an additional period. The increase in minima will normally only refer to RVR and/or a restriction against operations with no decision height and must be selected such that they will not require any change of the operational procedures.

(2) *Operators with previous Category II or III experience.* An operator with previous Category II or III experience may obtain authorization for a reduced transition period by application to the BDCA.

(g) *Maintenance of Category II, Category III and LVTO equipment.* Maintenance instructions for the on-board guidance systems must be established by the operator, in liaison with the manufacturer, and included in the operator's airplane maintenance program prescribed in BCAR–OPS 1.910 which must be approved by the BDCA.

(h) Eligible Aerodromes and Runways

(1) Each airplane type/on-board equipment/runway combination must be verified by the successful completion of at least one approach and landing in Category II or better conditions, prior to commencing Category III operations.

(2) For runways with irregular pre-threshold terrain or other foreseeable or known deficiencies, each airplane type/on-board equipment/runway combination must be verified by operations in Category I or better conditions, prior to commencing Category II or III operations.

(3) If an operator has different variants of the same type of aircraft utilizing the same basic flight control and display systems, or different basic flight control and display systems on the same type of aircraft, the operator must show that the various variants have satisfactory performance, but the operator need not conduct a full operational demonstration for each variant/runway combination.

(4) Operators using the same airplane type/variant and on-board equipment combination and procedures may take credit from each others' experience and records in complying with this paragraph.

Appendix 1 to BCAR–OPS 1.450 Low Visibility Operations – Training & Qualifications

(a) *General.* An operator must ensure that flight crew member training programs for Low Visibility Operations include structured courses of ground, Flight Simulator and/or flight training. The operator may abbreviate the course content as prescribed by sub-paragraphs (2) and (3) below provided the content of the abbreviated course is acceptable to the BDCA.

(1) Flight crew members with no Category II or Category III experience must complete the full training program prescribed in sub-paragraphs (b), (c) and (d) below.

(2) Flight crew members with Category II or Category III experience with another operator under the BCAR (RAC) System may undertake an abbreviated ground training course.

(3) Flight crew members with Category II or Category III experience with the operator may undertake an abbreviated ground, Flight Simulator and/or flight training course. The abbreviated course is to include at least the requirements of sub-paragraphs (d)(1), (d)(2)(i) or (d)(2)(ii) as appropriate and (d)(3)(i).

(b) *Ground Training.* An operator must ensure that the initial ground training course for Low Visibility Operations covers at least:

(1) The characteristics and limitations of the ILS and/or MLS;

(2) The characteristics of the visual aids;
(3) The characteristics of fog;

(4) The operational capabilities and limitations of the particular airborne system;

(5) The effects of precipitation, ice accretion, low level wind shear and turbulence;

(6) The effect of specific airplane malfunctions;

(7) The use and limitations of RVR assessment systems;

(8) The principles of obstacle clearance requirements;

(9) Recognition of and action to be taken in the event of failure of ground equipment;

(10) The procedures and precautions to be followed with regard to surface movement during operations when the RVR is 400 m or less and any additional procedures required for take-off in conditions below 150 m (200 m for Category D airplanes);

(11) The significance of decision heights based upon radio altimeters and the effect of terrain profile in the approach area on radio altimeter readings and on the automatic approach/landing systems;

(12) The importance and significance of Alert Height if applicable and the action in the event of any failure above and below the Alert Height;

(13) The qualification requirements for pilots to obtain and retain approval to conduct Low Visibility Take-offs and Category II or III operations; and

(14) The importance of correct seating and eye position.

(c) *Flight Simulator training and/or flight training*

(1) An operator must ensure that Flight Simulator and/or flight training for Low Visibility Operations includes:

(i) Checks of satisfactory functioning of equipment, both on the ground and in flight;

(ii) Effect on minima caused by changes in the status of ground installations;

(iii) Monitoring of automatic flight control systems and auto land status annunciator with emphasis on the action to be taken in the event of failures of such systems;

(iv) Actions to be taken in the event of failures such as engines, electrical systems, hydraulics or flight control systems;

(v) The effect of known unserviceabilities and use of minimum equipment lists;

(vi) Operating limitations resulting from airworthiness certification;

(vii) Guidance on the visual cues required at decision height together with information on maximum deviation allowed from glidepath or localizer; and

(viii) The importance and significance of Alert Height if applicable and the action in the event of any failure above and below the Alert Height.

(2) An operator must ensure that each flight crew member is trained to carry out his duties and instructed on the coordination required with other crew members. Maximum use should be made of Flight Simulators.

(3) Training must be divided into phases covering normal operation with no airplane or equipment failures but including all weather conditions which may be encountered and detailed scenarios of airplane and equipment failure which could affect Category II or III operations. If the airplane system involves the use of hybrid or other special systems (such as head up displays or enhanced vision equipment) then flight crew members must practice the use of these systems in normal and abnormal modes during the Flight Simulator phase of training.

(4) Incapacitation procedures appropriate to Low Visibility Take-offs and Category II and III operations shall be practiced.

(5) For airplanes with no Flight Simulator available to represent that specific airplane operators must ensure that the flight training phase specific to the visual scenarios of Category II operations is conducted in a specifically approved Flight Simulator. Such training must include a minimum of 4 approaches. The training and procedures that are type specific shall be practiced in the airplane.

(6) Initial Category II and III training shall include at least the following exercises:

(i) Approach using the appropriate flight guidance, autopilots and control systems installed in the airplane, to the appropriate decision height and to include transition to visual flight and landing;

(ii) Approach with all engines operating using the appropriate flight guidance systems, autopilots and control systems installed in the airplane down to the appropriate decision height followed by missed approach; all without external visual reference;

(iii) Where appropriate, approaches utilizing automatic flight systems to provide automatic flare, landing and roll-out; and

(iv) Normal operation of the applicable system both with and without acquisition of visual cues at decision height.

(7) Subsequent phases of training must include at least:

(i) Approaches with engine failure at various stages on the approach;

(ii) Approaches with critical equipment failures (e.g. electrical systems, auto flight systems, ground and/or airborne ILS/MLS systems and status monitors);

(iii) Approaches where failures of auto flight equipment at low level require either;

(A) Reversion to manual flight to control flare, landing and roll out or missed approach; or

(B) Reversion to manual flight or a downgraded automatic mode to control missed approaches from, at or below decision height including those which may result in a touchdown on the runway;

(iv) Failures of the systems which will result in excessive localizer and/or glideslope deviation, both above and below decision height, in the minimum visual conditions authorized for the operation. In addition, a continuation to a manual landing must be practiced if a head-up display forms a downgraded mode of the automatic system or the head-up display forms the only flare mode; and

(v) Failures and procedures specific to airplane type or variant.

(8) The training program must provide practice in handling faults which require a reversion to higher minima.

(9) The training program must include the handling of the airplane when, during a fail passive Category III approach, the fault causes the autopilot to disconnect at or below decision height when the last reported RVR is 300 m or less.

(10) Where take-offs are conducted in RVRs of 400 m and below, training must be established to cover systems failures and engine failure resulting in continued as well as rejected take-offs.

(d) *Conversion Training Requirements to conduct Low Visibility Take-off and Category II and III Operations.*
An operator shall ensure that each flight crew member completes the following Low Visibility Procedures training if converting to a new type or variant of airplane in which Low Visibility Take-off and Category II and III Operations will be conducted. The flight crew member experience requirements to undertake an abbreviated course are prescribed in sub-paragraphs (a)(2) and (a)(3), above:

(1) *Ground Training.* The appropriate requirements prescribed in sub-paragraph (b) above, taking into account the flight crew member's Category II and Category III training and experience.

(2) *Flight Simulator Training and/or Flight training.*

(i) A minimum of 8 approaches and/or landings in a Flight Simulator.

(ii) Where no Flight Simulator is available to represent that specific airplane, a minimum of 3 approaches including at least 1 go-around is required on the airplane.

(iii) Appropriate additional training if any special equipment is required such as head-up displays or enhanced vision equipment.

(3) *Flight Crew Qualification.* The flight crew qualification requirements are specific to the operator and the type of airplane operated.

(i) The operator must ensure that each flight crew member completes a check before conducting Category II or III operations.

(ii) The check prescribed in subparagraph (i) above may be replaced by successful completion of the Flight Simulator and/or flight training prescribed in sub-paragraph (d)(2) above.

(4) *Line Flying under Supervision.* An operator must ensure that each flight crew member undergoes the following line flying under supervision:

(i) For Category II when a manual landing is required, a minimum of 3 landings from autopilot disconnect;

(ii) For Category III, a minimum of 3 auto lands except that only 1 auto land is required when the training required in subparagraph (d)(2) above has been carried out in a Flight Simulator usable for zero flight time conversion.

(e) *Type and command experience.* Before commencing Category II/III operations, the following additional requirements are applicable to commanders, or pilots to who conduct of the flight may be delegated, who are new to the airplane type:

(1) 50 hours or 20 sectors on the type, including line flying under supervision; and

(2) 100 m must be added to the applicable Category II or Category III RVR minima unless he has previously qualified for Category II or III operations with an operator under the BCAR (RAC) System, until a total of 100 hours or 40 sectors, including line flying under supervision, has been achieved on the type.

(3) The BDCA may authorize a reduction in the above command experience requirements for flight crew members who have Category II or Category III command experience.

(f) *Low Visibility Take-Off with RVR less than 150/200 m*

(1) An operator must ensure that prior to authorization to conduct take-offs in RVRs below 150 m (below 200 m for Category D airplanes) the following training is carried out:

(i) Normal take-off in minimum authorized RVR conditions;

(ii) Take-off in minimum authorized RVR conditions with an engine failure between V1 and V2, or as soon as safety considerations permit; and

(iii) Take-off in minimum authorized RVR conditions with an engine failure before V1 resulting in a rejected take-off.

(2) An operator must ensure that the training required by sub-paragraph (1) above is carried out in a Flight Simulator. This training must include the use of any special procedures and equipment. Where no Flight Simulator is available to represent that specific airplane, the BDCA may approve such training in an airplane without the requirement for minimum RVR conditions. (See Appendix 1 to BCAR–OPS 1.965.)

(3) An operator must ensure that a flight crew member has completed a check before conducting low visibility take-offs in RVRs of less than 150 m (less than 200 m for Category D airplanes) if applicable. The check may only be replaced by successful completion of the Flight Simulator and/or flight training prescribed in subparagraph (f)(1) on conversion to an airplane type.

(g) *Recurrent Training and Checking – Low Visibility Operations*

(1) An operator must ensure that, in conjunction with the normal recurrent training and operator proficiency checks, a pilot's knowledge and ability to perform the tasks associated with the particular category of operation for which he is authorized is checked. The required number of approaches within the validity period of the operator proficiency check (as prescribed in BCAR-OPS 1.965(b)) is to be a minimum of three, one of which may be substituted by an approach and landing in the airplane using approved Category II or III procedures. One missed approach shall be flown during the conduct of the operator proficiency check. If the operator is authorized to conduct take-off with RVR less than 150/200 m, at least one LVTO to the lowest applicable minima shall be flown during the conduct of the operator proficiency check. (See IEM OPS 1.450(b)(i).)

(2) For Category III operations an operator must use a Flight Simulator.

(3) An operator must ensure that, for Category III operations on airplanes with a fail passive flight control system, a missed approach is completed at least once over the period of three consecutive operator proficiency checks as the result of an autopilot failure at or below decision height when the last reported RVR was 300 m or less.

(4) The BDCA may authorize recurrent training and checking for Category II and LVTO operations in an airplane type where no Flight Simulator to represent that specific airplane or an acceptable alternate is available.

Note: Recency for LVTO and Category II/III based upon automatic approaches and/or auto-lands is maintained by the recurrent training and checking as prescribed in this paragraph.

Appendix 1 to BCAR–OPS 1.455 Low Visibility Operations – Operating Procedures

(a) *General.* Low Visibility Operations include:

(1) Manual take-off (with or without electronic guidance systems);

(2) Auto-coupled approach to below DH, with manual flare, landing and roll-out;

(3) Auto-coupled approach followed by auto-flare, auto landing and manual roll-out; and

(4) Auto-coupled approach followed by auto-flare, auto landing and auto-roll-out, when the applicable RVR is less than 400 m.

Note 1: A hybrid system may be used with any of these modes of operations.

Note 2: Other forms of guidance systems or displays may be certificated and approved.

(b) *Procedures and Operating Instructions*

(1) The precise nature and scope of procedures and instructions given depend upon the airborne equipment used and the flight deck procedures followed. An operator must clearly define flight crew member duties during take-off, approach, flare, roll-out and missed approach in the Operations Manual. Particular emphasis must be placed on flight crew responsibilities during transition from non-visual conditions to visual conditions, and on the procedures to be used in deteriorating visibility or when failures occur. Special attention must be paid to the distribution of flight deck duties so as to ensure that the workload of the pilot making the decision to land or execute a missed approach enables him to devote himself to supervision and the decision making process.

(2) An operator must specify the detailed operating procedures and instructions in the Operations Manual. The instructions must be compatible with the limitations and mandatory procedures contained in the Airplane Flight Manual and cover the following items in particular:

(i) Checks for the satisfactory functioning of the airplane equipment, both before departure and in flight;

(ii) Effect on minima caused by changes in the status of the ground installations and airborne equipment;

(iii) Procedures for the take-off, approach, flare, landing, roll-out and missed approach;

(iv) Procedures to be followed in the event of failures, warnings and other non-normal situations;

(v) The minimum visual reference required;

(vi) The importance of correct seating and eye position;

(vii) Action which may be necessary arising from a deterioration of the visual reference;

(viii) Allocation of crew duties in the carrying out of the procedures according to sub-paragraphs (i) to (iv) and (vi) above, to allow the Commander to devote himself mainly to supervision and decision making;

(ix) The requirement for all height calls below 200 ft to be based on the radio altimeter and for one pilot to continue to monitor the airplane instruments until the landing is completed;

(x) The requirement for the Localizer Sensitive Area to be protected;

(xi) The use of information relating to wind velocity, windshear, turbulence, runway contamination and use of multiple RVR assessments;

(xii) Procedures to be used for practice approaches and landing on runways at which the full Category II or Category III aerodrome procedures are not in force;

(xiii) Operating limitations resulting from airworthiness certification; and

(xiv) Information on the maximum deviation allowed from the ILS glide path and/or localizer.

Appendix 1 to BCAR-OPS 1.465 Minimum Visibilities for VFR Operations
See chart .

<table>
<tr><td>Airspace Class</td><td>B</td><td>C D E</td><td colspan="2">F G</td></tr>
<tr><td></td><td></td><td></td><td>Above 900 m (3000 ft) AMSL or above 300 m (1000 ft) above terrain, whichever is higher</td><td>At and below 900 m (3000 ft) AMSL or 300 m(1000 ft) above terrain, whichever is the higher</td></tr>
<tr><td>Distance from clouds</td><td>Clear of clouds</td><td colspan="2">1500 m horizontally 300 m (1000 ft) vertically</td><td>Clear of clouds an in sight of surfaces</td></tr>
<tr><td>Flight visibility</td><td colspan="3">8 km at and above 3050 m (10000 ft) AMSL (Note 1)
5 km below 3050 m (10000 ft) AMSl</td><td>5 km (Note 2)</td></tr>
</table>

Note 1: When the height of the transition altitude is lower than 3 050 m (10 000 ft) AMSL, FL 100 should be used in lieu of 10 000ft.

Note 2: Cat A and B airplanes may be operated in flight visibilities down to 3 000 m, provided the appropriate ATS authority permits use of a flight visibility less than 5 km, and the circumstances are such, that the probability of encounters with other traffic is low, and the IAS is 140 kts or less.

SUBPART F - PERFORMANCE GENERAL

BCAR–OPS 1.470 Applicability

(a) An operator shall ensure that multi-engine aeroplanes powered by turbo propeller engines with a maximum approved passenger seating configuration of more than 9 or a maximum take-off weight exceeding 5 700 kg, and all multi-engine turbojet powered aeroplanes are operated in accordance with Subpart G (Performance Class A).

(b) An operator shall ensure that propeller driven aeroplanes with a maximum approved passenger seating configuration of 9 or less, and a maximum take-off weight of 5700 kg or less are operated in accordance with Subpart H (Performance class B).

(c) An operator shall ensure that aeroplanes powered by reciprocating engines with a maximum approved passenger seating configuration of more than 9 or a maximum take-off weight exceeding 5700 kg are operated in accordance with Subpart I (Performance Class C).

(d) Where full compliance with the requirements of the appropriate Subpart cannot be shown due to specific design characteristics (e.g. supersonic aeroplanes or seaplanes), the operator shall apply approved performance standards that ensure a level of safety equivalent to that of the appropriate Subpart.

BCAR–OPS 1.475 General

The Operator shall ensure that the aeroplane shall be able, in the event of a critical power-unit failing at any point in the take-off, either to discontinue the take-off and stop within the accelerate-stop distance available, or to continue the take-off and clear all obstacles along the flight path by an adequate margin.

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

(a) An operator shall ensure that the weight of the aeroplane:

At the start of the take-off; or, in the event of in-flight replanning

(1) At the point from which the revised operational flight plan applies, is not greater than the weight at which the requirements of the appropriate Subpart can be complied with for the flight to be undertaken, allowing for expected reductions in weight as the flight proceeds, and for such fuel jettisoning as is provided for in the particular requirement.

(b) An operator shall ensure that the aeroplane is operated in compliance with the terms of its certificate of airworthiness and the approved performance Data contained in the Aeroplane Flight Manual is used to determine compliance with the requirements of the appropriate subpart, supplemented as necessary with other data acceptable to the BDCA as prescribed in the relevant Subpart. When applying the factors prescribed in the appropriate Subpart, account may be taken of any operational factors already incorporated in the Aeroplane Flight Manual performance data to avoid double application of factors. [See AMC OPS 1.475(b) & IEM OPS 1.475(b)].

(c) When showing compliance with the requirements of the appropriate Subpart,

due account shall be taken of aeroplane configuration, environmental conditions and the operation of systems which have an adverse effect on performance.

(d) For performance purposes, a damp runway, other than a grass runway, may be considered to be dry.

(e) The operator should issue operating instructions and provide information on aeroplane 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.

BCAR–OPS 1.480 Terminology

(a) Terms used in Subparts F, G, H, I and J, have the following meaning:

(1) *Accelerate-stop distance available (ASDA).* The length of the take-off run available plus the length of stopway, if such stopway is declared available by the appropriate BDCA and is capable of bearing the weight of the aeroplane under the prevailing operating conditions.

(2) *Contaminated runway.* A runway is considered to be contaminated when more than 25% of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by the following:

(i) Surface water more than 3 mm (0·125 in) deep, or by slush, or loose snow, equivalent to more than 3 mm (0·125 in) of water;

(ii) Snow which has been compressed into a solid weight which resists further compression and will hold together or break into lumps if picked up (compacted snow); or

(iii) Ice, including wet ice.

(3) *Damp runway.* A runway is considered damp when the surface is not dry, but when the moisture on it does not give it a shiny appearance.

(4) Dry runway. A dry runway is one which is neither wet nor contaminated, and includes those paved runways which have been specially prepared with grooves or porous pavement and maintained to retain 'effectively dry' braking action even when moisture is present.

(5) Landing distance available (LDA). The length of the runway which is declared available by the BDCA and suitable for the ground run of an aeroplane landing.

(6) Maximum approved passenger seating configuration. The maximum passenger seating capacity of an individual aeroplane, excluding pilot seats or flight deck seats and cabin crew seats as applicable, used by the operator, approved by the BDCA and specified in the Operations Manual.

(7) *Take-off distance available (TODA).* The length of the take-off run available plus the length of the clearway available.

(8) *Take-off weight.* The take-off weight of the aeroplane shall be taken to be its weight, including everything and everyone carried at the commencement of the take-off run.

(9) *Take-off run available (TORA).* The length of runway which is declared available by the BDCA and suitable for the ground run of an aeroplane taking off.

(10) *Wet runway.* A runway is considered wet when the runway surface is covered with water, or equivalent, less than specified in subparagraph (a)(2) above or when there is sufficient moisture on the runway surface to cause it to appear reflective, but without significant areas of standing water.

(b) The terms 'accelerate-stop distance', 'takeoff distance', 'take-off run', 'net take-off flight path', 'one engine inoperative en-route net flight path' and 'two engines inoperative en-route net flight path' as relating to the aeroplane have their meanings defined in the airworthiness requirements under which the aeroplane was certificated, or as specified by the BDCA if it finds that definition inadequate for showing compliance with the performance operating limitations.

SUBPART G - PERFORMANCE CLASS A

BCAR–OPS 1.485 General

(a) An operator shall ensure that, for determining compliance with the requirements of this Subpart, the approved performance data in the Aeroplane Flight Manual is supplemented as necessary with other data acceptable to the BDCA if the approved performance Data in the Aeroplane Flight Manual is insufficient in respect of items such as:

(1) Accounting for reasonably expected adverse operating conditions such as take-off and landing on contaminated runways; and

(2) Consideration of engine failure in all flight phases.

(b) An operator shall ensure that, for the wet and contaminated runway case, performance data determined in accordance with the certification of the aircraft or an equivalent method acceptable to the BDCA is used (See IEM OPS 1.485(b).)

BCAR–OPS 1.490 Take-off

(a) An operator shall ensure that the take-off weight does not exceed the maximum take-off weight specified in the Aeroplane Flight Manual for the pressure altitude and the ambient temperature at the aerodrome at which the take-off is to be made.

(b) An operator must meet the following requirements when determining the maximum permitted take-off weight:

(1) The accelerate-stop distance must not exceed the accelerate-stop distance available;

(2) The take-off distance must not exceed the take-off distance available, with a clearway distance not exceeding half of the takeoff run available;

(3) The take-off run must not exceed the take-off run available;

(4) Compliance with this paragraph must be shown using a single value of V1 for the rejected and continued take-off ; and

(5) On a wet or contaminated runway, the take-off weight must not exceed that permitted for a take-off on a dry runway under the same conditions.

(c) When showing compliance with subparagraph (b) above, an operator must take account of the following:

(1) The pressure altitude at the aerodrome;

(2) The ambient temperature at the aerodrome; and

(3) The runway surface condition and the type of runway surface (See IEM OPS 1.490(c)(3));

(4) The runway slope in the direction of take-off;

(5) Not more than 50% of the reported head-wind component or not less than 150% of the reported tailwind component; and

(6) The loss, if any, of runway length due to alignment of the aeroplane prior to take-off. (See IEM OPS 1.490(c)(6).)

BCAR–OPS 1.495 Take-off obstacle clearance

(a) An operator shall ensure that the net takeoff flight path clears all obstacles by a vertical distance of at least 35 ft or by a horizontal distance of at least 300 ft (90 m) plus 0.125x D, where D is the horizontal distance the aeroplane has travelled from the end of the take-off distance available or the end of the take-off distance if a turn is scheduled before the end of the take-off distance available. For aeroplane with a wingspan of less than 200 ft (60 m) a horizontal obstacle clearance of half the aeroplane wingspan plus 200 ft (60 m), plus 0.125 x D may be used. (See IEM OPS 1.495(a).)

(b) When showing compliance with subparagraph (a) above, an operator must take account of the following:

(1) The weight of the aeroplane at the commencement of the take-off run;

(2) The pressure altitude at the aerodrome;

(3) The ambient temperature at the aerodrome; and

(4) Not more than 50% of the reported head-wind component or not less than 150% of the reported tailwind component.

(c) When showing compliance with subparagraph (a) above:

(1) Track changes shall not be allowed up to the point at which the net take-off flight path has achieved a height equal to one half the wingspan but not less than 50 ft above the elevation of the end of the take-off run available. Thereafter, up to a height of 400 ft it is assumed that the aeroplane is banked by no more than 15°. Above 400 ft height bank angles greater than 15°, but not more than 25° may be scheduled;

(2) Any part of the net take-off flight path in which the aeroplane is banked by more than 15° must clear all obstacles within the horizontal distances specified in sub-paragraphs (a), (d) and (e) of this paragraph by a vertical distance of at least 50 ft; and

(3) An operator must use special procedures, subject to the approval of the BDCA, to apply increased bank angles of not more than 20º between 200 ft and 400 ft, or not more than 30º above 400 ft (See Appendix 1 to BCAR-OPS 1.495(c)(3)).

(4) Adequate allowance must be made for the effect of bank angle on operating speeds and flight path including the distance increments resulting from increased operating speeds. (See AMC OPS 1.495(c)(4)).

(d) When showing compliance with subparagraph (a) above for those cases where the intended flight path does not require track changes of more than 15°, an operator need not consider those obstacles which have a lateral distance greater than:

(1) 1000 ft (300 m), if the pilot is able to maintain the required navigational accuracy through the obstacle accountability area (See AMC OPS 1.495(d)(1) & (e)(1); or

(2) 2000 ft (600 m), for flights under all other conditions.

(e) When showing compliance with subparagraph (a) above for those cases where the intended flight path does require track changes of more than 15°, an operator

need not consider those obstacles which have a lateral distance greater than:

(1) 2000 ft (600 m), if the pilot is able to maintain the required navigational accuracy through the obstacle accountability area (See AMC OPS 1.495 (d)(1) & (e)(1)); or

(2) 3000 ft (900 m) for flights under all other conditions.

(f) An operator shall establish contingency procedures to satisfy the requirements of BCAR–OPS 1.495 and to provide a safe route, avoiding obstacles, to enable the aeroplane to either comply with the enroute requirements of BCAR–OPS 1.500, or land at either the aerodrome of departure or at a take-off alternate aerodrome (See IEM OPS 1.495(f)).

BCAR–OPS 1.500 En-route – One Engine Inoperative
(See AMC OPS 1.500)

(a) An operator shall ensure that the one engine inoperative en-route net flight path data shown in the Aeroplane Flight Manual, appropriate to the meteorological conditions expected for the flight, complies with either sub-paragraph (b) or (c) at all points along the route. The net flight path must have a positive gradient at 1500 ft above the aerodrome where the landing is assumed to be made after engine failure. In meteorological conditions requiring the operation of ice protection systems, the effect of their use on the net flight path must be taken into account.

(b) The gradient of the net flight path must be positive at least 1000 ft above all terrain and obstructions along the route within 9.3 km (5 nm) on either side of the intended track.

(c) The net flight path must permit the aeroplane to continue flight from the cruising altitude to an aerodrome where a landing can be made in accordance with BCAR–OPS 1.515 or 1.520 as appropriate, the net flight path clearing vertically, by at least 2 000 ft, all terrain and obstructions along the route within 9.3 km (5 nm) on either side of the intended track in accordance with sub-paragraphs (1) to (4) below:

(1) The engine is assumed to fail at the most critical point along the route;

(2) Account is taken of the effects of winds on the flight path;

(3) Fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used; and

(4) The aerodrome where the aeroplane is assumed to land after engine failure must meet the following criteria:

(i) The performance requirements at the expected landing weight are met; and

(ii) Weather reports or forecasts, or any combination thereof, and field condition reports indicate that a safe landing can be accomplished at the estimated time of landing.

(d) When showing compliance with BCAR–OPS 1.500, an operator must increase the width margins of subparagraphs (b) and (c) above to 18.5 km (10 nm) if the navigational accuracy does not meet the 95% containment level.

BCAR–OPS 1.505 En-route – Aeroplane with Three or More Engines, Two Engines Inoperative

(a) An operator shall ensure that at no point along the intended track will an aeroplane having three or more engines be more than 90 minutes, at the all-engines long range

cruising speed at standard temperature in still air, away from an aerodrome at which the performance requirements applicable at the expected landing weight are met unless it complies with sub-paragraphs (b) to (f) below.

(b) The two engines inoperative en-route net flight path data must permit the aeroplane to continue the flight, in the expected meteorological conditions, from the point where two engines are assumed to fail simultaneously, to an aerodrome at which it is possible to land and come to a complete stop when using the prescribed procedure for a landing with two engines inoperative. The net flight path must clear vertically, by at least 2000 ft all terrain and obstructions along the route within 9.3 km (5 nm) on either side of the intended track. At altitudes and in meteorological conditions requiring ice protection systems to be operable, the effect of their use on the net flight path data must be taken into account. If the navigational accuracy does not meet the 95% containment level, an operator must increase the width margin given above to 18.5 km (10 nm).

(c) The two engines are assumed to fail at the most critical point of that portion of the route where the aeroplane is more than 90 minutes, at the all engines long range cruising speed at standard temperature in still air, away from an aerodrome at which the performance requirements applicable at the expected landing weight are met.

(d) The net flight path must have a positive gradient at 1500 ft above the aerodrome where the landing is assumed to be made after the failure of two engines.

(e) Fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used.

(f) The expected weight of the aeroplane at the point where the two engines are assumed to fail must not be less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made, and to arrive there at least 1500 ft directly over the landing area and thereafter to fly level for 15 minutes.

BCAR–OPS 1.510 Landing – Destination and Alternate Aerodromes
(See AMC OPS 1.510 and 1.515)

(a) An operator shall ensure that the landing weight of the aeroplane determined in accordance with BCAR–OPS 1.475(a) does not exceed the maximum landing weight specified for the altitude and the ambient temperature expected for the estimated time of landing at the destination and alternate aerodrome.

(b) For instrument approaches with a missed approach gradient greater than 2.5% an operator shall verify that the expected landing weight of the aeroplane allows a missed approach with a climb gradient equal to or greater than the applicable missed approach gradient in the one-engine inoperative missed approach configuration and speed (see BCAR 25.121(d)). The use of an alternative method must be approved by the BDCA (see IEM OPS 1.510(b) & (c)).

(c) For instrument approaches with decision heights below 200 ft, an operator must verify that the expected landing weight of the aeroplane allows a missed approach gradient of climb, with the critical engine failed and with the speed and configuration used for go-around of at least 2.5%, or the published gradient, whichever is the greater. The use of an alternative method must be approved by the BDCA (see IEM OPS 1.510(b) and (c)).

BCAR–OPS 1.515 Landing – Dry Runways

(See AMC OPS 1.510 and 1.515)

(a) An operator shall ensure that the landing weight of the aeroplane determined in accordance with BCAR–OPS 1.475(a) for the estimated time of landing at the destination aerodrome and at any alternate aerodrome allows a full stop landing from 50 ft above the threshold:

(1) For turbo-jet powered aeroplane, within 60% of the landing distance available; or

(2) For turbo-propeller powered aeroplane, within 70% of the landing distance available;

(3) For Steep Approach procedures the BDCA may approve the use of landing distance Data factored in accordance with subparagraphs (a)(1) and (a)(2) above as appropriate, based on a screen height of less than 50 ft, but not less than 35 ft. (See Appendix 1 to BCAR–OPS 1.515(a)(3).)

(4) When showing compliance with subparagraphs (a)(1) and (a)(2) above, the BDCA may exceptionally approve, when satisfied that there is a need (see Appendix 1), the use of Short Landing Operations in accordance with Appendices 1 and 2 together with any other supplementary conditions that the BDCA considers necessary in order to ensure an acceptable level of safety in the particular case.

(b) When showing compliance with subparagraph (a) above, an operator must take account of the following:

(1) The altitude at the aerodrome;

(2) Not more than 50% of the head-wind component or not less than 150% of the tailwind component; and

(3) The runway slope in the direction of landing if greater than +/-2%.

(c) When showing compliance with subparagraph (a) above, it must be assumed that:

(1) The aeroplane will land on the most favourable runway, in still air; and

(2) The aeroplane will land on the runway most likely to be assigned considering the probable wind speed and direction and the ground handling characteristics of the aeroplane, and considering other conditions such as landing aids and terrain. (See IEM OPS 1.515(c).)

(d) If an operator is unable to comply with subparagraph (c)(1) above for a destination aerodrome having a single runway where a landing depends upon a specified wind component, an aeroplane may be dispatched if 2 alternate aerodromes are designated which permit full compliance with subparagraphs (a), (b) and (c). Before commencing an approach to land at the destination aerodrome the commander must satisfy himself that a landing can be made in full compliance with BCAR–OPS 1.510 and sub-paragraphs (a) and (b) above.

(e) If an operator is unable to comply with subparagraph (c)(2) above for the destination aerodrome, the aeroplane may be dispatched if an alternate aerodrome is designated which permits full compliance with sub-paragraphs (a), (b) and (c).

BCAR–OPS 1.520 Landing – Wet and contaminated runways

(a) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be wet; the landing distance available is at least 115% of the required landing distance, determined in accordance with BCAR–OPS 1.515.

(b) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be contaminated, the landing distance available must be at least the landing distance determined in accordance with subparagraph (a) above, or at least 115% of the landing distance determined in accordance with approved contaminated landing distance data or equivalent, accepted by the BDCA, whichever is greater.

(c) A landing distance on a wet runway shorter than that required by sub-paragraph (a) above, but not less than that required by BCAR–OPS 1.515(a), may be used if the Aeroplane Flight Manual includes specific additional information about landing distances on wet runways.

(d) A landing distance on a specially prepared contaminated runway shorter than that required by sub-paragraph (b) above, but not less than that required by BCAR–OPS 1.515(a), may be used if the Aeroplane Flight Manual includes specific additional information about landing distances on contaminated runways.

(e) When showing compliance with subparagraphs (b), (c) and (d) above, the criteria of BCAR–OPS 1.515 shall be applied accordingly except that BCAR–OPS 1.515(a)(1) and (2) shall not be applied to sub-paragraph (b) above.

Appendix 1 to BCAR-OPS 1.495(c)(3)
Approval of increased bank angles

(a) For the use of increased bank angles requiring special approval, the following criteria shall be met:

(1) The Aeroplane Flight Manual must contain approved data for the required increase of operating speed and data to allow the construction of the flight path considering the increased bank angles and speeds.

(2) Visual guidance must be available for navigation accuracy.

(3) Weather minima and wind limitations must be specified for each runway and approved by the BDCA.

(4) Training in accordance with BCAROPS 1.975.

Appendix 1 to BCAR–OPS 1.515(a)(3)
Steep Approach Procedures

(a) The BDCA may approve the application of Steep Approach procedures using glideslope angles of 4.5° or more and with screen heights of less than 50 ft but not less than 35 ft, provided that the following criteria are met:

(1) The Aeroplane Flight Manual must state the maximum approved glideslope angle, any other limitations, normal, abnormal or emergency procedures for the steep approach as well as amendments to the field length data when using steep approach criteria;

(2) A suitable glidepath reference system comprising at least a visual glidepath indicating system must be available at each aerodrome at which steep approach procedures are to be conducted; and

(3) Weather minima must be specified and approved for each runway to be used with a steep approach. Consideration must be given to the following:

(i) The obstacle situation;

(ii) The type of glidepath reference and runway guidance such as visual aids, MLS, 3D–NAV, ILS, LLZ, VOR, NDB;

(iii) The minimum visual reference to be required at DH and MDA;

(iv) Available airborne equipment;

(v) Pilot qualification and special aerodrome familiarisation;

(vi) Aeroplane Flight Manual limitations and procedures; and

(vii) Missed approach criteria.

Appendix 1 to BCAR-OPS 1.515(a)(4) Short Landing Operations

(a) For the purpose of BCAR-OPS 1.515(a)(4) the distance used for the calculation of the permitted landing weight may consist of the usable length of the declared safe area plus the declared landing distance available. The BDCA may approve such operations in accordance with the following criteria:

(1) *Demonstration of the need for Short Landing Operations.* There must be a clear public interest and operational necessity for the operation, either due to the remoteness of the airport or to physical limitations relating to extending the runway.

(2) *Aeroplane and Operational Criteria.*

(i) Short landing operation will only be approved for aeroplane where the vertical distance between the path of the pilot's eye and the path of the lowest part of the wheels, with the aeroplane established on the normal glide path, does not exceed 3 meters;

(ii) When establishing aerodrome operating minima the visibility/RVR must not be less than 1.5 km. In addition, wind limitations must be specified in the Operation Manual; and

(iii) Minimum pilot experience, training requirements and special aerodrome familiarization must be specified for such operations in the Operations Manual.

(3) It is assumed that the crossing height over the beginning of the usable length of the declared safe area is 50 ft.

(4) *Additional criteria.* The BDCA may impose such additional conditions as are deemed necessary for a safe operation taking into account the aeroplane type characteristics, orographic characteristics in the approach area, available approach aids and missed approach/baulked landing considerations. Such additional conditions may be, for instance, the requirement for VASI/PAPI – type visual slope indicator system.

Appendix 2 to BCAR-OPS 1.515(a)(4) Airfield Criteria for Short Landing Operations

(a) The use of the safe area must be approved by the airport authority.

(b) The useable length of the declared safe area under the provisions of 1.515(a)(4), and this Appendix, must not exceed 300 ft (90 meters).

(c) The width of the declared safe area shall not be less than twice the runway width or twice the wing span, whichever is the greater, centred on the extended runway centreline.

(d) The declared safe area must be clear of obstructions or depressions which would endanger an aeroplane undershooting the runway and no mobile object shall be permitted on the declared safety area while the runway is being used for short landing operations.

(e) The slope of the declared safe area must not exceed 5% upward or 2% downward in the direction of landing.

(f) For the purpose of this operation, the bearing strength requirement of BCAR-OPS 1.480(a)(5) need not apply to the declared safe area.

SUBPART H - PERFORMANCE CLASS B

BCAR–OPS 1.525 General

(a) An operator shall not operate a single-engine aeroplane:

(1) At night; or

(2) Under instrumental meteorological conditions, except under Special Visual Flight Rules (BCAR 02.157), when the aeroplanes are equipped with turbine engines, and when in compliance with the requirements established by the BDCA.

Note: Limitations on the operation of single-engine aeroplanes are covered by BCAR–OPS 1.240(a) (6).

(b) An operator shall treat twin engine aeroplanes which do not meet the climb requirements of Appendix 1 to BCAR–OPS 1.525(b) as single-engine aeroplanes.

BCAR–OPS 1.530 Take-off

(a) An operator shall ensure that the take-off weight does not exceed the maximum take-off weight specified in the Aeroplane Flight Manual for the pressure altitude and the ambient temperature at the aerodrome at which the take-off is to be made.

(b) An operator shall ensure that the take-off distance without pondering, as specified in the Aeroplane Flight Manual, does not exceed:

(1) When multiplied by a factor of 1.25, the take-off run available; or

(2) When stopway and/or clearway is available, the following:

(i) The take-off run available;

(ii) When multiplied by a factor of 1.15, the take-off distance available; and

(iii) When multiplied by a factor of 1.3, the accelerate-stop distance available.

(c) When showing compliance with subparagraph (b) above, an operator shall take account of the following:

(1) The weight of the aeroplane at the commencement of the take-off run;

(2) The pressure altitude at the aerodrome;

(3) The ambient temperature at the aerodrome;

(4) The runway surface condition and the type of runway surface (See AMC OPS 1.530(c) (4) and IEM OPS 1.530(c) (4));

(5) The runway slope in the direction of take-off (See AMC OPS 1.530(c) (5)); and

(6) Not more than 50% of the reported head-wind component or not less than 150% of the reported tail-wind component.

BCAR–OPS 1.535 Take-off Obstacle Clearance – Multiengine Aeroplanes

(See IEM OPS 1.535)

(a) An operator shall ensure that the take-off flight path of aeroplanes with two or more engines, determined in accordance with this sub-paragraph, clears all obstacles by a vertical margin of at least 50 ft, or by a horizontal distance of at least 300 ft (90 m) plus 0.125 x D, where D is the horizontal distance travelled by the aeroplane from the end of the takeoff distance available or the end of the take-off distance if a turn is scheduled before the end of the take-off distance available except as provided in

sub-paragraphs (b) and (c) below. For aeroplanes with a wingspan of less than 200 ft (60 m) a horizontal obstacle clearance of half the aeroplane wingspan plus 200 ft (60 m), plus 0.125 x D may be used. When showing compliance with this sub-paragraph (see AMC OPS 1.535(a) y IEM OPS 1.535(a)) it must be assumed that:

(1) The take-off flight path begins at a height of 50 ft above the surface at the end of the take-off distance required by BCAR–OPS 1.530(b) and ends at a height of 1500 ft above the surface;

(2) The aeroplane is not banked before the aeroplane has reached a height of 50 ft above the surface, and that thereafter the angle of bank does not exceed 15°;

(3) Failure of the critical engine occurs at the point on the all engine take-off flight path where visual reference for the purpose of avoiding obstacles is expected to be lost;

(4) The gradient of the take-off flight path from 50 ft to the assumed engine failure height is equal to the average all-engine gradient during climb and transition to the enroute configuration, multiplied by a factor of 0.77; and

(5) The gradient of the take-off flight path from the height reached in accordance with sub-paragraph (4) above to the end of the take-off flight path is equal to the one engine inoperative en-route climb gradient shown in the Aeroplane Flight Manual.

(b) When showing compliance with subparagraph (a) above for those cases where the intended flight path does not require track changes of more than 15°, an operator need not consider those obstacles which have a lateral distance greater than:

(1) 1000 ft (300 m), if the flight is conducted under conditions allowing visual course guidance navigation, or if navigational aids are available enabling the pilot to maintain the intended flight path with the same accuracy (See Appendix 1 to BCAR–OPS 1.535(b)(1) and (c)(1)); or

(2) 2000 ft (600 m), for flights under all other conditions.

(c) When showing compliance with subparagraph (a) above for those cases where the intended flight path requires track changes of more than 15°, an operator need not consider those obstacles which have a lateral distance greater than:

(1) 2000 ft (600 m) for flights under conditions allowing visual course guidance navigation (See Appendix 1 to BCAR–OPS 1.535(b)(1) and (c)(1));

(2) 3000 ft (900 m) for flights under all other conditions.

(d) When showing compliance with subparagraphs (a), (b) and (c) above, an operator must take account of the following:

(1) The weight of the aeroplane at the commencement of the take-off run;

(2) The pressure altitude at the aerodrome;

(3) The ambient temperature at the aerodrome; and

(4) Not more than 50% of the reported head-wind component or not less than 150% of the reported tail-wind component.

BCAR–OPS 1.540 En-Route – Multiengine Aeroplanes.

(See IEM OPS 1.540)

(a) An operator shall ensure that the aeroplane, in the meteorological conditions expected for the flight, and in the event of the failure of one engine, with the remaining engines operating within the maximum continuous power conditions specified, is capable of continuing flight at or above the relevant minimum altitudes for safe flight stated in the Operations Manual to a point 1000 ft above an aerodrome at which the performance requirements can be met.

(b) When showing compliance with subparagraph (a) above:

(1) The aeroplane must not be assumed to be flying at an altitude exceeding that at which the rate of climb equals 300 ft per minute with all engines operating within the maximum continuous power conditions specified; and

(2) The assumed en-route gradient with one engine inoperative shall be the gross gradient of descent or climb, as appropriate, respectively increased or decreased by a gradient of 0.5%.

BCAR–OPS 1.542 En-Route – Single-engine aeroplanes

(See IEM OPS 1.542)

(a) An operator shall ensure that the aeroplane, in the meteorological conditions expected for the flight, and in the event of engine failure, is capable of reaching a place at which a safe forced landing can be made. For landplanes, a place on land is required, unless otherwise approved by the BDCA. [See AMC OPS 1.542(a)].

(b) When showing compliance with subparagraph (a) above:

(1) The aeroplane must not be assumed to be flying, with the engine operating within the maximum continuous power conditions specified, at an altitude exceeding that at which the rate of climb equals 300 ft per minute; and

(2) The assumed en-route gradient shall be the gross gradient of descent increased by a gradient of 0.5%.

BCAR–OPS 1.545 Landing – Destination and Alternate Aerodromes

(See AMC OPS 1.545 and 1.550)

An operator shall ensure that the landing weight of the aeroplane determined in accordance with BCAR–OPS 1.475(a) does not exceed the maximum landing weight specified for the altitude and the ambient temperature expected for the estimated time of landing at the destination and alternate aerodrome.

BCAR–OPS 1.550 Landing – Dry runway

(See AMC OPS 1.545 and 1.550)

(a) An operator shall ensure that the landing weight of the aeroplane determined in accordance with BCAR–OPS 1.475(a) for the estimated time of landing allows a full stop landing from 50 ft above the threshold within 70% of the landing distance available at the destination aerodrome and at any alternate aerodrome.

(1) The BDCA may approve the use of landing distance dat+*-a factored in accordance with this paragraph based on a screen height of less than 50 ft, but not less than 35 ft. (See Appendix 1 to BCAR–OPS 1.550(a).)

(2) The BDCA may approve Short Landing Operations in accordance with the criteria in Appendix 2 to BCAR-OPS 1.550(a).

(b) When showing compliance with subparagraph (a) above, an operator shall take account of the following:

(1) The altitude at the aerodrome;

(2) Not more than 50% of the headwind component or not less than 150% of the tail-wind component.

(3) The runway surface condition and the type of runway surface (See AMC OPS 1.550(b) (3)); and

(4) The runway slope in the direction of landing (See AMC OPS 1.550(b) (4));

(c) For dispatching an aeroplane in accordance with sub-paragraph (a) above, it must be assumed that:

(1) The aeroplane will land on the most favourable runway, in still air; and

(2) The aeroplane will land on the runway most likely to be assigned considering the probable wind speed and direction and the ground handling characteristics of the aeroplane, and considering other conditions such as landing aids and terrain. [See IEM OPS 1.550(c)].

(d) If an operator is unable to comply with subparagraph (c) (2) above for the destination aerodrome, the aeroplane may be dispatched if an alternate aerodrome is designated which permits full compliance with sub-paragraphs (a), (b) and (c) above.

BCAR–OPS 1.555 Landing – Wet and Contaminated Runways

(a) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be wet, the landing distance available is equal to or exceeds the required landing distance, determined in accordance with BCAR–OPS 1.550, multiplied by a factor of 1.15 See IEM OPS 1.555(a).

(b) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be contaminated, the landing distance, determined by using data acceptable to the BDCA for these conditions, does not exceed the landing distance available.

(c) A landing distance on a wet runway shorter than that required by sub-paragraph (a) above, but not less than that required by BCAR–OPS 1.550(a), may be used if the Aeroplane Flight Manual includes specific additional information about landing distances on wet runways.

BCAR–OPS 1.557 Additional requirements for operations of single-engine turbine-powered aeroplanes at night and/or in Instrument Meteorological Conditions (IMC)
(See AMC OPS 1.555).

(a). In approving operations by single-engine turbine-powered aeroplanes at night and/or in IMC, the BDCA shall ensure that the airworthiness certification of the aeroplane is appropriate and that the overall level of safety intended by the provisions of Annexes 6 and 8 is provided by:

(1). the reliability of the turbine engine;

(2). the operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programmes; and

(3). equipment and other requirements provided in accordance with Appendix 3.

(b). All single-engine turbine-powered aeroplanes operated at night and/or in IMC shall have an engine trend monitoring system, and those aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 2005 shall have an automatic trend monitoring system.

Appendix 1 to BCAR–OPS 1.525(b)

General – Take-off and Landing Climb

(a) *Take-off Climb*

(1) *All Engines Operating*

(i) The steady gradient of climb after take-off must be at least 4% with:

(A) Take-off power on each engine;

(B) The landing gear extended except that if the landing gear can be retracted in not more than 7 seconds, it may be assumed to be retracted;

(C) The wing flaps in the take-off position(s); and

(D) A climb speed not less than the greater of 1.1 VMC and 1.2 Vs1.

(2) *One Engine Inoperative*

(i) The steady gradient of climb at an altitude of 400 ft above the take-off surface must be measurably positive with:

(A) The critical engine inoperative and its propeller in the minimum drag position;

(B) The remaining engine at take-off power;

(C) The landing gear retracted;

(D) The wing flaps in the take-off position(s); and

(E) A climb speed equal to that achieved at 50 ft.

(ii) The steady gradient of climb must be not less than 0.75% at an altitude of 1500 ft above the take-off surface with:

(A) The critical engine inoperative and its propeller in the minimum drag position;

(B) The remaining engine at not more than maximum continuous power;

(C) The landing gear retracted;

(D) The wing flaps retracted; and

(E) A climb speed not less than 1.2 Vs1.

(b) *Landing Climb*

(1) *All Engines Operating*

(i) The steady gradient of climb must be at least 2.5% with:

(A) Not more than the power or thrust that is available 8 seconds after initiation of movement of the power controls from the minimum flight idle position;

(B) The landing gear extended;

(C) The wing flaps in the landing position; and

(D) A climb speed equal to VREF.

(2) *One engine Inoperative*

(i) The steady gradient of climb must be not less than 0.75% at an altitude of 1500 ft above the landing surface with:

(A) The critical engine inoperative and its propeller in the minimum drag position;

(B) The remaining engine at not more than maximum continuous power;

(C) The landing gear retracted;

(D) The wing flaps retracted; and

(E) A climb speed not less than 1.2 Vs.

Appendix 1 to BCAR–OPS 1.535(b) (1) and (c) (1)
Take-off Flight Path – Visual Course Guidance Navigation

In order to allow visual course guidance navigation, an operator must ensure that the weather conditions prevailing at the time of operation including ceiling and visibility are such that the obstacle and/or ground reference points can be seen and identified. The Operations Manual must specify, for the aerodrome(s) concerned, the minimum weather conditions which enable the flight crew to continuously determine and maintain the correct flight path with respect to ground reference points, so as to provide a safe clearance with respect to obstructions and terrain as follows:

(a) The procedure must be well defined with respect to ground reference points so that the track to be flown can be analyzed for obstacle clearance requirements;

(b) The procedure must be within the capabilities of the aeroplane with respect to forward speed, bank angle and wind effects;

(c) A written and/or pictorial description of the procedure must be provided for crew use; and

(d) The limiting environmental conditions must be specified (e.g. wind, cloud, visibility, day/night, ambient lighting, obstruction lighting).

Appendix 1 to BCAR–OPS 1.550(a)
Steep Approach Procedures

(a) The BDCA may approve the application of Steep Approach procedures using glideslope angles of 4.5° or more, and with screen heights of less than 50 ft but not less than 35 ft, provided that the following criteria are met:

(1) The Aeroplane Flight Manual must state the maximum approved glideslope angle, any other limitations, normal, abnormal or emergency procedures for the steep approach as well as amendments to the field length data when using steep approach criteria;

(2) A suitable glide path reference system, comprising at least a visual glidepath indicating system, must be available at each aerodrome at which steep approach procedures are to be conducted; and

(3) Weather minima must be specified and approved for each runway to be used with a steep approach. Consideration must be given to the following:

(i) The obstacle situation;

(ii) The type of glidepath reference and runway guidance such as visual aids, MLS, 3D–NAV, ILS, LLZ, VOR, NDB;

(iii) The minimum visual reference to be required at DH and MDA;

(iv) Available airborne equipment;

(v) Pilot qualification and special aerodrome familiarization;

(vi) Aeroplane Flight Manual limitations and procedures; and

(vii) Missed approach criteria.

Appendix 2 to BCAR-OPS 1.550(a)
Short Landing Operations

(a) For the purpose of BCAR-OPS 1.550(a) (2), the distance used for the calculation of the permitted landing weight may consist of the usable length of the declared safe area plus the declared landing distance available. The BDCA may approve such operations in accordance with the following criteria:

(1) The use of the declared safe area must be approved by the aerodrome authority;

(2) The declared safe area must be clear of obstructions or depressions which would endanger an aeroplane undershooting the runway, and no mobile object shall be permitted on the declared safe area while the runway is being used for short landing operations;

(3) The slope of the declared safe area must not exceed 5% upward slope or 2% downward slope in the direction of landing;

(4) The useable length of the declared safe area under the provisions of this Appendix shall not exceed 300 ft (90 m);

(5) The width of the declared safe area shall not be less than twice the runway width, centred on the extended runway centreline;

(6) It is assumed that the crossing height over the beginning of the usable length of the declared safe area shall not be less than 50ft.

(7) For the purpose of this operation, the bearing strength requirement of BCAR-OPS 1.480(a) (5) need not apply to the declared safe area.

(8) Weather minima must be specified and approved for each runway to be used and shall not be less than the greater of VFR or non-precision approach minima;

(9) Pilot requirements must be specified [See BCAR-OPS 1.975(a)];

(10) The BDCA may impose such additional conditions as are necessary for safe operation taking into account the aeroplane type characteristics, approach aids and missed approach/baulked landing considerations.

SUBPART I - PERFORMANCE CLASS C

BCAR–OPS 1.560 General

An operator shall ensure that, for determining compliance with the requirements of this Subpart, the approved performance Data in the Airplane Flight Manual is supplemented, as necessary, with other Data acceptable to the BDCA if the approved performance Data in the Airplane Flight Manual is insufficient.

BCAR–OPS 1.565 Take-off

(a) An operator shall ensure that the take-off weight does not exceed the maximum take-off weight specified in the Airplane Flight Manual for the pressure altitude and the ambient temperature at the aerodrome at which the take-off is to be made.

(b) An operator shall ensure that, for airplanes which have take-off field length data contained in their Airplane Flight Manuals that do not include engine failure accountability, the distance from the start of the take-off roll required by the airplane to reach a height of 50 ft above the surface with all engines operating within the maximum take-off power conditions specified, when multiplied by a factor of either:

(1) 1.33 for airplanes having two engines; or

(2) 1.25 for airplanes having three engines; or

(3) 1.18 for airplanes having four engines,

does not exceed the take-off run available at the aerodrome at which the take-off is to be made.

(c) An operator shall ensure that, for airplanes which have take-off field length data contained in their Airplane Flight Manuals which accounts for engine failure, the following requirements are met in accordance with the specifications in the Airplane Flight Manual:

(1) The accelerate-stop distance must not exceed the accelerate-stop distance available;

(2) The take-off distance must not exceed the take-off distance available, with a clearway distance not exceeding half of the take-off run available;

(3) The take-off run must not exceed the take-off run available;

(4) Compliance with this paragraph must be shown using a single value of V1 for the rejected and continued take-off; and

(5) On a wet or contaminated runway the take-off weight must not exceed that permitted for a take-off on a dry runway under the same conditions.

(d) When showing compliance with subparagraphs (b) and (c) above, an operator must take account of the following:

(1) The pressure altitude at the aerodrome;

(2) The ambient temperature at the aerodrome;

(3) The runway surface condition and the type of runway surface (see IEM OPS 1.565(d) (3));

(4) The runway slope in the direction of take-off (see AMC OPS 1.565(d) (4));

(5) Not more that 50% of the reported head-wind component or not less than 150% of the reported tail-wind component; and

(6) The loss, if any, of runway length due to alignment of the airplane prior to take-off [See IEM OPS 1.565(d) (6)].

BCAR 1.570 Take-off Obstacle Clearance

(a) An operator shall ensure that the take-off flight path with one engine inoperative clears all obstacles by a vertical distance of at least 50 ft plus 0.01 x D, or by a horizontal distance of at least 300 ft (90 m) plus 0.125 x D, where D is the horizontal distance the airplane has travelled from the end of the take-off distance available. For airplanes with a wingspan of less than 200 ft (60 m) a horizontal obstacle clearance of half the airplane wingspan plus 200 ft (60 m), plus 0.125 x D may be used.

(b) The take-off flight path must begin at a height of 50 ft above the surface at the end of the take-off distance required by BCAR–OPS 1.565(b) or (c) as applicable, and end at a height of 1500 ft above the surface.

(c) When showing compliance with subparagraph (a) above, an operator must take account of the following:

(1) The weight of the airplane at the commencement of the take-off run;

(2) The pressure altitude at the aerodrome;

(3) The ambient temperature at the aerodrome; and

(4) Not more than 50% of the reported head-wind component or not less than 150% of the reported tail-wind component.

(d) When showing compliance with subparagraph (a) above, track changes shall not be allowed up to that point of the take-off flight path where a height of 50 ft above the surface has been achieved. Thereafter, up to a height of 400 ft it is assumed that the airplane is banked by no more than 15°. Above 400 ft height bank angles greater than 15°, but not more than 25° may be scheduled. Adequate allowance must be made for the effect of bank angle on operating speeds and flight path including the distance increments resulting from increased operating speeds. (See AMC OPS 1.570(d).)

(e) When showing compliance with subparagraph (a) above for those cases which do not require track changes of more than 15°, an operator need not consider those obstacles which have a lateral distance greater than:

(1) 1000 ft (300 m), if the pilot is able to maintain the required navigational accuracy through the obstacle accountability area (See AMC OPS 1.570(e) (1) & (f) (1)); or

(2) 2000 ft (600 m), for flights under all other conditions.

(f) When showing compliance with subparagraph (a) above for those cases which do require track changes of more than 15°, an operator need not consider those obstacles which have a lateral distance greater than:

(1) 2000 ft (600 m), if the pilot is able to maintain the required navigational accuracy through the obstacle accountability area (See AMC OPS 1.570(e) (1) & (f) (1)); or

(2) 3000 ft (900 m) for flights under all other conditions.

(g) An operator shall establish contingency procedures to satisfy the requirements of BCAR–OPS 1.570 and to provide a safe route, avoiding obstacles, to enable the airplane to either comply with the enroute requirements of BCAR–OPS 1.570, or land at either the aerodrome of departure or at a take-off alternate aerodrome.

BCAR–OPS 1.575 En-Route – All Engines Operating

(a) An operator shall ensure that the airplane will, in the meteorological conditions expected for the flight, at any point on its route or on any planned diversion there from, be capable of a rate of climb of at least 300 ft per minute with all engines operating within the maximum continuous power conditions specified at:

(1) The minimum altitudes for safe flight on each stage of the route to be flown or of any planned diversion there from specified in, or calculated from the information contained in, the Operations Manual relating to the airplane; and

(2) The minimum altitudes necessary for compliance with the conditions prescribed in BCAR–OPS 1.580 and 1.585, as appropriate.

BCAR–OPS 1.580 En-Route – One Engine Inoperative
(See AMC OPS 1.580)

(a) An operator shall ensure that the airplane will, in the meteorological conditions expected for the flight, in the event of any one engine becoming inoperative at any point on its route or on any planned diversion there from and with the other engine or engines operating within the maximum continuous power conditions specified, be capable of continuing the flight from the cruising altitude to an aerodrome where a landing can be made in accordance with BCAR–OPS 1.595 or BCAR–OPS 1.600 as appropriate, clearing obstacles within 9.3 km (5 nm) either side of the intended track by a vertical interval of at least:

(1) 1000 ft when the rate of climb is zero or greater; or

(2) 2000 ft when the rate of climb is less than zero.

(b) The flight path shall have a positive slope at an altitude of 450 m (1500 ft) above the aerodrome where the landing is assumed to be made after the failure of one engine.

(c) For the purpose of this sub-paragraph the available rate of climb of the airplane shall be taken to be 150 ft per minute less than the gross rate of climb specified.

(d) When showing compliance with this paragraph, an operator must increase the width margins of sub-paragraph (a) above to 18.5 km (10 nm) if the navigational accuracy does not meet the 95% containment level.

(e) Fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used.

BCAR–OPS 1.585 En-Route – Airplanes With Three or More Engines, Two Engines Inoperative

(a) An operator shall ensure that, at no point along the intended track, will an airplane having three or more engines be more than 90 minutes at the all-engine long range cruising speed at standard temperature in still air, away from an aerodrome at which the performance requirements applicable at the expected landing weight are met unless it complies with sub-paragraphs (b) to (e) below.

(b) The two-engines inoperative flight path shown must permit the airplane to continue the flight, in the expected meteorological conditions, clearing all obstacles within 9.3 km (5 nm) either side of the intended track by a vertical interval of at least 2000 ft, to an aerodrome at which the performance

requirements applicable at the expected landing weight are met.

(c) The two engines are assumed to fail at the most critical point of that portion of the route where the airplane is more than 90 minutes, at the all engines long range cruising speed at standard temperature in still air, away from an aerodrome at which the performance requirements applicable at the expected landing weight are met.

(d) The expected weight of the airplane at the point where the two engines are assumed to fail must not be less than that which would include sufficient fuel to proceed to an aerodrome where the landing is assumed to be made, and to arrive there at an altitude of a least 1500 ft (450 m) directly over the landing area and thereafter to fly level for 15 minutes.

(e) For the purpose of this sub-paragraph the available rate of climb of the airplane shall be taken to be 150 ft per minute less than that specified.

(f) When showing compliance with this paragraph, an operator must increase the width margins of sub-paragraph (a) above to 18.5 km (10 nm) if the navigational accuracy does not meet the 95% containment level.

(g) Fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with the required fuel reserves, if a safe procedure is used.

BCAR–OPS 1.590 Landing – Destination and Alternate Aerodromes
(See AMC OPS 1.590 and 1.595)

An operator shall ensure that the landing weight of the airplane determined in accordance with BCAR–OPS 1.475(a) does not exceed the maximum landing weight specified in the Airplane Flight Manual for the altitude and, if accounted for in the Airplane Flight Manual, the ambient temperature expected for the estimated time of landing at the destination and alternate aerodrome.

BCAR–OPS 1.595 Landing – Dry Runways
(See AMC OPS 1.590 and 1.595)

(a) An operator shall ensure that the landing weight of the airplane determined in accordance with BCAR–OPS 1.475(a) for the estimated time of landing allows a full stop landing from 50 ft above the threshold within 70% of the landing distance available at the destination and any alternate aerodrome.

(b) When showing compliance with subparagraph (a) above, an operator must take account of the following:

(1) The altitude at the aerodrome;

(2) Not more than 50% of the head-wind component or not less than 150% of the tail-wind component;

(3) The type of runway surface (see AMC OPS 1.595(b) (3)); and

(4) The slope of the runway in the direction of landing (See AMC OPS 1.595(b) (4)).

(c) For dispatching an airplane in accordance with sub-paragraph (a) above it must be assumed that:

(1) The airplane will land on the most favourable runway in still air; and

(2) The airplane will land on the runway most likely to be assigned considering the probable wind speed and direction and the ground handling characteristics of the airplane, and considering other conditions such as landing aids and terrain. (See IEM OPS 1.595(c).)

(d) If an operator is unable to comply with subparagraph (c) (2) above for the destination aerodrome, the airplane may be dispatched if an alternate aerodrome is designated which permits full compliance with sub-paragraphs (a), (b) and (c).

BCAR–OPS 1.600 Landing – Wet and Contaminated Runways

(a) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be wet, the landing distance available is equal to or exceeds the required landing distance, determined in accordance with BCAR–OPS 1.595, multiplied by a factor of 1.15.

(b) An operator shall ensure that when the appropriate weather reports or forecasts, or a combination thereof, indicate that the runway at the estimated time of arrival may be contaminated, the landing distance determined by using data acceptable to the BDCA for these conditions, does not exceed the landing distance available.

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SUBPART J - WEIGHT AND BALANCE

BCAR–OPS 1.605 General

(See Appendix 1 to BCAR–OPS 1.605)

(a) An operator shall ensure that during any phase of operation, the loading, weight and centre of gravity of the airplane complies with the limitations specified in the approved Airplane Flight Manual, or the Operations Manual if more restrictive.

(b) An operator must establish the weight and the centre of gravity of any airplane by actual weighing prior to initial entry into service and thereafter at intervals of 4 years if individual airplane weights are used and 6 years if fleet weights are used. The accumulated effects of modifications and repairs on the weight and balance must be accounted for and properly documented. Furthermore, airplanes must be reweighed if the effect of modifications on the weight and balance is not accurately known.

(c) An operator must determine the weight of all operating items and crew members included in the airplane dry operating weight by weighing or by using standard weights. The influence of their position on the airplane centre of gravity must be determined.

(d) An operator must establish the weight of the traffic load, including any ballast, by actual weighing or determine the weight of the traffic load in accordance with standard passenger and baggage weights as specified in BCAR–OPS 1.620.

(e) An operator must determine the weight of the fuel load by using the actual density or, if not known, the density calculated in accordance with a method specified in the Operations Manual. [See IEM OPS 1.605(e)]

BCAR–OPS 1.607 Terminology

(a) Dry Operating Weight. The total weight of the airplane ready for a specific type of operation excluding all usable fuel and traffic load. This weight includes items such as:

(1) Crew and crew baggage;

(2) Catering and removable passenger service equipment; and

(3) Potable water and lavatory chemicals.

(b) Maximum Zero Fuel Weight. The maximum permissible weight of an airplane with no usable fuel. The weight of the fuel contained in particular tanks must be included in the zero fuel weight when it s explicitly mentioned in the Airplane Flight Manual limitations.

(c) Maximum Structural Landing Weight. The maximum permissible total airplane weight upon landing under normal circumstances.

(d) Maximum Structural Take-off Weight. The maximum permissible total airplane weight at the start of the take-off run.

(e) Passenger classification.

(1) Adults, male and female, are defined as persons of an age of 12 years and above.

(2) Children are defined as persons of an age of two years and above but who are less than 12 years of age.

(3) Infants are defined as persons who are less than 2 years of age.

(f) Traffic Load. The total weight of passengers, baggage and cargo, including any non-revenue load.

BCAR–OPS 1.610 Loading, weight and balance

An operator shall specify, in the Operations Manual, the principles and methods involved in the loading and in the weight and balance system that meet the requirements of BCAR–OPS 1.605. This system must cover all types of intended operations.

BCAR–OPS 1.615 Weight values for crew

(a) An operator shall use the following weight values to determine the dry operating weight:

(1) Actual weights including any crew baggage; or
(2) Standard weights, including hand baggage, of 85 kg (187 lbs) for flight crew members and 75 kg (165 lbs) for cabin crew members; or
(3) Other standard weights acceptable to the BDCA.

(b) An operator must correct the dry operating weight to account for any additional baggage. The position of this additional baggage must be accounted for when establishing the centre of gravity of the airplane.

BCAR–OPS 1.620 Weight values for passengers and baggage

(a) An operator shall compute the weight of passengers and checked baggage using either the actual weighed weight of each person or the actual weighed weight of baggage or the standard weight values specified in Tables 1 to 3 below except where the number of passenger seats available is less than 10. In such cases passenger weight may be established by use of a verbal statement by or on behalf of each passenger and adding to it a predetermined constant to account for hand baggage and clothing [See AMC OPS 1.620(a)]. The procedure specifying when to select actual or standard weights and the procedure to be followed when using verbal statements must be included in the Operations Manual.

(b) If determining the actual weight by weighing, an operator must ensure that passengers' personal belongings and hand baggage are included. Such weighing must be conducted immediately prior to boarding and at an adjacent location.

(c) If determining the weight of passengers using standard weight values, the standard weight values in Tables 1 and 2 below must be used. The standard weights include hand baggage and the weight of any infant below 2 years of age carried by an adult on one passenger seat. Infants occupying separate passenger seats must be considered as children for the purpose of this sub-paragraph.

(d) Weight values for passengers – 20 passenger seats or more

(1) Where the total number of passenger seats available on an airplane is 20 or more, the standard weights of male and female in Table 1 are applicable. As an alternative, in cases where the total number of passenger seats available is 30 or more, the 'All Adult' weight values in Table 1 are applicable.

(2) For the purpose of Table 1, holiday charter means a charter flight solely intended as an element of a holiday travel package. The holiday charter weight values apply provided that not more than 5% of passenger seats installed in the airplane are used for the non-revenue carriage of

certain categories of passengers [See IEM OPS 1.620(d)(2)].

Table 1

Passenger seats	20 and more		30 and more
	Male	Female	All Adult
All flights except holiday charters	88 Kg	70 Kg	84 Kg
Holiday Charters	83 Kg	69 Kg	76 Kg
Children	35 Kg	35 Kg	35 Kg

(e) Weight values for passengers – 19 passenger seats or less.

(1) Where the total number of passenger seats available on an airplane is 19 or less, the standard weights in Table 2 are applicable.

Table 2

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

(2) On flights where no hand baggage is carried in the cabin or where hand baggage is accounted for separately, 6 kg may be deducted from the above male and female weights. Articles such as an overcoat, an umbrella, a small handbag or purse, reading material or a small camera are not considered as hand baggage for the purpose of this sub-paragraph.

(f) Weight values for baggage

(1) Where the total number of passenger seats available on the airplane is 20 or more the standard weight values given in Table 3 are applicable for each piece of checked baggage. For airplanes with 19 passenger seats or less, the actual weight of checked baggage, determined by weighing, must be used.

(2) For the purpose of Table 3:

(i) Domestic flight means a flight with origin and destination within the borders of one State;

(ii) Flights within the Central America means flights, other than Domestic flights, whose origin and destination are within the area specified in Appendix 1 to BCAR–OPS 1.620(f); and

(iii) All other will be the flights that are not in the Central American region or domestic.

Table 3 – 20 or more passenger seats

Type of Flight	Baggage Standard weight
Domestic	11 Kg
Central American Region	13 Kg
All other	15 Kg

(g) If an operator wishes to use standard weight values other than those contained in Tables 1 to 3 above, he must advise the BDCA of his reasons and gain its approval in advance. He must also submit for approval a detailed weighing survey plan and apply the statistical analysis method given in Appendix 1 to BCAR–OPS 1.620(g). After verification and approval by the BDCA of the results of the weighing survey, the revised standard weight values are only applicable to that operator. The revised standard weight values can only be used in circumstances consistent with those under which the survey was conducted. Where revised standard weights exceed those in Tables 1–3, then such higher values must be used. [See IEM OPS 1.620(g)]

(h) On any flight identified as carrying a significant number of passengers whose weights, including hand baggage, are expected to exceed the standard passenger weight, an operator must determine the actual weight of such passengers by weighing or by adding an adequate weight increment. [See IEM OPS 1.620(h) & (i)]

(i) If standard weight values for checked baggage are used and a significant number of passengers check in baggage that is expected to exceed the standard baggage weight, an operator must determine the actual weight of such baggage by weighing or by adding an adequate weight increment. [See IEM OPS 1.620(h) & (i)]

(j) An operator shall ensure that a pilot in command is advised when a non-standard method has been used for determining the weight of the load and that this method is stated in the weight and balance documentation.

BCAR–OPS 1.625 Weight and balance documentation
(See Appendix 1 to BCAR-OPS 1.625)

(a) An operator shall establish weight and balance documentation prior to each flight specifying the load and its distribution. The weight and balance documentation must enable the pilot in command to determine that the load and its distribution is such that the weight and balance limits of the airplane are not exceeded. The person preparing the weight and balance documentation must be named on the document. The person supervising the loading of the airplane must confirm by signature that the load and its distribution are in accordance with the weight and balance documentation. This document must be acceptable to the pilot in command, his acceptance being indicated by countersignature or equivalent. [See also BCAR–OPS 1.1055(a) (12)]

(b) An operator must specify procedures for Last Minute Changes to the load.

(c) Subject to the approval of the BDCA, an operator may use an alternative to the procedures required by paragraphs (a) and (b) above.

Appendix 1 to BCAR–OPS 1.605 Weight and Balance – General
See BCAR–OPS 1.605

(a) Determination of the dry operating weight of an airplane

(1) Weighing of an airplane

(i) New airplanes are normally weighed at the factory and are eligible to be placed into operation without reweighing if the weight and balance records have been adjusted for alterations or modifications to the airplane. Airplanes transferred from one BCAR-OPS 1 operator with an approved weight control program to another BCAR-OPS 1 operator with an approved program need not be weighed prior to use by the receiving operator unless more than 3 years have elapsed since the last weighing.

(ii) The individual weight and centre of gravity (CG) position of each airplane shall be re-established periodically. The maximum interval between two weighing must be defined by the operator and must meet the requirements of BCAR–OPS 1.605(b). In addition, the weight and the CG of each airplane shall be re-established either by:

(A) Weighing; or

(B) Calculation, if the operator is able to provide the necessary justification to prove the validity of the method of calculation chosen, whenever the cumulative changes to the dry operating weight exceed ± 0.5% of the maximum landing weight or the cumulative change in CG position exceeds 0.5% of the mean aerodynamic chord.

(2) Fleet weight and CG position

(i) For a fleet or group of airplanes of the same model and configuration, an average dry operating weight and CG position may be used as the fleet weight and CG position, provided that the dry operating weights and CG positions of the individual airplanes meet the tolerances specified in sub-paragraph (ii) below. Furthermore, the criteria specified in sub-paragraphs (iii), (iv) and (a) (3) below are applicable.

(ii) Tolerances

(A) If the dry operating weight of any airplane weighed, or the calculated dry operating weight of any airplane of a fleet, varies by more than ±0.5% of the maximum structural landing weight from the established dry operating fleet weight or the CG position varies by more than ±0.5% of the mean aerodynamic chord from the fleet CG, that airplane shall be omitted from that fleet. Separate fleets may be established, each with differing fleet mean weights.

(B) In cases where the airplane weight is within the dry operating fleet weight tolerance but its CG position falls outside the permitted fleet tolerance, the airplane may still be operated under the applicable dry operating fleet weight but with an individual CG position.

(C) If an individual airplane has, when compared with other airplanes of the fleet, a physical, accurately accountable difference (e.g. galley or seat con-figuration), that causes exceedance of the fleet tolerances, this airplane may be maintained in the fleet provided that appropriate corrections are applied to the weight and/or CG position for that airplane.

(D) Airplanes for which no mean aerodynamic chord has been published must be operated with their individual weight and CG position values or must be subjected to a special study and approval.

(iii) Use of fleet values

(A) After the weighing of an airplane, or if any change occurs in the airplane equipment or configuration, the operator must verify that this airplane falls within the tolerances specified in subparagraph (2) (ii) above.

(B) Airplanes which have not been weighed since the last fleet weight evaluation can still be kept in a fleet operated with fleet values, provided that the individual values are revised by computation and stay within the tolerances defined in subparagraph (2)(ii) above. If these individual values no longer fall within the permitted tolerances, the operator must either determine new fleet values fulfilling the conditions of sub-paragraphs (2)(i) and (2)(ii) above, or operate the airplanes not falling within the limits with their individual values.

(C) To add an airplane to a fleet operated with fleet values, the operator must verify by weighing or computation that its actual values fall within the tolerances specified in subparagraph (2)(ii) above.

(iv) To comply with sub-paragraph (2) (i) above, the fleet values must be updated at least at the end of each fleet weight evaluation.

(3) Number of airplanes to be weighed to obtain fleet values

(i) If 'n' is the number of airplanes in the fleet using fleet values, the operator must at least weigh, in the period between two fleet weight evaluations, a certain number of airplanes defined in the Table below:

Number of Airplanes in the fleet	Minimum number of weighing
2 or 3	n
4 to 9	$\frac{n + 3}{2}$
10 or more	$\frac{n + 5}{10}$

(ii) In choosing the airplanes to be weighed, airplanes in the fleet, which have not been weighed for the longest time shall be selected.

(iii) The interval between 2 fleet weight evaluations must not exceed 48 months.

(4) Weighing procedure

(i) The weighing must be accomplished either by the manufacturer or by an approved maintenance organization.

(ii) Normal precautions must be taken consistent with good practices such as:

(A) Checking for completeness of the airplane and equipment;

(B) Determining that fluids are properly accounted for;

(C) Ensuring that the airplane is clean; and

(D) Ensuring that weighing is accomplished in an enclosed building.

(iii) Any equipment used for weighing must be properly calibrated, zeroed, and used in accordance with the manufacturer's instructions. Each scale must be calibrated either by the manufacturer, by a civil department of weights and measures or by an appropriately authorized organization within 2 years or within a time period defined by the manufacturer of the weighing equipment, whichever is less. The equipment must enable the weight of the airplane to be established accurately. [See AMC to Appendix 1 to BCAR OPS 1.605 para (a) (4) (iii)]

(b) Special standard weights for the traffic load. In addition to standard weights for passengers and checked baggage, an operator can submit for approval to the BDCA standard weights for other load items.

(c) Airplane loading

(1) An operator must ensure that the loading of its airplanes is performed under the supervision of qualified personnel.

(2) An operator must ensure that the loading of the freight is consistent with the data used for the calculation of the airplane weight and balance.

(3) An operator must comply with additional structural limits such as the floor strength limitations, the maximum load per running meter, the maximum weight per cargo compartment, and/or the maximum seating limits.

(d) Centre of gravity limits

(1) Operational CG envelope. Unless seat allocation is applied and the effects of the number of passengers per seat row, of cargo in individual cargo compartments and of fuel in individual

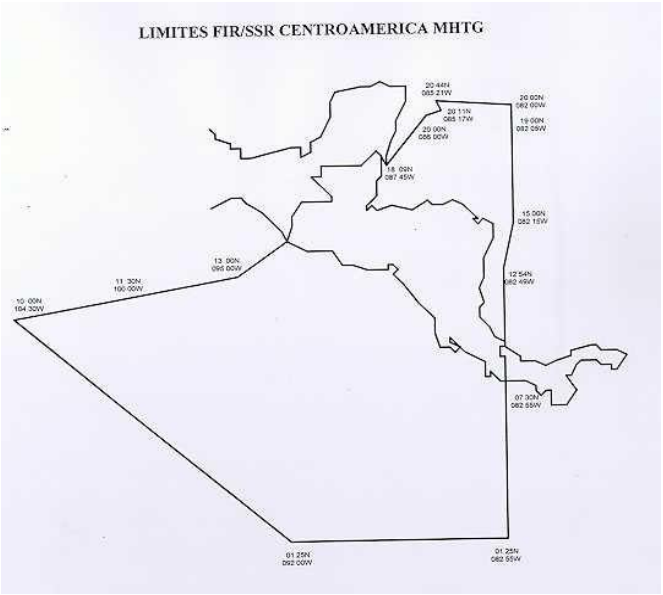
tanks is accounted for accurately in the balance calculation, operational margins must be applied to the certificated centre of gravity envelope. In determining the CG margins, possible deviations from the assumed load distribution must be considered. If free seating is applied, the operator must introduce procedures to ensure corrective action by flight or cabin crew if extreme longitudinal seat selection occurs. The CG margins and associated operational procedures, including assumptions with regard to passenger seating, must be acceptable to the BDCA. [See IEM to Appendix 1 to BCAR–OPS 1.605 subparagraph (d)]

(2) In-flight centre of gravity. Further to sub-paragraph (d) (1) above, the operator must show that the procedures fully account for the extreme variation in CG travel during flight caused by passenger/crew movement and fuel consumption/transfer.

Appendix 1 to BCAR–OPS 1.620(f)
Definition of the area for flights within the Central American region

For the purposes of BCAR–OPS 1.620(f), flights within the Central American region, other than domestic flights, are flights conducted within the area bounded by rhumb lines in the Figure 1 below:

FIGURE 1
Central American Region



Appendix 1 to BCAR–OPS 1.620(g)
Procedure for establishing revised standard weight values for passengers and baggage
[See IEM to Appendix 1 to BCAR–OPS 1.620 (g)]

(a) Passengers

(1) Weight sampling method. The average weight of passengers and their hand baggage must be determined by weighing, taking random samples. The selection of random samples must by nature and extent be representative of the passenger volume, considering the type of operation, the frequency of flights on various routes, in/outbound flights, applicable season and seat capacity of the airplane.

(2) Sample size. The survey plan must cover the weighing of at least the greatest of:

(i) A number of passengers calculated from a pilot sample, using normal statistical procedures and based on a relative confidence range (accuracy) of 1% for all adult and 2% for separate male and female average weights (the statistical procedure, complemented with a worked example for determining the minimum required sample size and the average weight, is included in IEM OPS 1.620(g); and

(ii) For airplanes:

(A) With a passenger seating capacity of 40 or more, a total of 2000 passengers; or

(B) With a passenger seating capacity of less than 40, a total number of 50 x (the passenger seating capacity).

(3) Passenger weights. Passenger weights must include the weight of the passengers' belongings which are carried when entering the airplane. When taking random samples of passenger weights, infants shall be weighed together with the accompanying adult. [See also BCAR-OPS 1.620(c) (d) and (e)]

(4) Weighing location. The location for the weighing of passengers shall be selected as close as possible to the airplane, at a point where a change in the passenger weight by disposing of or by acquiring more personal belongings is unlikely to occur before the passengers board the airplane.

(5) Weighing machine. The weighing machine to be used for passenger weighing shall have a capacity of at least 150 kg. The weight shall be displayed at minimum graduations of 500 g. The weighing machine must be accurate to within 0.5% or 200 g whichever is the greater.

(6) Recording of weight values. For each flight included in the survey, the weight of the passengers, the corresponding passenger category (i.e. male/female/children) and the flight number must be recorded.

(b) Checked baggage. The statistical procedure for determining revised standard baggage weight values based on average baggage weights of the minimum required sample size is basically the same as for passengers and as specified in sub-paragraph (a)(1) [See also IEM OPS 1.620(g)]. For baggage, the relative confidence range (accuracy) amounts to 1%. A minimum of 2000 pieces of checked baggage must be weighed.

(c) Determination of revised standard weight values for passengers and checked baggage

(1) To ensure that, in preference to the use of actual weights determined by weighing, the use of revised standard weight values for passengers and checked baggage does not adversely affect operational safety, a statistical analysis [See IEM OPS 1.620(g)] must be carried out. Such an analysis will generate average weight values for passengers and baggage as well as other data.

(2) On airplanes with 20 or more passenger seats, these averages apply as revised standard male and female weight values.

(3) On smaller airplanes, the following increments must be added to the average passenger weight to obtain the revised standard weight values:

Number of Passenger seats	Required weight increment
1 – 5 included	16 kg
6 – 9 included	8 kg
10 – 19 included	4 kg

Alternatively, all adult revised standard (average) weight values may be applied on airplanes with 30 or more passenger seats. Revised standard (average) checked baggage weight values are applicable to airplanes with 20 or more passenger seats.

(4) Operators have the option to submit a detailed survey plan to the BDCA for approval and subsequently a deviation from the revised standard weight value provided this deviating value is determined by use of the procedure explained in this Appendix. Such deviations must be reviewed at intervals not exceeding 5 years. [See AMC to Appendix 1 to BCAR–OPS 1.620(g), subparagraph (c) (4)]

(5) All adult revised standard weight values must be based on a male/female ratio of 80/20 in respect of all flights except holiday charters which are 50/50. If an operator wishes to obtain approval for use of a different ratio on specific routes or flights then data must be submitted to the BDCA showing that the alternative male/female ratio is conservative and covers at least 84% of the actual male/female ratios on a sample of at least 100 representative flights.

(6) The average weight values found are rounded to the nearest whole number in kg. Checked baggage weight values are rounded to the nearest 0.5 kg figure, as appropriate.

Appendix 1 to BCAR–OPS 1.625
Weight and Balance Documentation

See IEM to Appendix 1 to BCAR–OPS 1.625

(a) Weight and balance documentation

(1) Contents

(i) The weight and balance documentation must contain the following information:

(A) The airplane registration and type;

(B) The flight identification number and date;

(C) The identity of the Pilot in command;

(D) The identity of the person who prepared the document;

(E) The dry operating weight and the corresponding CG of the airplane;

(F) The weight of the fuel at take-off and the weight of trip fuel;

(G) The weight of consumables other than fuel;

(H) The components of the load including passengers, baggage, freight and ballast;

(I) The Take-off Weight, Landing Weight and Zero Fuel Weight;

(J) The load distribution;

(K) The applicable airplane CG positions; and

(L) The limiting weight and CG values.

(ii) Subject to the approval of the BDCA, an operator may omit some of this Data from the weight and balance documentation.

(2) Last Minute Change. If any last minute change occurs after the completion of the weight and balance documentation, this must be brought to the attention of the pilot in command and the last minute change must be entered on the weight and balance documentation. The maximum allowed change in the number of passengers or hold load acceptable as a last minute change must be specified in the Operations Manual. If this number is exceeded, new weight and balance documentation must be prepared.

(b) Computerized systems. Where weight and balance documentation is generated by a computerized weight and balance system, the operator must verify the integrity of the output data. He must establish a system to check that amendments of his input data are incorporated properly in

the system and that the system is operating correctly on a continuous basis by verifying the output data at intervals not exceeding 6months.

(c) Onboard weight and balance systems. An operator must obtain the approval of the BDCA if he wishes to use an onboard weight and balance computer system as a primary source for dispatch.

(d) Datalink. When weight and balance documentation is sent to airplanes via Datalink, a copy of the final weight and balance documentation as accepted by the pilot in command must be available on the ground.

SUBPART K - INSTRUMENTS AND EQUIPMENT

BCAR–OPS 1.630 General introduction
(See IEM OPS 1.630)

(a) An operator shall ensure that a flight does not commence unless the instruments and equipment required under this Subpart which will enable the flight crew to control the flight path of the aeroplane, carry out any required procedural manoeuvres and observe the operating limitations of the aeroplane, are:

(1) Approved, except as specified in subparagraph (c), and installed in accordance with the requirements applicable to them, including the minimum performance standard and the operational and airworthiness requirements; and

(2) In operable condition for the kind of operation being conducted except as provided in the MEL (See BCAR–OPS 1.030).

(b) The minimum standards of performance for the instruments and equipment shall be those, in accordance with the basic certification of the aeroplane, unless different performance standards are indicated in the operating codes or airworthiness.

(c) The following items shall not be required to have an equipment approval:

(1) Fuses referred to in BCAR–OPS 1.635;

(2) Electric torches referred to in BCAR–OPS 1.640(a)(4);

(3) An accurate time piece referred to in BCAR–OPS 1.650(b) & 1.652(b);

(4) Chart holder referred to in BCAR–OPS 1.652(n).

(5) First-aid kits referred to in BCAR–OPS 1.745;

(6) Emergency medical kit referred to in BCAR–OPS 1.755;

(7) Megaphones referred to in BCAR–OPS 1.810;

(8) Survival and pyrotechnic signalling equipment referred to in BCAR–OPS 1.835(a) and (c); and

(9) Sea anchors and equipment for mooring, anchoring or manoeuvring seaplanes and amphibians on water referred to in BCAR–OPS 1.840.

(10) Child restraint devices referred to in OPS 1.730(a)3.

(d) If equipment is to be used by one flight crew member at his station during flight, it must be readily operable from his station. When a single item of equipment is required to be operated by more than one flight crew member it must be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.

(e) Those instruments that are used by any one flight crew member shall be so arranged as to permit the flight crew member to see the indications readily from his station, with the minimum practicable deviation from the position and line of vision which he normally assumes when looking forward along the flight path. Whenever a single instrument is required in an aeroplane operated by more than one flight crew member it must be installed so that the instrument is visible from each applicable flight crew station.

BCAR–OPS 1.635 Circuit protection devices

An operator shall not operate an aeroplane in which fuses are used unless there are spare fuses available for use in flight equal to at least 10% of the number of fuses of each rating or three of each rating whichever is the greater.

BCAR–OPS 1.640 Aeroplane operating lights

An operator shall not operate an aeroplane unless it is equipped with:

(a) For flight by day:

(1) Anti-collision light system;

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

(3) Lighting supplied from the aeroplane's electrical system to provide illumination in all passenger compartments; and

(4) An electric torch for each required crew member readily accessible to crew members when seated at their designated station.

(b) For flight by night, in addition to equipment specified in paragraph (a) above:

(1) Navigation/position lights; and

(2) Two landing lights or a single light having two separately energized filaments; and

(3) Lights to conform to the International regulations for preventing collisions at sea if the aeroplane is a Seaplane or an Amphibian.

BCAR–OPS 1.645 Windshield wipers

An operator shall not operate an aeroplane with a maximum certificated take-off weight of more than 5 700 kg unless it is equipped at each pilot station with a windshield wiper or equivalent means to maintain a clear portion of the windshield during precipitation.

BCAR–OPS 1.650 Day VFR operations – Flight and navigational instruments and Associated equipment
(See AMC OPS 1.650/1.652)
(See IEM OPS 1.650/1.652)

(a) An operator shall not operate an aeroplane by day in accordance with Visual Flight Rules (VFR) unless it is equipped with the flight, navigational instruments and associated equipment plus additional instruments or equipment as may be prescribed by BDCA under the conditions stated in the following sub-paragraphs:

(1) A magnetic compass;

(2) An accurate timepiece showing the time in hours, minutes, and seconds;

(3) A sensitive pressure altimeter calibrated in feet with a sub-scale setting, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight;

(4) An airspeed indicator calibrated in knots;

(5) A vertical speed indicator;

(6) A turn and slip indicator, or a turn coordinator incorporating a slip indicator;

(7) An attitude indicator;

(8) A stabilized direction indicator; and

(9) A means of indicating in the flight crew compartment the outside air temperature calibrated in degrees Celsius (See AMC OPS 1.650(i) & 1.652(i)).

(10) For flights which do not exceed 60 minutes duration, which take off and land at the same aerodrome, and which remain within 50 nm of that aerodrome, the instruments prescribed in subparagraphs (6), (7) and (8) above, and sub-paragraphs (11)(iv), (11)(v) and (11)(vi) below, may all be replaced by either a turn and slip indicator, or a turn coordinator incorporating a slip indicator, or both an attitude indicator and a slip indicator.

(11) Whenever two pilots are required the second pilot's station shall have separate instruments as follows:

(i) A sensitive pressure altimeter calibrated in feet with a sub-scale setting calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight;

(ii) An airspeed indicator calibrated in knots;

(iii) A vertical speed indicator;

(iv) A turn and slip indicator, or a turn coordinator incorporating a slip indicator;

(v) An attitude indicator; and

(vi) A stabilized direction indicator.

(12) Each airspeed indicating system must be equipped with a heated pitot tube or equivalent means for preventing malfunction due to either condensation or icing for:

(i) Aeroplanes with a maximum certificated take-off weight in excess of 5 700 kg or having a maximum approved passenger seating configuration of more than 9;

(ii) Aeroplanes first issued with an individual certificate of airworthiness on or after 1 April 2004.

(13) Whenever duplicate instruments are required, the requirement embraces separate displays for each pilot and separate selectors or other associated equipment where appropriate.

(14) All aeroplanes must be equipped with means for indicating when power is not adequately supplied to the required flight instruments; and

(15) All aeroplanes with compressibility limitations not otherwise indicated by the required airspeed indicators shall be equipped with a Mach number indicator at each pilot's station.

(16) An operator shall not conduct day VFR operations unless the aeroplane is equipped with a headset with boom microphone or equivalent for each flight crew member on flight deck duty (See IEM OPS 1.650(p) and 1.652(s)).

(b) VFR flights that are conducted as controlled flights shall be equipped in accordance with BCAR-OPS 1.652.

BCAR–OPS 1.652 IFR or night operations
Flight and navigational instruments and associated equipment
(See AMC OPS 1.650/1.652)

(See IEM OPS 1.650/1.652)

An operator shall not operate an aeroplane in accordance with Instrument Flight Rules (IFR) or by night in accordance with Visual Flight Rules (VFR) unless it is equipped with the flight and navigational instruments and associated equipment and, where applicable, under the conditions stated in the following sub-paragraphs:

(a) A magnetic compass;

(b) An accurate time-piece showing the time in hours, minutes and seconds;

(c) Two sensitive pressure altimeters calibrated in feet with sub-scale settings, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight. Not later than 1 June 2005 these altimeters must have counter drum-pointer or equivalent presentation. Neither three pointer nor drum pointer altimeters satisfy the requirement

(d) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to either condensation or icing including a warning indication of pitot heater failure.
The pitot heater failure warning indication requirement does not apply to those aeroplanes with a maximum approved passenger seating configuration of 9 or less or a maximum certificated take-off weight of 5700 kg or less and issued with an individual Certificate of Airworthiness prior to 1 April 1998 (See AMC OPS 1.652(d) & (k)(2));

(e) A vertical speed indicator;

(f) A turn and slip indicator;

(g) An attitude indicator;

(h) A stabilized direction indicator;

(i) A means of indicating in the flight crew compartment the outside air temperature calibrated in degrees Celsius (See AMC OPS 1.650 (i) & 1.652(i)); and

(j) Two independent static pressure systems, except that for propeller driven aeroplanes with maximum certificated take-off weight of 5700 kg or less, one static pressure system and one alternate source of static pressure is allowed.

(k) Whenever two pilots are required the second pilot's station shall have separate instruments as follows:

(1) A sensitive pressure altimeter calibrated in feet with a sub-scale setting, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight and which may be one of the 2 altimeters required by sub-paragraph (c) above. Not later than 1 June 2005 these altimeters must have counter drum-pointer or equivalent presentation.

(2) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to either condensation or icing including a warning indication of pitot heater failure. The pitot heater failure warning indication requirement does not apply to those aeroplanes with a maximum approved passenger seating configuration of 9 or less or a maximum certificated take-off weight of 5700 kg or less and issued with an individual Certificate of Airworthiness prior to 1 April 1998 (See AMC OPS 1.652(d) & (k)(2));

(3) A vertical speed indicator;

(4) A turn and slip indicator;

(5) An attitude indicator; and

(6) A stabilized direction indicator.

(l) Those aeroplanes with a maximum certificated take-off weight in excess of 5700 kg or having a maximum approved passenger seating configuration of more than 9 seats must be equipped with an additional, standby, attitude indicator (artificial horizon), capable of being used from either pilot's station, that:

(1) Is powered continuously during normal operation and, after a total failure of the normal electrical generating system is powered from a source independent of the normal electrical generating system;

(2) Provides reliable operation for a minimum of 30 minutes after total failure of the normal electrical generating system, taking into account other loads on the emergency power supply and operational procedures;

(3) Operates independently of any other attitude indicating system;

(4) Is operative automatically after total failure of the normal electrical generating system; and

(5) Is appropriately illuminated during all phases of operation, except for aeroplanes with a maximum certificated take-off weight of 5700 kg or less, already registered on 1 April 1995, and equipped with a standby attitude indicator in the left-hand instrument panel.

(m) In complying with sub-paragraph (l) above, it must be clearly evident to the flight crew when the standby attitude indicator, required by that subparagraph, is being operated by emergency power. Where the standby attitude indicator has its own dedicated power supply there shall be an associated indication, either on the instrument or on the instrument panel, when this supply is in use.

(n) A chart holder in an easily readable position which can be illuminated for night operations.

(o) If the stand by attitude instrument system is installed and usable through flight attitudes of 360° of pitch and bank, the turn and slip indicators may be substituted by slip indicators. Usable regarding the attitude instrument means that the system works from 0 to 360 degrees in pitch and bank without collapsing.

(p) Whenever duplicate instruments are required, the requirement embraces separate displays for each pilot and separate selectors or other associated equipment where appropriate;

(q) All aeroplanes must be equipped with means for indicating when power is not adequately supplied to the required flight instruments; and

(r) All aeroplanes with compressibility limitations not otherwise indicated by the required airspeed indicators shall be equipped with a Mach number indicator at each pilot's station.

(s) An operator shall not conduct IFR or night operations unless the aeroplane is equipped with a headset with boom microphone or equivalent for each flight crew member on flight deck duty and a transmit button on the control wheel for each required pilot. [See IEM OPS 1.650(p)/1.652(s)].

(t) Such additional instruments or equipment as may be prescribed by the BDCA

BCAR–OPS 1.655 Additional equipment for single pilot operation under IFR or at night

An operator shall not conduct single pilot IFR operations unless the aeroplane is equipped with:

(1) a serviceable autopilot that has at least altitude hold and heading select modes;

(2) a headset with a boom microphone or equivalent; and

(3) means of displaying charts that enables them to be readable in all ambient light conditions.

BCAR–OPS 1.660 Altitude alerting system

An operator shall not operate a turbine propeller powered aeroplane with a maximum certificated take-off mass in excess of 5 700 kg or having a maximum approved passenger seating configuration of more than nine seats or a turbojet powered aeroplane unless it is equipped with an altitude alerting system capable of:

1. Alerting the flight crew upon approaching a preselected altitude; and

2. Alerting the flight crew by at least an aural signal, when deviating above or below a preselected altitude,

except for aeroplanes with a maximum certificated take-off mass of 5 700 kg or less having a maximum approved passenger seating configuration of more than 9 and first issued with an individual certificate of airworthiness before 1 April 1972.

BCAR–OPS 1.665 Ground proximity warning system and terrain awareness warning system

(a) An operator shall not operate a turbine powered aeroplane or a piston engine aeroplane having a maximum certificated take-off weight in excess of 5700 kg or a maximum approved passenger seating configuration of more than 9 unless it is equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(b) The ground proximity warning system must automatically provide, by means of aural signals, which may be supplemented by visual signals, timely and distinctive warning to the flight crew of:

1. excessive descent rate;

2. excessive terrain closure rate;

3. excessive altitude loss after take-off or go-around;

4. unsafe terrain clearance while not in landing configuration;

    (i) gear not locked down;

    (ii) flaps not in a landing position; and

    (iii)

5. excessive descent below the instrument glide path.

(c) The terrain awareness and warning system must automatically provide the flight crew, by means of visual and aural signals and a terrain awareness display, with sufficient alerting time to prevent controlled flight into terrain events, and provided a forward looking capability and terrain clearance floor.

BCAR-OPS 1.668 Airborne Collision Avoidance System
(See IEM OPS 1.668)

An operator shall not operate a turbine powered aeroplane having a maximum certificated take-off mass in excess of 5 700 kg or a maximum approved passenger seating configuration of more than 19 unless it is equipped with an airborne collision avoidance system with a minimum performance level of at least ACAS II.

BCAR–OPS 1.670 Airborne weather radar equipment

(a) An operator shall not operate:

(1) A pressurized aeroplane; or

(2) An unpressurised aeroplane which has a maximum certificated take-off weight of more than 5700 kg; or

(3) an unpressurised aeroplane having a maximum approved passenger seating configuration of more than nine seats, unless it is equipped with airborne weather radar equipment whenever such an aeroplane is being operated at night or in instrument meteorological conditions in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable with airborne weather radar, may be expected to exist along the route.

(b) For propeller driven pressurised aeroplanes having a maximum certificated take-off mass not exceeding 5 700 kg with a maximum approved passenger seating configuration not exceeding nine seats the airborne weather radar equipment may be replaced by other equipment capable of detecting thunderstorms and other potentially hazardous weather conditions, regarded as detectable with airborne weather radar equipment, subject to approval by the BDAC.

BCAR–OPS 1.675 Equipment for operations in icing conditions

(a) An operator shall not operate an aeroplane in expected or actual icing conditions unless it is certificated and equipped to operate in icing conditions.

(b) An operator shall not operate an aeroplane in expected or actual icing conditions at night unless it is equipped with a means to illuminate or detect the formation of ice. Any illumination that is used must be of a type that will not cause glare or reflection that would handicap crew members in the performance of their duties.

BCAR–OPS 1.680 Cosmic radiation detection equipment

(a) An operator shall not operate an aeroplane above 15000 m (49000 ft) unless:

(1) It is equipped with an instrument to measure and indicate continuously the dose rate of total cosmic radiation being received (i.e. the total of ionizing and neutron radiation of galactic and solar origin) and the cumulative dose on each flight, or

(2) A system of on-board quarterly radiation sampling acceptable to the authority is established (See AMC OPS 1.680(a) (2)).

BCAR–OPS 1.685 Flight crew interphone System

(a) An operator shall not operate an aeroplane on which a flight crew of more than one is required unless it is equipped with a flight crew interphone system,

including headsets and microphones, not of a handheld type, for use by all members of the flight crew.

(b) The crew member interphone system required by this paragraph must:

1. Operate independently of the public address system except for handsets, headsets, microphones, selector switches and signalling devices;

2. Provide a means of two-way communication between the flight crew compartment and:

(i) Each passenger compartment;

(ii) Each galley located other than on a passenger deck level; and

(iii) Each remote crew compartment that is not on the passenger deck and is not easily accessible from a passenger compartment;

3. be readily accessible for use from each of the required flight crew stations in the flight crew compartment;

4. Be readily accessible for use at required cabin crew member stations close to each separate or pair of floor level emergency exits;

5. Have an alerting system incorporating aural or visual signals for use by flight crew members to alert the cabin crew and for use by cabin crew members to alert the flight crew;

6. Have a means for the recipient of a call to determine whether it is a normal call or an emergency call; and

7. Provide on the ground a means of two-way communication between ground personnel and at least two flight crew members.

BCAR–OPS 1.690 Crew member interphone system

(a) An operator shall not operate an aeroplane with a maximum certificated take-off weight exceeding 15000 kg or having a maximum approved passenger seating configuration of more than 19 passenger seats, unless it is equipped with a crew member interphone system.

(b) The crew member interphone system required by this paragraph must:

(1) Operate independently of the public address system except for handsets, headsets, microphones, selector switches and signalling devices;

(2) Provide a means of two-way communication between the flight crew compartment and:

(i) Each passenger compartment;
(ii) Each galley located other than on a passenger deck level; and
(iii) Each remote crew compartment that is not on the passenger deck and is not easily accessible from a passenger compartment;

(3) Be readily accessible for use from each of the required flight crew stations in the flight crew compartment;

(4) Be readily accessible for use at required cabin crew member stations close to each separate or pair of floor level emergency exits;

(5) Have an alerting system incorporating aural or visual signals for use by flight crew members to alert the cabin crew and for use by cabin crew members to alert the flight crew;

(6) Have a means for the recipient of a call to determine whether it is a normal call or an emergency call (See AMC OPS 1.690(b)(6)); and

(7) Provide on the ground a means of two-way communication between ground personnel and at least two flight crew members. (See IEM OPS 1.690(b) (7).)

BCAR–OPS 1.695 Public address system

(a) An operator shall not operate an aeroplane with a maximum approved passenger seating configuration of more than 19 unless a public address system is installed.

(b) The public address system required by this paragraph must:

(1) Operate independently of the interphone systems except for handsets, headsets, microphones, selector switches and signalling devices;

(2) Be readily accessible for immediate use from each required flight crew member station;

(3) For each required floor level passenger emergency exit which has an adjacent cabin crew seat, have a microphone which is readily accessible to the seated cabin crew member, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated cabin crew members;

(4) Be capable of operation within 10 seconds by a cabin crew member at each of those stations in the compartment from which its use is accessible; and

(5) Be audible and intelligible at all passenger seats, toilets and cabin crew seats and work stations.

BCAR–OPS 1.700 Cockpit voice recorders (CVR)
(See ACJ OPS 1.700)

(a) An operator may not operate an aeroplane, unless it is equipped with a cockpit voice recorder which must be able to conserve the recorded information as follows:

(1) For all aeroplanes with a maximum take-off weight over 5700 kg, with an approved seating configuration of more than 9 passengers, 30 minutes of recording.

(2) For aeroplanes with a maximum take-off weight of more than 5700 kg, 30 minutes of recording.

(3) For aeroplanes with a maximum take-off weight of more than 5700 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1990 120 minutes of recording.

(4) All multi-engined turbine powered aeroplanes of a maximum certificated take-off mass of 5 700 kg or less for which the individual certificate of airworthiness is first issued on or after 1 January 1990 should be equipped with a CVR, the objective of which is the recording of the aural environment on the flight deck during flight time.

(b) With reference to a time scale records:

(1) Voice communications transmitted from or received on the flight deck by radio;

(2) The ambient sound of the flight deck, including without interruption the audio

signals received from each boom and mask microphones in use;

(3) Voice communications of flight crewmembers on the flight deck using the aeroplane's interphone system;

(4) Voice or audio signals identifying navigation or approach aids received in a headphone or speaker; and

(5) Voice communications of flight crewmembers on the flight deck using the public address system, if installed.

(c) The cockpit voice recorder must start automatically to record prior to the aeroplane moving under its own power and continue to record until the termination of the flight when the aeroplane is no longer capable of moving under its own power. In addition, depending on the availability of electrical power, the cockpit voice recorder must start to record as early as possible during the cockpit checks prior to engine start at the beginning of the flight until the cockpit checks immediately following engine shutdown at the end of the flight.

(d) The cockpit voice recorder must have a device to assist in locating that recorder in water.

(e) The cockpit voice recorder must not be disconnected during flight.

(f) Operational checks and evaluations of the recordings of the CVR system must be conducted to ensure the correct functioning of the recorder.

BCAR–OPS 1.715 Flight data recorders

(See appendix 1 to BCAR OPS-1.715)

(a) Flight Data Recorders Type I will be used to register the necessary parameters to determine with accuracy the flight path, speed, attitude, engine power, configuration and operation of the aeroplane.

(b) Flight Data Recorders Type II and IIA will be used to record the necessary parameters to determine with accuracy the flight path, speed, attitude, engine power, and configuration of the lift and drag devices of the aeroplane.

(c) Aeroplanes will require Flight Data Recorders (FDR) as follows:

1) For aeroplanes with a maximum certificated take-off weight greater than 5700 kg, with turbine engines and that the airworthiness certificate was issued for the first time prior to 1 January 1989, must be equipped with a FDR that registers the time, altitude, relative speed, normal acceleration and direction.

2) For aeroplanes with a maximum certificated take-off weight greater than 5700 kg up to and including 27000 kg, and that the airworthiness certificate was issued for the first time after 1 January 1989, must be equipped with a FDR type II.

3) For aeroplanes with a maximum certificated take-off weight greater than 27000 kg and that the airworthiness certificate was issued for the first time after 1 January 1989, must be equipped with a FDR type I.

4) For aeroplanes with a maximum certificated take-off weight greater than 5700 kg and that the airworthiness certificate was issued for the first time after 1 January 2005, must be equipped with a FDR type IA.

(d) The Flight Data Recorder must be able to preserve the recorded information at least during the last twenty-five hours of operation, except for the FDR type IIA, which should preserve at least the recorded

information during 30 minutes of its operation,

(e) All turbine multiengine aeroplanes with a maximum certificated take-off weight equal or lower than 5700 kg and that the airworthiness certificate was issued for the first time on or after 1 January 1990, must be equipped with a FDR type IIA.

1) The Flight Data Recorder Type IIA must be able to preserve the recorded information at least during the last thirty minutes of its operation.

2) The data should be obtained from sources in the aeroplane that allow their precise correlation with the information that is presented to the flight crew.

3) The Flight Data Recorder must initiate its recordings automatically, before the aeroplane begins moving under its own power, and it must stop automatically after the aeroplane is no longer able to move under its own power.

f) The Flight Data Recorders will be arrange and install so that it provides the best protection possible of the recordings, so that these can be preserved, recover on the ground as well as in the water and transcribed. The Flight Data Recorders shall satisfy the prescribed specifications of impact resistance and fire protection, and must have a means to help locate them in the water.

1) The aeroplanes may combine the Flight Data Recorders with the Cockpit Voice Recorders (FDR/CVR).

(i) All aeroplanes of a maximum certificated take-off mass over 5 700 kg, required to be equipped with an FDR and a CVR, may alternatively be equipped with two combination recorders (FDR/CVR).

(ii) All multi-engined turbine powered aeroplanes of a maximum certificated take-off mass of 5 700 kg or less, required to be equipped with an FDR and/or a CVR, may alternatively be equipped with one combination recorder (FDR/CVR).

(iii) In such cases, it must be possible to correlate easily the digital communications with the recordings of the cockpit voice recorder in the cockpit.

2) The use metallic band Flight Data Recorders is not permitted.

3) The use of photographic film and analog data in modulated frequency (FM) Flight Data Recorders is not permitted.

BCAR-OPS 1.720 Flight Data Recorders - good operating continuity.

Operational checks and evaluations on the information of the Flight Data and Cockpit Voice Recorders in the cockpit must be accomplished to assure the constant good performance of the recorders, in accordance with the manufacturer's recommendations, operator's policies, and attachment D of the ICAIO Annex 6 part I.

BCAR OPS 1.725 Cockpit voice recorders (CVR) with data link communications

(a) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2005, which utilize data link communications and are required to carry a CVR, shall record on a flight

recorder, all data link communications to and from the aeroplane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(b) From 1 January 2007, all aeroplanes which utilize data link communications and are required to carry a CVR shall record on a flight recorder, all data link communications to and from the aeroplane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(c) Sufficient information to derive the content of the data link communications message and, whenever practical, the time the message was displayed to or generated by the crew shall be recorded.

BCAR–OPS 1.730 Seats, safety belts, harnesses and child restraint devices

(a) An operator shall not operate an aeroplane unless it is equipped with:

(1) A seat or berth for each person who is aged two years or more;

(2) A safety belt, with or without a diagonal shoulder strap, or a safety harness for use in each passenger seat for each passenger aged 2 years or more;

(3) A supplementary loop belt or other restraint device for each infant;

(4) Except as provided in sub-paragraph (c) below, a safety belt with shoulder harness for each flight crew seat and for any seat alongside a pilot's seat incorporating a device which will automatically restrain the occupant's torso in the event of rapid deceleration or to prevent a suddenly incapacitated pilot from interfering with the flight controls;

(1) Except as provided in sub-paragraph (b) below, a safety belt with shoulder harness for each cabin crew seat and observer's seats. However, this requirement does not preclude use of passenger seats by cabin crew members carried in excess of the required cabin crew complement; and

(2) Seats for cabin crew members located near required floor level emergency exits except that, if the emergency evacuation of passengers would be enhanced by seating cabin crew members elsewhere, other locations are acceptable. The seats shall be forward or rearward facing within 15° of the longitudinal axis of the aeroplane.

(b) All safety belts with shoulder harness must have a single point release.

(c) A safety belt with a diagonal shoulder strap for aeroplanes with a maximum certificated take-off weight not exceeding 5700 kg or a safety belt for aeroplanes with a maximum certificated take-off weight not exceeding 2730 kg may be permitted in place of a safety belt with shoulder harness if it is not reasonably practicable to fit the latter.

BCAR–OPS 1.731 Fasten Seat belt and No Smoking signs

An operator shall not operate an aeroplane in which all passenger seats are not visible from the flight deck, unless it is equipped with a means of indicating to all passengers and cabin crew when seat belts shall be fastened and when smoking is not allowed.

BCAR–OPS 1.735 Internal doors and curtains

An operator shall not operate an aeroplane unless the following equipment is installed:

(a) In an aeroplane with a maximum approved passenger seating configuration of more than 19 passengers, a door between the passenger compartment and the flight deck compartment with a placard in Spanish and English that says 'crew only' and a locking means to prevent passengers from opening it without the permission of a member of the flight crew;

(b) A means for opening each door that separates a passenger compartment from another compartment that has emergency exit provisions. The means for opening must be readily accessible;

(c) If it is necessary to pass through a doorway or curtain separating the passenger cabin from other areas to reach any required emergency exit from any passenger seat, the door or curtain must have a means to secure it in the open position;

(d) A placard on each internal door or adjacent to a curtain that is the means of access to a passenger emergency exit, to indicate that it must be secured open during take-off and landing; and

(e) A means for any member of the crew to unlock any door that is normally accessible to passengers and that can be locked by passengers.

BCAR–OPS 1.745 First-Aid Kits
(See AMC OPS 1.745)

(a) An operator shall not operate an aeroplane unless it is equipped with first-aid kits, readily accessible for use, to the following scale:

Number of passenger seats installed	Number of first aid kits required
0 to 50	1
51 to 150	2
151 to 250	3
More than 250	4

(b) An operator shall ensure that first-aid kits are:

(1) Inspected periodically to confirm, to the extent possible, that contents are maintained in the condition necessary for their intended use; and

(2) Replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances warrant.

BCAR–OPS 1.755 Emergency Medical Kit
(See AMC OPS 1.755)

(a) An operator shall not operate an aeroplane with a maximum approved passenger seating configuration of more than 250 seats unless it is equipped with an emergency medical kit for the use of medical doctors or other qualified persons in treating in-flight medical emergencies.

(b) The pilot in command shall ensure that drugs are not administered except by qualified doctors, nurses or similarly qualified personnel.

(c) Conditions for carriage

(1) The emergency medical kit must be dust and moisture proof and shall be carried under security conditions, where practicable, on the flight deck; and

(2) An operator shall ensure that emergency medical kits are:

(i) Inspected periodically to confirm, to the extent possible, that the contents are maintained in the condition necessary for their intended use; and

(ii) Replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances warrant.

BCAR–OPS 1.760 First-aid oxygen
(See IEM OPS 1.760)

(a) An operator shall not operate a pressurized aeroplane, above 25000 ft, when a cabin crew member is required to be carried, unless it is equipped with a supply of undiluted oxygen for passengers who, for physiological reasons, might require oxygen following cabin de pressurization. The amount of oxygen shall be calculated using an average flow rate of at least 3 litres Standard Temperature Pressure Dry (STPD)/minute/person and shall be sufficient for the remainder of the flight after cabin depressurization when the cabin altitude exceeds 8000 ft but does not exceed 15000 ft, for at least 2% of the passengers carried, but in no case for less than one person. There shall be a sufficient number of dispensing units, but in no case less than two, with a means for cabin crew to use the supply. The dispensing units may be of a portable type.

(b) The amount of first-aid oxygen required for a particular operation shall be determined on the basis of cabin pressure altitudes and flight duration, consistent with the operating procedures established for each operation and route.

(c) The oxygen equipment provided shall be capable of generating a weight flow to each user of at least four litres per minute (STPD). Means may be provided to decrease the flow to not less than two litres per minute, STPD, at any altitude.

BCAR–OPS 1.770 Supplemental oxygen – pressurized aeroplanes
(See Appendix 1 to BCAR–OPS 1.770)
(See AMC OPS 1.770)

(a) General

(1) An operator shall not operate a pressurized aeroplane at pressure altitudes above 10000 ft unless supplemental oxygen equipment, capable of storing and dispensing the oxygen supplies required by this paragraph, is provided.

(2) The amount of supplemental oxygen required shall be determined on the basis of cabin pressure altitude, flight duration and the assumption that a cabin pressurization failure will occur at the pressure altitude or point of flight that is most critical from the standpoint of oxygen need, and that, after the failure, the aeroplane will descend in accordance with emergency procedures specified in the Aeroplane Flight Manual to a safe altitude for the route to be flown that will allow continued safe flight and landing.

(3) Following a cabin pressurization failure, the cabin pressure altitude shall be considered the same as the aeroplane pressure altitude, unless it is demonstrated to the BDCA that no probable failure of the cabin or pressurization system will result in a cabin pressure altitude equal to the aeroplane pressure altitude. Under these circumstances, the demonstrated maximum cabin pressure altitude may be used as a basis for determination of oxygen supply.

(b) Oxygen equipment and supply requirements

(1) Flight crew members

(i) Each member of the flight crew on flight deck duty shall be supplied with supplemental oxygen in accordance with Appendix 1 of this section. If all occupants of flight deck seats are supplied from the flight crew source of oxygen supply then they shall be considered as flight crew members on flight deck duty for the purpose of oxygen supply. Flight deck seat occupants, not supplied by the flight crew source, are to be considered as passengers for the purpose of oxygen supply.

(ii) Flight crew members, not covered by sub-paragraph (b) (1) (i) above, are to be considered as passengers for the purpose of oxygen supply.

(iii) Oxygen masks shall be located so as to be within the immediate reach of flight crew members while at their assigned duty station.

(iv) Oxygen masks for use by flight crew members in pressurized aeroplanes operating at pressure altitudes above 25000 ft shall be a quick donning type of mask.

(2) Cabin crew members, additional crew members and passengers

(i) Cabin crew members and passengers shall be supplied with supplemental oxygen in accordance with Appendix 1 of this section, except when sub-paragraph (v) below applies. Cabin crew members carried in addition to the minimum number of cabin crew members required, and additional crew members, shall be considered as passengers for the purpose of oxygen supply.

(ii) Aeroplanes intended to be operated at pressure altitudes above 25000 ft shall be provided sufficient spare outlets and masks and/or sufficient portable oxygen units with masks for use by all required cabin crew members. The spare outlets and/or portable oxygen units are to be distributed evenly throughout the cabin to ensure immediate availability of oxygen to each required cabin crew member regardless of his location at the time of cabin pressurization failure.

(iii) Aeroplanes intended to be operated at pressure altitudes above 25000 ft shall be provided an oxygen dispensing unit connected to oxygen supply terminals immediately available to each occupant, wherever seated. The total number of dispensing units and outlets shall exceed the number of seats by at least 10%. The extra units are to be evenly distributed throughout the cabin.

(iv) Aeroplanes intended to be operated at pressure altitudes above 25000 ft or which, if operated at or below 25000 ft, cannot descend safely within 4 minutes to 13000 ft shall be provided with automatically deployable oxygen equipment immediately available to each occupant, wherever seated. The total number of dispensing units and outlets shall exceed the number of seats by at least 10%.The extra units are to be evenly distributed throughout the cabin.

(v) The oxygen supply requirements, as specified in Appendix 1 of this section, for aeroplanes not certificated to fly above 25000 ft, may be reduced to the entire flight time between 10000 ft and 13000 ft cabin pressure altitudes for all required cabin crew members and for at least 10% of the passengers if, at all points along the route to be flown, the aeroplane is able to descend safely within 4 minutes to a cabin pressure altitude of 13000 ft.

BCAR–OPS 1.775 Supplemental oxygen – Non-pressurized aeroplanes
(See Appendix 1 to BCAR–OPS 1.775)

(a) General

(1) An operator shall not operate a non-pressurized aeroplane at altitudes above 10000 ft unless supplemental oxygen equipment, capable of storing and dispensing the oxygen supplies required, is provided.

(2) The amount of supplemental oxygen for sustenance required for a particular operation shall be determined on the basis of flight altitudes and flight duration, consistent with the operating and emergency procedures established for each operation in the Operations Manual and the routes to be flown, and with the emergency procedures specified in the Operations Manual.

(3) An aeroplane intended to be operated at pressure altitudes above 10000 ft shall be provided with equipment capable of storing and dispensing the oxygen supplies required.

(b) Oxygen supply requirements

(1) Flight crew members. Each member of the flight crew on flight deck duty shall be supplied with supplemental oxygen in accordance with Appendix 1 of this section. If all occupants of flight deck seats are supplied from the flight crew source of oxygen supply then they shall be considered as flight crew members on flight deck duty for the purpose of oxygen supply.

(2) Cabin crew members, additional crew members and passengers. Cabin crew members and passengers shall be supplied with oxygen in accordance with Appendix 1 of this section. Cabin crew members carried in addition to the minimum number of cabin crew members required, and additional crew members, shall be considered as passengers for the purpose of oxygen supply.

BCAR–OPS 1.780 Crew Protective Breathing Equipment

(a) An operator shall not operate a pressurized aeroplane or an unpressurised aeroplane with a maximum certificated take-off weight exceeding 5700 kg or having a maximum approved seating configuration of more than 19 seats unless:

(1) It has equipment to protect the eyes, nose and mouth of each flight crew member while on flight deck duty and to provide oxygen for a period of not less than 15 minutes. The supply for Protective Breathing Equipment (PBE) may be provided by the supplemental oxygen required by BCAR–OPS 1.770(b)(1) or BCAR–OPS 1.775(b)(1). In addition, when the flight crew is more than one and a cabin crew member is not carried,

portable PBE must be carried to protect the eyes, nose and mouth of one member of the flight crew and to provide breathing oxygen for a period of not less than 15 minutes; and

(2) It has sufficient portable PBE to protect the eyes, nose and mouth of all required cabin crew members and to provide breathing oxygen for a period of not less than 15 minutes.

(b) PBE intended for flight crew use must be conveniently located on the flight deck and be easily accessible for immediate use by each required flight crew member at their assigned duty station.

(c) PBE intended for cabin crew use must be installed adjacent to each required cabin crew member duty station.

(d) An additional, easily accessible portable PBE must be provided and located at or adjacent to the hand fire extinguishers required by BCAR–OPS 1.790(c) and (d) except that, where the fire extinguisher is located inside a cargo compartment, the PBE must be stowed outside but adjacent to the entrance to that compartment.

(e) PBE while in use must not prevent communication where required by BCAR–OPS 1.685, BCAR–OPS 1.690, BCAR–OPS 1.810 and BCAR–OPS 1.850.

BCAR–OPS 1.790 Hand fire extinguishers
(See AMC OPS 1.790)

An operator shall not operate an aeroplane unless hand fire extinguishers are provided for use in crew, passenger and, as applicable, cargo compartments and galleys in accordance with the following:

(a) The type and quantity of extinguishing agent must be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used and, for personnel compartments, must minimize the hazard of toxic gas concentration;

(b) At least one hand fire extinguisher, containing Halon 1211 (bromochlorodifluoro-methane, CBrCIF2), or equivalent as the extinguishing agent, must be conveniently located on the flight deck for use by the flight crew;

(c) At least one hand fire extinguisher must be located in, or readily accessible for use in, each galley not located on the main passenger deck;

(d) At least one readily accessible hand fire extinguisher must be available for use in each Class A or Class B cargo or baggage compartment and in each Class E cargo compartment that is accessible to crew members in flight; and

(e) At least the following number of hand fire extinguishers must be conveniently located in the passenger compartments:

Maximum approved passenger seating configuration	Number of extinguishers
7 to 30	1
31 to 60	2
61 to 200	3
201 to 300	4
301 to 400	5
401 to 500	6
501 to 600	7
601 or more	8

When two or more extinguishers are required, they must be evenly distributed in the passenger compartment.

(f) At least one of the required fire extinguishers located in the passenger compartment of an aeroplane with a maximum approved passenger seating configuration of at least 31, and not more

than 60, and at least two of the fire extinguishers located in the passenger compartment of an aeroplane with a maximum approved passenger seating configuration of 61 or more must contain Halon 1211 (bromochlorodi-fluoromethane, CBrCIF2), or equivalent as the extinguishing agent.

BCAR–OPS 1.795 Crash axes and crowbars

(a) An operator shall not operate an aeroplane with a maximum certificated take-off weight exceeding 5700 kg or having a maximum approved passenger seating configuration of more than 9 seats unless it is equipped with at least one crash axe or crowbar located on the flight deck. If the maximum approved passenger seating configuration is more than 200 an additional crash axe or crowbar must be carried and located in or near the most rearward galley area.

(b) Crash axes and crowbars located in the passenger compartment must not be visible to passengers.

BCAR–OPS 1.800 Marking of break-in points

An operator shall ensure that, if areas of the fuselage suitable for break-in by rescue crews in emergency are marked on an aeroplane, such areas shall be marked as shown below. The colour of the markings shall be red or yellow, and if necessary they shall be outlined in white to contrast with the background. If the corner markings are more than 2 meters apart, intermediate lines 9 cm x 3 cm shall be inserted so that there is no more than 2 meters between adjacent marks.

These marks do not require an aeroplane to have areas of penetration of the fuselage.

BCAR–OPS 1.805 Means for emergency evacuation

(a) An operator shall not operate an aeroplane with passenger emergency exit sill heights:

(1) Which are more than 1.83meters (6 feet) above the ground with the aeroplane on the ground and the landing gear extended; or

(2) Which would be more than 1.83 meters (6 feet) above the ground after the collapse of, or failure to extend of, one or more legs of the landing gear and for which a Type Certificate was first applied for on or after 1 April 2000, unless it has equipment or devices available at each exit, where sub-paragraphs (1) or (2) apply, to enable passengers and crew to reach the ground safely in an emergency.

(b) Such equipment or devices need not be provided at over wing exits if the designated place on the aeroplane structure at which the escape route terminates is less than 1.83 meters (6 feet) from the ground with the aeroplane on the ground, the landing gear extended, and the flaps in the takeoff or landing position, whichever flap position is higher from the ground.

(c) In aeroplanes required to have a separate emergency exit for the flight crew and:

(1) For which the lowest point of the emergency exit is more than 1.83 meters (6 feet) above the ground with the landing gear extended; or,

(2) For which a Type Certificate was first applied for on or after 1 April 2000, would be more than 1.83 meters (6 ft) above the ground after the collapse of, or failure to extend of, one or more legs of the landing gear, there must be a device to assist all members of the flight crew in descending to reach the ground safely in an emergency.

BCAR–OPS 1.810 Megaphones
(See AMC OPS 1.810)

(a) An operator shall not operate an aeroplane with a maximum approved passenger seating configuration of more than 60 and carrying one or more passengers unless it is equipped with portable battery-powered megaphones readily accessible for use by crew members during an emergency evacuation, to the following scales:

(1) For each passenger deck:

Passenger seating configuration	Number of required megaphones
61 to 99	1
100 or more	2

(2) For aeroplanes with more than one passenger deck, in all cases when the total passenger seating configuration is more than 60, at least 1 megaphone is required.

BCAR–OPS 1.815 Emergency lighting

(a) An operator shall not operate a passenger carrying aeroplane which has a maximum approved passenger seating configuration of more than 9 unless it is provided with an emergency lighting system having an independent power supply to facilitate the evacuation of the aeroplane the emergency lighting system must include:

(1) For aeroplanes which have a maximum approved passenger seating configuration of more than 19:

(i) Sources of general cabin illumination;

(ii) Internal lighting in floor level emergency exit areas; and

(iii) Illuminated emergency exit marking and locating signs.

(iv) For aeroplanes for which the application for the type certificate was filed before may 1st 1972, and when flying by night, exterior emergency lighting at all over wing exits, and at exits where descent assist means are required.

(v) For aeroplanes for which the application for the type certificate or equivalent was filed on or after 1 May 1972, and when flying by night, exterior emergency lighting at all passenger emergency exits; and

(vi) For aeroplanes for which the type certificate was first issued on or after 1 January 1958, floor proximity emergency escape path marking system in the passenger compartment(s).

(2) For aeroplanes which have a maximum approved passenger seating configuration of 19 or less and are certificated in accordance with acceptable standards set in the BCAR 21:

(i) Sources of general cabin illumination;

(ii) Internal lighting in emergency exit areas; and

(iii) Illuminated emergency exit marking and locating signs.

(3) For aeroplanes which have a maximum approved passenger seating configuration of 19 or less and are not certificated in accordance with acceptable standards set in the BCAR 21 sources of general cabin illumination.

(b) An operator shall not, by night, operate a passenger carrying aeroplane which has a maximum approved passenger seating configuration of 9 or less unless it is provided with a source of general cabin illumination to facilitate the evacuation of the aeroplane. The system may use dome lights or other sources of illumination already fitted on the aeroplane and which are capable of remaining operative after the aeroplane's battery has been switched off.

BCAR–OPS 1.820 Emergency Locator Transmitter
(See IEM OPS 1.820)

All aeroplanes should carry an automatic ELT.

(a) Except as provided for in (b), from 1 July 2008, all aeroplanes authorized to carry more than 19 passengers shall be equipped with at least one automatic ELT or two ELTs of any type.

(b) All aeroplanes authorized to carry more than 19 passengers for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least two ELTs, one of which shall be automatic.

(c) Except as provided for in (d), from 1 July 2008, all aeroplanes authorized to carry 19 passengers or less shall be equipped with at least one ELT of any type.

(d) All aeroplanes authorized to carry 19 passengers or less for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least one automatic ELT.

(e) ELT equipment carried shall operate in accordance with the relevant provisions of Annex 10, Volume III of ICAO.

BCAR–OPS 1.825 Life Jackets
(See IEM OPS 1.825)

(a) Land aeroplanes. An operator shall not operate a land aeroplane:

(1) When flying over water and at a distance of more than 50 nautical miles from the shore; or

(2) when flying en route over water beyond gliding distance from the shore, in the case of all other landplanes; and

(3) When taking off or landing at an aerodrome where the take-off or approach path is so disposed over water that in the event of a mishap there would be a likelihood of a ditching, unless it is equipped with life jackets equipped with a survivor locator light, for each person on board. Each life jacket must be stowed in a position easily accessible from the seat or berth of the person for whose use it is provided. Life jackets for infants may be substituted by other approved flotation devices equipped with a survivor locator light.

(b) Seaplanes and amphibians. An operator shall not operate a seaplane or an amphibian on water unless it is equipped with life jackets equipped with a survivor locator light, for each person on board. Each life jacket must be stowed in a position

easily accessible from the seat or berth of the person for whose use it is provided. Life jackets for infants may be substituted by other approved flotation devices equipped with a survivor locator light.

BCAR–OPS 1.830 Life-rafts and survival ELTs for extended overwater flights

(a) On overwater flights, an operator shall not operate an aeroplane at a distance away from land, which is suitable for making an emergency landing, greater than that corresponding to:

(1) 120 minutes at cruising speed or 400 nautical miles, whichever is the lesser, for aeroplanes capable of continuing the flight to an aerodrome with the critical power unit(s) becoming inoperative at any point along the route or planned diversions; or

(2) 30 minutes at cruising speed or 100 nautical miles, whichever is the lesser, for all other aeroplanes, unless the equipment specified in sub-paragraphs (b) and (c) below is carried.

(b) Sufficient life-rafts to carry all persons on board. Unless excess rafts of enough capacity are provided, the buoyancy and seating capacity beyond the rated capacity of the rafts must accommodate all occupants of the aeroplane in the event of a loss of one raft of the largest rated capacity. The life-rafts shall be equipped with:

(1) A survivor locator light,

(2) Life saving equipment including means of sustaining life as appropriate to the flight to be undertaken (see AMC OPS 1.830(b)(2)); and

(3) Equipment for making the pyrotechnical distress signals.

(c) At least two survival Emergency Locator Transmitters (ELT(S)) capable of transmitting on the distress frequencies prescribed in ICAO Annex 10, Volume 5, Chapter 2. (See AMC OPS 1.830(c).)

BCAR–OPS 1.835 Survival equipment
(See IEM OPS 1.835)

An operator shall not operate an aeroplane across areas in which search and rescue would be especially difficult unless it is equipped with the following:

(a) Signalling equipment to make the pyrotechnical distress signals described in ICAO Annex 2;

(b) At least one ELT(S) capable of transmitting on the distress frequencies prescribed in ICAO Annex 10, Volume 5 Chapter 2; and

(c) Additional survival equipment for the route to be flown taking account of the number of persons on board (See AMC OPS 1.835), except that the equipment specified in sub-paragraph (c) need not be carried when the aeroplane either:

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

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

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

(2) For aeroplanes certificated to BCAR–21, no greater distance than that corresponding to 90 minutes at cruising speed from an area suitable for making an emergency landing.

BCAR–OPS 1.840 Seaplanes and Amphibians Miscellaneous Equipment

(a) An operator shall not operate a seaplane or an amphibian on water unless it is equipped with:

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

(2) Equipment for making the sound signals prescribed in the International Regulations for preventing collisions at sea, where applicable.

BCAR-OPS 1.843 Cabin Altitude Warning System

Aeroplanes with pressurized cabin that at altitudes in which the atmospheric pressure is lower than pressure to fly at altitudes in which the atmospheric pressure is lower than 376 hPa (higher than 7600 meters or 25000 feet) must be equipped with a device that provides the pilot an unmistakable and positive warning sign in the event of dangerous pressurization loss.

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Appendix 1 to BCAR-OPS 1.715 Flight data recorders (FDR)
List of parameters to be recorded (See BCAR-OPS 1.715)

Parameters that must register:

1) FDR type I, these recorders depending on the aeroplane type, must be able to record, at least the 32 parameters that are indicated in the table A. Nevertheless, other parameters may be substituted keeping in mind the aeroplane type and the characteristics of the recorder.

2) FDR of types II and IIA, these recorders depending on the aeroplane type, must be able to record, at least the first 15 parameters that are indicated in the table A. Nevertheless, other parameters may be substituted keeping in mind the aeroplane type and the characteristics of the recorder.

No.	Parameter
1	Time or relative elapsed time
2	Pressure altitude
3	Indicated airspeed
4	Heading
5	Normal acceleration
6	Pitch attitude
7	Roll attitude
8	Radio transmission control
9	Power on each engine
10	Trailing edge flap or cockpit flap position indicator
11	Leading edge flap or cockpit flap position indicator
12	Thrust reverse status
13	Ground spoiler position and/or speed brake selection
14	Outside air temperature
15	Autopilot, auto-throttle and AFCS mode and engagement status
16	Longitudinal acceleration
17	Lateral acceleration
18	Primary flight controls: control surfaces position / pilot action (pitch, bank, and yaw)
19	Pitch trim position
20	Radio altimeter altitude
21	Glide slope deviation
22	Localizer deviation
23	Marker overhead
24	Master warning
25	Nav 1 and Nav 2 frequency selection
26	DME 1 and DME 2 distance
27	Landing gear position indicator switch position
28	Ground proximity warning system (GPWS)
29	Angle of attack
30	Hydraulic system (low pressure)
31	Navigation Data (latitude / longitude, ground speed and track angle)
32	Gear selector lever position

Note: The preceding 32 parameters satisfy the requirements of the FDR type I

Appendix 1 to BCAR–OPS 1.770
Oxygen Minimum Requirements for Supplemental Oxygen for Pressurized Aeroplanes

(a)	(b)
SUPPLY FOR:	DURATION AND CABIN PRESSURE ALTITUDE
1. All occupants of flight deck seats on flight deck duty	Entire flight time when the cabin pressure altitude exceeds 13 000 ft and entire flight time when the cabin pressure altitude exceeds 10000 ft but does not exceed 13000 ft after the first 30 minutes at those altitudes, but in no case less than: (i) 30 minutes for aeroplanes certificated to fly at altitudes not exceeding 25000 ft (Note 2) (ii) 2 hours for aeroplanes certificated to fly at altitudes above than 25 000 ft (Note 3)
2. All required cabin crew members	Entire flight time when cabin pressure altitude exceeds 13000 ft but not less than 30 minutes (Note 2), and entire flight time when cabin pressure altitude is greater than 10000 ft but does not exceed 13000 ft after the first 30 minutes at these altitudes.
3. 100% of passengers (Note 5)	Entire flight time when the cabin pressure altitude exceeds 15000 ft but in no case less than 10 minutes.(Note 4)
4. 30% of passengers (Note 5)	Entire flight time when the cabin pressure altitude exceeds 14 000 ft but does not exceed 15 000 ft.
5. 10% of passengers (Note 5)	Entire flight time when the cabin pressure altitude exceeds 10000 ft but does not exceed 14 000 ft after the first 30 minutes at these altitudes.

Note 1: The supply provided must take account of the cabin pressure altitude and descent profile for the routes concerned.

Note 2: The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane's maximum certificated operating altitude to 10 000 ft in 10 minutes and followed by 20 minutes at 10 000 ft.

Note 3: The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane's maximum certificated operating altitude to 10 000 ft in 10 minutes and followed by 110 minutes at 10000 ft. The oxygen required in BCAR–OPS 1.780(a) (1) may be included in determining the supply required.

Note 4: The required minimum supply is that quantity of oxygen necessary for a constant rate of descent from the aeroplane's maximum certificated operating altitude to 15 000 ft in 10 minutes.

Note 5: For the purpose of this table 'passengers' means passengers actually carried and includes infants.

Appendix 1 to BCAR–OPS 1.775

Supplemental Oxygen for non pressurized Aeroplanes

Table 1

(a)	(b)
SUPPLY FOR:	DURATION AND PRESSURE ALTITUDE
1. All occupants of flight deck seats on flight deck duty	Entire flight time at pressure altitudes above 10000 ft
2. All required cabin crew members	Entire flight time at pressure altitudes above 13000 ft and for any period exceeding 30 minutes at pressure altitudes above 10000 ft but not exceeding 13000 ft
3. 100% of passengers (See Note)	Entire flight time at pressure altitudes above 13000 ft.
4. 10% of passengers (See Note)	Entire flight time after 30 minutes at pressure altitudes greater than 10000 ft but not exceeding 13000 ft.

Note: For the purpose of this table 'passengers' means passengers actually carried and includes infants.

SUBPART L - COMMUNICATION AND NAVIGATION EQUIPMENT

BCAR–OPS 1.845 General introduction

(a) An operator shall ensure that a flight does not commence unless the communication and navigation equipment required under this Subpart is:

(1) Approved and installed in accordance with the requirements applicable to them, including the minimum performance standard and the operational and airworthiness requirements;

(2) Installed such that the failure of any single unit required for either communication or navigation purposes, or both, will not result in the failure of another unit required for communications or navigation purposes.

(3) In operable condition for the kind of operation being conducted except as provided in the MEL (See BCAR–OPS 1.030); and

(4) So arranged that if equipment is to be used by one flight crew member at his station during flight it must be readily operable from his station. When a single item of equipment is required to be operated by more than one flight crew member it must be installed so that the equipment is readily operable from any station at which the equipment is required to be operated.

(b) Communication and navigation equipment minimum performance standards acceptable are those TSOs issued by the JAA and the FAA.

BCAR–OPS 1.850 Radio Equipment

(a) An aeroplane shall be provided with radio communication equipment capable of:

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

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

(3) conducting two-way communication at any time during flight with at least one aeronautical station and with such other aeronautical stations and on such frequencies as may be prescribed by the appropriate authority.

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

(c) For flights in defined portions of airspace or on routes where an RCP type has been prescribed, an aeroplane shall, in addition to the requirements specified in (a):

(1) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP type(s); and

(2) be authorized by the BDCA.

(d) Where two independent (separate and complete) radio systems are required under this Subpart, each system must have an independent antenna installation except that, where rigidly supported non-wire antennae or other antenna installations of equivalent reliability are used, only one antenna is required.

BCAR–OPS 1.855 Audio Selector Panel

An operator shall not operate an airplane under IFR unless it is equipped with an audio selector panel accessible to each required flight crew member.

BCAR–OPS 1.860 Radio equipment for operations under VFR over routes navigated by reference to visual landmarks

An operator shall not operate an airplane under VFR over routes that can be navigated by reference to visual landmarks, unless it is equipped with the radio communication equipment necessary under normal operating conditions to fulfil the following:

(a) Communicate with appropriate ground stations;

(b) Communicate with appropriate air traffic control facilities from any point in controlled airspace within which flights are intended; and

(c) Receive meteorological information;

BCAR–OPS 1.865 Communication and Navigation equipment for operations under IFR, or under VFR over routes not navigated by reference to visual landmarks

(a) An operator shall not operate an airplane under IFR or under VFR over routes that cannot be navigated by reference to visual landmarks, unless the airplane is equipped with radio communication and navigation equipment in accordance with its operational plan and the requirements of air traffic services in the area(s) of operation.

(b) *Radio equipment*. An operator shall ensure that radio equipment comprises not less than

1. two independent radio communication systems necessary under normal operating conditions to communicate with an appropriate ground station from any point on the route including diversions; and

2. SSR transponder equipment as required for the route being flown.

(c) *Navigation equipment*. An operator shall ensure that navigation equipment

(1) Comprises not less than:

(i) One VOR receiving system, one ADF system, one DME except that an ADF system need not be installed provided that the use of the ADF is not required in any phase of the planned flight;

(ii) One ILS or MLS where ILS or MLS is required for approach navigation purposes;

(iii) One Marker Beacon receiving system where a Marker Beacon is required for approach navigation purposes;

(iv) An Area Navigation System when area navigation is required for the route being flown;

(v) An additional DME system on any route, or part thereof, where navigation is based only on DME signals;

(vi) An additional VOR receiving system on any route, or part thereof, where navigation is based only on VOR signals; and

(vii) An additional ADF system on any route, or part thereof, where navigation is based only on NDB signals, or

(2) Complies with the Required Navigation Performance (RNP) Type for operation in the airspace concerned. (See IEM OPS 1.243.)

(d) An operator may operate an airplane that is not equipped with the navigation equipment specified in sub-paragraph(s) (c) (1) (vi) and/or (c) (1) (vii) above, provided that it is equipped with authorized alternate equipment, for the route being flown, by the BDCA. The reliability and the accuracy of alternate equipment must allow safe navigation for the intended route.

(f) An operator shall ensure that VHF communication equipment, ILS Localizer and VOR receivers installed on aeroplanes to be operated in IFR are of a type that has been approved as complying with the FM immunity performance standards.

(g) An operator shall ensure that aeroplanes conducting ETOPS have a communication means capable of communicating with an appropriate ground station at normal and planned contingency altitudes. For ETOPS routes where voice communication facilities are available, voice communications shall be provided. For all ETOPS operations beyond 180 minutes, reliable communication technology, either voice based or data link must be installed. Where voice communication facilities are not available and where voice communication is not possible or is of poor quality, communications using alternative systems must be ensured.

BCAR-OPS 1.866 Transponder equipment

(a) An operator shall not operate an airplane unless it is equipped with pressure altitude reporting transponder.

1. All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2009 shall be equipped with a data source that provides pressure-altitude information with a resolution of 7.62 m (25 ft), or better.

2. After 1 January 2012, all aeroplanes shall be equipped with a data source that provides pressure-altitude information with a resolution of 7.62 m (25 ft), or better.

(b)The Mode S transponder should be provided with the airborne/on-the-ground status if the aeroplane is equipped with an automatic means of detecting such status.

BCAR–OPS 1.870 Additional navigation equipment for operations in MNPS airspace
(See IEM OPS 1.870)

(a) An operator shall not operate an airplane in MNPS airspace unless it is equipped with navigation equipment that complies with minimum navigation performance specifications prescribed in ICAO Doc 7030 in the form of Regional Supplementary Procedures.

(b) The navigation equipment required by this paragraph must be visible and usable by either pilot seated at his duty station and continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track. The BDCA must authorized the operator for the MNPS operations concerned

(c) For unrestricted operation in MNPS airspace an airplane must be equipped with two independent Long Range Navigation Systems (LRNS).

(d) For operation in MNPS airspace along notified special routes an airplane must be

equipped with one Long Range Navigation System (LRNS), unless otherwise specified.

BCAR-OPS 1.872 Equipment for operation in defined airspace with Reduced Vertical Separation Minima (RVSM)
(See Annex 1 of section 2 to the BCAR-OPS 1.872)
(See AMC Ops 1.872)

(a) An operator shall ensure that airplanes operated in RVSM airspace are equipped with:

(1) Two independent altitude measurement systems;

(2) An altitude alerting system;

(3) An automatic altitude control system; and

(4) A secondary surveillance radar (SSR) transponder with altitude reporting system that can be connected to the altitude measurement system in use for altitude keeping.

(5) Indicate automatically the pressure altitude; and

(b) An owner or operator shall not operate any airplane in designated RVSM airspace, unless it has the corresponding operational approval from the BDCA responsible for its issuance of its AOC.

(c) Prior to granting the RVSM approval required the BDCA shall be satisfied that:

(1) the vertical navigation performance capability of the aeroplane.

(2) the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and

(3) the operator has instituted appropriate flight crew procedures for operations in RVSM airspace.

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AIRPLANE MAINTENANCE

BCAR–OPS 1.875 General
(See IEM OPS 1.875)

a) an operator shall not operate an airplane unless it is maintained and released to service by an organization appropriately approved/accepted in accordance with BCAR-145, except that the pre-flight inspections need not to be performed necessarily by a BCAR-145 organization. In this case the pre-flight should be performed by a qualified mechanic with a license and type rating on the airplane emitted by the airplane's State of Registry.

b) This Subpart prescribes airplane maintenance requirements needed to comply with the operator certification requirements in BCAR– OPS 1.180.

BCAR–OPS 1.880 Terminology

The following definitions from BCAR–145 shall apply to this Subpart:

a) *Preflight inspection* – means the inspection carried out before flight to ensure that the airplane is fit for the intended flight. It does not include defect rectification. [See IEM OPS 1.880 (a)].

b) Approved standard – means a manufacturing/design/maintenance/quality standard approved by the BDCA.

c) *Approved by the BDCA* – means approved by the BDCA directly or in accordance with a procedure approved by the BDCA.

BCAR–OPS 1.885 Application for and approval of the operator's maintenance system

For the approval of the operator's maintenance system:

a) An applicant for the initial issue, variation and renewal of an AOC shall submit the documents specified in BCAR–OPS 1.185(b). [See IEM OPS 1.885(a)].

b) An applicant for the initial issue, variation and renewal of an AOC who meets the requirements of this Subpart, in conjunction with an appropriate BCAR–145 approved/accepted maintenance organization, is entitled to approval of the maintenance system [See IEM OPS 1.885(b)]. Detailed requirements are given in BCAR–OPS 1.180(a) (3) and 1.180(b), and BCAR–OPS 1.185.

BCAR–OPS 1.890 Maintenance responsibility

a) An operator shall ensure the airworthiness of the airplane and the serviceability of both operational and emergency equipment by: [See AMC OPS 1.890(a)]

1) The accomplishment of preflight inspections (See AMC OPS 1.890(a)(1)); and IEM OPS 1.880 (a) (1):

2) The rectification to an approved standard of any defect and damage affecting safe operation, taking into account the minimum equipment list and configuration deviation list if available for the airplane type [See AMC OPS 1.890(a)(2)];

3) The accomplishment of all maintenance in accordance with the approved operator's airplane maintenance program specified in BCAR–OPS 1.910 (See AMC OPS 1.890(a)(3));

4) The analysis of the effectiveness of the operator's approved airplane maintenance program (See AMC OPS 1.890(a)(4));

5) The accomplishment of any operational directive, airworthiness directive and any other continued airworthiness requirement made mandatory by the BDCA. (See IEM OPS 1.890(A)(5)); and

6) The accomplishment of modifications in accordance with an approved standard and, for non-mandatory modifications, the establishment of an embodiment policy. (See AMC OPS 1.890(a)(6).)

b) An operator shall ensure that the Certificate of Airworthiness for each airplane operated remains valid in respect of:

(1) The requirements in sub-paragraph (a) above;
(2) Any calendar expiry date specified in the Certificate; and
(3) Any other maintenance condition specified in the Certificate.

(c) The requirements specified in subparagraph (a) above must be performed in accordance with procedures acceptable to the BDCA.

BCAR–OPS 1.895 Maintenance Management

(a) An operator must be appropriately approved in accordance with BCAR–145 to carry out the requirements specified in BCAR–OPS 1.890(a) (2), (3), (5) and (6) except when the BDCA is satisfied that the maintenance can be contracted to an appropriate BCAR–145 approved/accepted organization. [See AMC OPS 1.895(a)].

(b) An operator must employ a person or group of persons acceptable to the BDCA to ensure that all maintenance is carried out on time to an approved standard such that the maintenance responsibility requirements prescribed in BCAROPS 1.890 are satisfied. The person, or senior person as appropriate, is the nominated post holder referred to in BCAR-OPS 1.175(i) (2). The Nominated Post holder for Maintenance is also responsible for any corrective action resulting from the quality monitoring of BCAR-OPS 1.900(a). [See AMC OPS 1.895(b)].

(1) An operator must guarantee that the person or group of persons mentioned in the paragraph (b) must be trained in accordance to a training program approved by the BDCA that includes appropriate initial and recurrent training for the tasks and responsibilities that have been assigned them. This program should include knowledge and abilities related with the human performance (human factors).

(c) The Nominated post holder for maintenance should not be employed by a BCAR 145 approved/accepted organization under contract to the Operator [See AMC-OPS 1.895(c) and IEM OPS 1895 (c)].

(d) When an operator is not appropriately approved in accordance with BCAR-145, arrangements must be made with such an organization to carry out the requirements specified in BCAR-OPS 1.890(a) (2), (3), (5) and (6). Except as otherwise specified in paragraphs (e), (f) and (g) below, the arrangement must be in the form of a written maintenance contract between the operator and the BCAR-145 approved/accepted maintenance organization detailing the functions specified in BCAR-OPS 1.890(a)(2), (3), (5) and (6) and defining the support of the quality functions of BCAR-OPS 1.900. Airplane base and scheduled line maintenance and engine maintenance contracts, together with all amendments, must be acceptable to the BDCA. The BDCA does not require the commercial

elements of a maintenance contract. [See AMC OPS 1.895(d)].

(e) Notwithstanding paragraph (d) above, in the case of an airplane needing occasional line maintenance, the contract may be in the form of individual work orders to the Maintenance Organization. [See IEM-OPS 1.895(f) & (g)].

(f) Notwithstanding paragraph (d) above, in the case of airplane component maintenance, including engine maintenance, the contract may be in the form of individual work orders to the Maintenance Organization. [See IEM OPS 1.895 (f) and (g)].

(g) An operator must provide suitable office accommodation at appropriate locations for the personnel specified in sub-paragraph (b) above. [See IEM OPS 1.895(h)].

BCAR–OPS 1.900 Quality System
(See AMC OPS 1.900)
(See IEM OPS 1.900)

(a) For maintenance purposes, the operator's quality system, as required by BCAR–OPS 1.035, must additionally include at least the following functions:

(1) Monitoring that the activities of BCAR–OPS 1.890 are being performed in accordance with the accepted procedures;

(2) Monitoring that all contracted maintenance is carried out in accordance with the contract; and

(3) Monitoring the continued compliance with the requirements of this Subpart.

(b) Where the operator is approved in accordance with BCAR–145, the quality system may be combined with that required by BCAR–145.

BCAR–OPS 1.905 Operator's Maintenance Management Exposition (MME)

(a) The operator shall provide for the use and orientation of the maintenance and operational personnel a Maintenance Management Exposition (MME), which shall be amended as necessary to maintain the contained information updated. [See AMC OPS 1.905 (a)].

(b) An operator shall submit the Maintenance Management Exposition for:

(1) BCDA approval, and

(2) Acceptance on the part of the State of Registry in case that the airplane this registered in a State different from the operator.

(c) The operator shall provide to the BDCA and the State of Registry, copies of the Maintenance Management Exposition, together with all the amendments and revisions and shall incorporate the obligatory texts that the BDCA or the State of Registry may require.

(d) The operator shall ensure that the Maintenance Management Exposition is sent to all the organisms or persons undertaking maintenance or that have direct relationship with it. Likewise shall send all the revisions that have been approved and incorporated to the Manual.

(e) The manual will contain at least the following information, which can be presented in single or separate volumes.

(1) procedures to comply with the requirements of BCAR-OPS 1.890.

(2) procedures to complete the airworthiness certification required by BCAR-OPS 1.925.

(3) name, duties and responsibilities of the Management personnel in accordance to the BCAR-OPS 1.895

(4) a list of personnel that certifies airworthiness.

(5) a description of the methods used to complete (fill) and preserve (to conserve) the maintenance records required by BCAR-OPS 1.920 and 1.1065.

(6) for operator of an aeroplane over 5 700 Kg maximum certificated take-off weight shall monitor, evaluate and notify of failures, mal function and defects in accordance to the BCAR-21.3;

(7) a description of the procedures for complying with the service information reporting requirements to State of Registry, State of Design and a copy to the State of Operator when different from the State of Registry;

(8) for operator of an aeroplane over 5 700 Kg maximum certificated take-off weight shall has procedures for monitoring, assessing and reporting maintenance and operational experience with respect to continuing airworthiness and provide the information as prescribed by the State of Registry;

(9) procedures to meet (fulfil) the notification requirements required by BCAR-OPS 1.1072, to the BDCA as well as to the State of Registry.

(10) a description of the analysis and continued supervision of the performance and effectiveness of the maintenance program, enabling the correction of any deficiency or to update the program.

(11) procedures to assure that the inoperative items or required inspection items that may affect the airworthiness are recorded and rectify.

(12) procedures, norms and necessary limits for the required inspections, as well as for the acceptance or rejection of items that require to be inspected and for the periodic inspection and calibration of precision, measuring, and testing tools.

(13) procedures for suppliers' evaluation.

(14) procedures for acceptance, inspection and rejection of components of airplanes and materials coming from external contractors or salespersons.

(15) procedures for storage, labelling, and control of parts and materials.

(16) procedures for the compliance of the maintenance program.

(17) procedures to comply with the requirements of maintenance service notification in accordance to BCAR-21.

(18) procedures to apply the resulting measurements of obligatory information on airworthiness maintenance.

(19) a description of the types and models of airplanes to which the manual applies.

(20) a description of procedures for assessing continuing airworthiness information and implementing any resulting actions

(f) A reference of the maintenance program required by BCAR-OPS 1.910 and the

inclusion of the program in the manual or in a separate volume.

(g) A description of the reliability program (if applicable)

(h) The procedures for ground assistance:

(1) line service.

(2) refuelling.

(3) ground handling.

(4) De-Ice and Anti-Ice.

(5) procedures for control, return and storage of rented parts and the return of defective parts.

(i) The design of the manual and the procedures shall observe principles relative to human factors.

BCAR–OPS 1.910 Operator's Airplane Maintenance Program

(a) The operator shall ensure that the airplanes are maintained in accordance with the airplane's maintenance programs approved by the State of Registry.

. The program shall contain [See AMC OPS 1.910(a)]:

(1) details of the maintenance tasks, including the frequencies in which they are carried out, keeping in mind the foreseen use of the airplane; and

(2) a maintenance program of the structural integrity if applicable.

(3) procedures for changing or deviating from (1) and (2) above; and

(4) a reliability program unless the State of Registry determines otherwise.

(5) Shall observe human factor principles.

(b) The maintenance programme shall contain the maintenance tasks and intervals that have been specified as mandatory in approval of the type design shall be identified as such.

(c) The airplane maintenance program of the operator and any later revisions must be approved by the State of Registry. Such revisions must be sent to all organizations or persons that have received the maintenance program [See AMC OPS 1.910(b)].

(d) The maintenance programme shall be based on maintenance programme information made available by the State of Design or by the organization responsible for the type design and additional applicable experience.

BCAR–OPS 1.915 Operator's Airplane Technical Log
[See AMC OPS 1.915, and 1.915 (a) (6)]

(a) An operator must use an airplane technical log system containing the following information for each airplane:

(1) Information about each flight necessary to ensure continued flight safety, including the details of any failure, defect, or mal function that may affect the airworthiness or safe operation of the airplane;

(2) The current airplane certificate of release to service;

(3) The current maintenance statement giving the airplane maintenance status regarding the next and out of phase schedule maintenance due, except that the BDCA authorizes that such statement be kept elsewhere;

(4) All outstanding deferred defects that affect the operation of the airplane; and

(5) Any necessary guidance instructions on maintenance support arrangements.

(6) track of strikes, damages and structural repairs of the airplane, found during the daily operation.

(b) The airplane technical log system and any subsequent amendment must be approved by the BDCA.

BCAR–OPS 1.920 Maintenance Records
(See AMC OPS 1.920)

(a) An operator shall ensure that the airplane technical log is retained for 24 months after the date of the last entry.

(b) An operator shall ensure that a system has been established to keep, in a form acceptable to the BDCA, the following records for the periods specified:

(1) All detailed maintenance records in respect of the airplane and any airplane component fitted thereto – 24 months after the airplane or airplane component was released to service;

(2) The total time in service (hours, calendar time and cycles, as appropriate) of the airplane and all life limited airplane components – 90 days after the unit to which they refer has been permanently withdrawn from service,;

(3) The time and flight cycles as appropriate, since last overhaul of the airplane or airplane component subjected to an overhaul life – Until the airplane or airplane component overhaul has been superseded by another overhaul of equivalent work scope and detail;

(4) The current airplane inspection status such that compliance with the approved operator's airplane maintenance program can be established – Until the airplane or airplane component inspection has been superseded by another inspection, of equivalent work scope and detail;

(5) The current status of airworthiness directives applicable to the airplane and airplane components – 12 months after the airplane has been permanently withdrawn from service; and

(6) Details of current modifications and repairs to the airplane, engine(s), propeller(s) and any other airplane component vital to flight safety – 12 months after the airplane has been permanently withdrawn from service. (See IEM OPS 1.920(b)(6))

(7) The detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(c) An operator shall ensure that when an airplane is permanently transferred from one operator to another operator the records specified in paragraphs (a) and (b) are also transferred and the time periods prescribed will continue to apply to the new operator. (See AMC OPS 1.920(c))

(d) In the event of a temporary change of operator, the records shall be made available to the new operator.

BCAR-OPS 1.925 Certificate of Release to Service Entry in the Maintenance Log.

(a) An operator may not operate an airplane after having received maintenance, modification, alteration, major/minor repair or preventive maintenance unless the Release to Service is registered in the maintenance log.

(b) The Release to Service should be edited according to the procedures established in the Maintenance Management Exposition and it shall include what is indicated in the BCAR OPS 1.915.

(c) A Certificate of Release to Service shall be completed and signed to certify that the maintenance work performed has been completed satisfactorily and in accordance with approved data and the procedures described in the maintenance organization's procedures manual.

(d) A Certificate of Release to Service shall contain a certification including:

(1) basic details of the maintenance carried out including detailed reference of the approved data used;

(2) the date such maintenance was completed;

(3) when applicable, the identity of the approved maintenance organization; and

(4) the identity of the person or persons signing the certificate.

BCAR–OPS 1.930 Continued Validity of the Air Operator Certificate (AOC) in Respect of the Maintenance System
(See IEM OPS 1.930)

An operator must comply with BCAR–OPS 1.175 and 1.180 to ensure continued validity of the air operator's certificate in respect of the maintenance system.

BCAR–OPS 1.935 Equivalent Safety Case
(See IEM OPS 1.935)

An operator shall not introduce alternative procedures to those prescribed in this Subpart unless needed and an equivalent safety case has first been approved by the BDCA.

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SUBPART N - **FLIGHT CREW**

BCAR–OPS 1.940 Composition of Flight Crew
(See Appendices 1 & 2 to BCAR–OPS 1.940)

(a) An operator shall ensure that:

(1) The composition of the flight crew and the number of flight crew members at designated crew stations are both in compliance with, and no less than the minimum specified in, the Aeroplane Flight Manual (AFM);

(2) The flight crew includes additional flight crew members when required by the type of operation, and is not reduced below the number specified in the Operations Manual;

(3) All flight crew members hold an applicable and valid license acceptable to the BDCA and are suitably qualified and competent to conduct the duties assigned to them;

(4) Procedures are established, acceptable to the BDCA, to prevent the crewing together of inexperienced flight crew members (See AMC OPS 1.940(a) (4));

(5) One pilot amongst the flight crew, qualified as a pilot-in-command in accordance with BCAR-APL, is designated as the pilot in command who may delegate the conduct of the flight to another suitably qualified pilot; and

(6) When a dedicated System Panel Operator is required by the AFM, the flight crew includes one crew member who holds a Flight Engineer's license or is a suitably qualified flight crew member and acceptable to the BDCA.

(7) When engaging the services of flight crew members who are self-employed and/or working on a freelance or part-time basis, the requirements of Subpart N are complied with. In this respect, particular attention must be paid to the total number of aircraft types or variants that a flight crew member may fly for the purposes of commercial air transportation, which must not exceed the requirements prescribed in BCAR-OPS 1.980 and BCAR-OPS 1.981, including when his services are engaged by another operator. For crew members serving the operator as a pilot in command, initial operator's Crew Resource Management (CRM) training shall be completed before commencing unsupervised line flying, unless the crew member has previously completed an initial operator's CRM course.

(b) *Minimum flight crew for operations under IFR or at night.* For operations under IFR or at night, an operator shall ensure that:

(1) For all turbo-propeller aeroplanes with a maximum approved passenger seating configuration of more than 9 passenger seats and for all turbojet aeroplanes, the minimum flight crew is 2 pilots; or

(2) Aeroplanes other than those covered by sub-paragraph (b) (1) above are operated by a single pilot provided that the requirements of Appendix 2 to BCAR–OPS 1.940 are satisfied. If the requirements of Appendix 2 are not satisfied, the minimum flight crew is 2 pilots.

BCAR OPS 1.941 Flight crew member training programmes

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

(1) include ground and flight training facilities and properly qualified instructors as determined by the BDCA;

(2) consist of ground and flight training in the type(s) of aeroplane on which the flight crew member serves;

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

(4) include training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, human performance including threat and error management and in the transport of dangerous goods;

(5) 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; and

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

BCAR-OPS 1.943 Initial Operator's Crew Resource Management (CRM) training
[See AMC OPS 1.943/ (a) (9)/1.955(b) (6)/ 1.965(e)]
[See IEM OPS .943/1.945(a)(9)/1.955(b)(6)/ 1.965(e)]

(a) When a flight crew member has not previously completed initial operator's crew resource management (CRM) training (either new employees or existing staff), then the operator shall ensure that the flight crew member completes an initial CRM training course. New employees shall complete initial operator's CRM Training within their first year of joining an operator.

(b) If the flight crew member has not previously been trained in human factors then a theoretical course, based on the human performance and limitations programme for the ATPL (see the requirements applicable to the issue of Flight Crew Licences) shall be completed before the initial operator's CRM training or combined with the initial operator's CRM training.

(c) Initial CRM training shall be conducted by at least one CRM trainer acceptable to the BDCA who may be assisted by experts in order to address specific areas.

(d) Initial CRM training is conducted in accordance with a detailed course syllabus included in the Operations Manual.

BCAR–OPS 1.945 Conversion training and checking
(See Appendix 1 to BCAR–OPS 1.945)
(See AMC OPS 1.945)
(See IEM OPS 1.945)

[See AMC OPS 1.943/ 1.945(a) (9)/1.955(b) (6)/ 1.965(e)]
[See IEM OPS 1.943/ 1.945(a) (9)/1.955(b) (6)/ 1.965(e)]

(a) An operator shall ensure that:

(1) A flight crew member completes a Type Rating course which satisfies the requirements applicable to the issue of Flight Crew Licenses requirements of BCAR–APL when changing from one type of aeroplane to another type or class for which a new type rating is required;

(2) A flight crew member completes an operator's conversion course before commencing unsupervised line flying:

(i) When changing to an aeroplane for which a new type or class rating is required; or

(ii) When changing operator;

(3) Conversion training is conducted by suitably qualified personnel in accordance with a detailed course syllabus included in the Operations Manual. The operator shall ensure that the personnel integrating elements of CRM into conversion training are suitably qualified;

(4) The amount of training required by the operator's conversion course is determined after due note has been taken of the flight crew member's previous training as recorded in his training records prescribed in BCAR–OPS 1.985;

(5) The minimum standards of qualification and experience required of flight crew members before undertaking conversion training are specified in the Operations Manual;

(6) Each flight crew member undergoes the checks required by BCAR–OPS 1.965(b) and the training and checks required by BCAR–OPS 1.965(d) before commencing line flying under supervision;

(7) Upon completion of line flying under supervision, the check required by BCAR–OPS 1.965(c) is undertaken;

(8) Once an operator's conversion course has been commenced, a flight crew member does not undertake flying duties on another type or class until the course is completed or terminated; and

(9) Elements of CRM training are integrated into the conversion course.

(b) In the case of changing aeroplane type or class, the check required by 1.965(b) may be combined with the type or class rating skill test under the requirements applicable to the issue of Flight Crew Licenses.

(c) The operator's conversion course and the Type or Class Rating course required for the issue of Flight Crew Licenses may be combined.

(d) A pilot, undertaking a zero flight time training (ZFTT) course, shall:

1. Commence line flying under supervision as soon as possible within 21 days after completion of the skill test.

If line flying under supervision has not been commenced within the 21 days, the operator shall provide appropriate training acceptable to the BDAC.

2. Complete six take-offs and landings in an aeroplane or a flight simulator, approved by

the BDCA, not later than 21 days after the completion of the skill test.

When recommended by BDCA, the number of take-offs and landings may be reduced.
If these take-offs and landings have not been performed within the 21 days, the operator shall provide refresher training acceptable to the BDCA;

BCAR–OPS 1.950 Differences training and Familiarization training

(a) An operator shall ensure that a flight crew member completes:

(1) Differences training which requires additional knowledge and training on an appropriate training device or the aeroplane;

(i) When operating another variant of an aeroplane of the same type or another type of the same class currently operated; or

(ii) When changing equipment and/or procedures on types or variants currently operated;

(2) Familiarization training which requires the acquisition of additional knowledge:

(i) When operating another aeroplane of the same type or variants; or

(ii) When changing equipment and/or procedures on types or variants currently operated.

(b) The operator shall specify in the Operations Manual when such differences training or familiarization training is required.

BCAR–OPS 1.955 Nomination as pilot in command

(a) An operator shall ensure that for upgrade to pilot in command from co-pilot and for those joining as pilot in commands:

(1) A minimum level of experience, acceptable to the BDCA, is specified in the Operations Manual; and

(2) For multi-crew operations, the pilot completes an appropriate command course.

(b) The command course required by subparagraph (a) (2) above must be specified in the Operations Manual and include at least the following:

(1) Ground training and checking, including the aeroplane systems, normal, abnormal and emergency procedures;

(2) Training in an STD (including Line Orientated Flying Training) and/or flying training

(3) An operator proficiency check operating as pilot in command;

(4) Pilot in command's responsibilities;

(5) Line training in command under supervision. A minimum of 10 sectors is required for pilots already qualified on the aeroplane type;

(6) Completion of a pilot in command's line check as prescribed in BCAR–OPS 1.965(c) and route and aerodrome competence qualification as prescribed in BCAR–OPS 1.975; and

(7) Elements of Crew Resource Management. [See AMC OPS 1.943**/**1.945 (a) (9)/1.955(b) (6)/1.965(e) & IEM OPS 1.943/ 1.945(a) (9)/1.955(b) (6)/1.965(e)].

BCAR–OPS 1.960 Pilot in commands holding a Commercial Pilot License

(a) An operator shall ensure that:

(1) A Commercial Pilot License (CPL) holder does not operate as a pilot in command of an aeroplane certificated in the Aeroplane Flight Manual for single pilot operations unless:

(i) When conducting passenger carrying operations under Visual Flight Rules (VFR) outside a radius of 50 nm from an aerodrome of departure, the pilot has a minimum of 500 hours total flight time on aeroplanes or holds a valid Instrument Rating; or

(ii) When operating on a multiengine type under Instrument Flight Rules (IFR), the pilot has a minimum of 700 hours total flight time on aeroplanes which includes 400 hours as pilot-in- command (in accordance with BCAR-APL) of which 100 hours have been under IFR including 40 hours multi-engine operation. The 400 hours as pilot-in-command may be substituted by hours operating as co-pilot on the basis of two hours co-pilot is equivalent to one hour as pilot-in-command provided those hours were gained within an established multi-pilot crew system prescribed in the Operations Manual;

(2) In addition to sub-paragraph (a)(1)(ii) above, when operating under IFR as a single pilot, the requirements prescribed in Appendix 2 to BCAR–OPS 1.940 are satisfied; and

(3) In multi-pilot crew operations, in addition to sub-paragraph (a) (1) above, and prior to the pilot operating as pilot in command, the command course prescribed in BCAR–OPS 1.955(a) (2) is completed.

BCAR–OPS 1.965 Recurrent training and checking
(See Appendices 1 & 2 to BCAR–OPS 1.965)
(See AMC OPS 1.965)
[See AMC OPS 1.943/1.945 (a) (9)/1.955(b) (6)/ 1.965(e)]
[See IEM OPS 1.943/1.945 (a) (9)/1.955(b) (6)/ 1.965(e)]
(See IEM OPS 1.965)

(a) *General.* An operator shall ensure that:

(1) Each flight crew member undergoes recurrent training and checking and that all such training and checking is relevant to the type or variant of aeroplane on which the flight crew member operates;

(2) A recurrent training and checking programme is established in the Operations Manual and approved by the BDCA and shall be considered fulfilled by the use of flight simulation training or the completion within the appropriate period of the proficiency check required by (b) in that type of aeroplane;

(3) Recurrent training is conducted by the following personnel:

(i) *Ground and refresher training* – by suitably qualified personnel;

(ii) *Aeroplane/STD training* - by a Type Rating Instructor (TRI), Class Rating Instructor (CRI) or in the case of the STD, a Synthetic Flight Instructor (SFI), providing that the TRI, CRI or SFI satisfies the operator's experience and knowledge requirements sufficient to instruct on the items specified in paragraphs (a) (1) (i) (A) and (B) of Appendix 1 to BCAR-OPS 1.965;

(iii) *Emergency and safety equipment training* – by suitably qualified personnel; and

(iv) *Crew Resource Management (CRM):*

(A) Integration of CRM elements into all phases of the recurrent training by all the personnel conducting recurrent training. The operator shall ensure that all personnel conducting recurrent training are suitably qualified to integrate the elements of CRM into this training;

(B) Modular CRM training – by at least one CRM trainer acceptable to the BDCA (See AMC OPS 1.943/1.945(a)(9)/1.955(b)(6)/ 1.965(e)) who may be assisted by experts in order to address specific areas.

(4) Recurrent checking is conducted by the following personnel:

(i) *Operator proficiency check* – by a Type Rating Examiner (TRE), Class Rating Examiner (CRE) or, if the check is conducted in a STD a TRE, CRE or a Synthetic Flight Examiner (SFE), trained in CRM concepts and the assessment of CFM skills;

(ii) *Line checks* – by suitably qualified pilot in commands nominated by the operator and acceptable to the BDCA;

(iii) *Emergency and safety equipment checking* – by suitably qualified personnel.

(b) *Operator Proficiency Check*

(1) An operator shall ensure that:

(i) Each flight crew member undergoes operator proficiency checks to demonstrate his/her competence in carrying out normal, abnormal and emergency procedures; and

(ii) The check is conducted without external visual reference when the flight crew member will be required to operate under IFR.

(iii) Each flight crew member undergoes operator proficiency checks as part of a normal flight crew complement.

(2) The period of validity of an operator proficiency check shall be 6 calendar months in addition to the remainder of the month of issue. If issued within the final 3 calendar months of validity of a previous proficiency check, the period of validity shall extend from the date of issue until 6 calendar months from the expiry date of that previous proficiency check.

(c) *Line Check*. An operator shall ensure that each flight crew member undergoes a line check on the aeroplane to demonstrate his/her competence in carrying out normal line operations described in the Operations Manual. The period of validity of a line check shall be 12 calendar months, in addition to the remainder of the month of issue. If issued within the final 3 calendar months of

validity of a previous line check the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous line check. [See AMC OPS 1.965(c)].

(d) *Emergency and Safety Equipment training and checking*. An operator shall ensure that each flight crew member undergoes training and checking on the location and use of all emergency and safety equipment carried. The period of validity of an emergency and safety equipment check shall be 12 calendar months in addition to the remainder of the month of issue. If issued within the final 3 calendar months of validity of a previous emergency and safety check, the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous emergency and safety equipment check. [See AMC OPS 1.965(d)].

(e) *CRM.* An operator shall ensure that:

(1) Elements of CRM are integrated into all appropriate phases of the recurrent training, and;

(2) Each flight crew member undergoes specific modular CRM training. All major topics of CRM training shall be covered over a period not exceeding 3 years;

(f) *Ground and Refresher training*. An operator shall ensure that each flight crew member undergoes ground and refresher training at least every 12 calendar months. If the training is conducted within the final 3 calendar months of the validity of the previous ground and refresher training, the new validity period shall extend from the date of issue until 12 calendar months from the expiry date of that previous ground and refresher training.

(g) *Aeroplane / STD training*. An operator shall ensure that each flight crew member undergoes aeroplane / STD training at least every 12 calendar months. If the training is conducted within the final 3 calendar months of the validity period of the previous aeroplane / STD, the new validity period shall extend from the date of issue until 12 calendar months from the expiry date of that previous aeroplane / STD training.

BCAR–OPS 1.968 Pilot qualification to operate in either pilot's seat
(See Appendix 1 to BCAR–OPS 1.968)

(a) An operator shall ensure that:

(1) A pilot who may be assigned to operate in either pilot's seat completes appropriate training and checking; and

(2) The training and checking programme is specified in the Operations Manual and is acceptable to the BDCA.

BCAR–OPS 1.970 Recent experience

(a) An operator shall ensure that:

1. A pilot is not assigned to operate an aeroplane as part of the minimum certificated crew, either as pilot flying or pilot non-flying unless he/she has carried out three take-offs or three landings in the previous 90 days as pilot flying in an aeroplane, or in a flight simulator of the same type/class.

2. A pilot who does not hold a valid instrument rating is not assigned to operate an aeroplane at night as commander unless he/she has carried out at least one landing at night in the preceding 90 days as pilot flying in an aeroplane, or in a flight simulator, of the same type/class.

(b) The 90-day period prescribed in subparagraphs (a)1 and 2 above may be extended up to a maximum of 120 days by line flying under the supervision of a type rating instructor or examiner. For periods beyond 120 days, the recency requirement is satisfied by a training flight or use of a flight simulator of the aeroplane type to be used.

(c) An operator shall not assign a pilot to act in the capacity of cruise relief pilot in a type or variant of a type of aeroplane unless, within the preceding 90 days that pilot has either:

(1) operated as a pilot-in-command, co-pilot or cruise relief pilot on the same type of aeroplane; or

(2) Carried out flying skill refresher training including normal, abnormal and emergency procedures specific to cruise flight on the same type of aeroplane or in a flight simulator approved for the purpose, and has practiced approach and landing procedures, where the approach and landing procedure practice may be performed as the pilot who is not flying the aeroplane.

(d) When a cruise relief pilot is flying several variants of the same type of aeroplane or different types of aeroplanes with similar characteristics in terms of operating procedures, systems and handling, the State shall decide under which conditions the requirements of (c) for each variant or each type of aeroplane can be combined.

BCAR–OPS 1.975 Route and Aerodrome Competence qualification
(See AMC OPS 1.975)

(a) An operator shall ensure that, prior to being assigned as pilot in command or as pilot to whom the conduct of the flight may be delegated by the pilot in command, the pilot has obtained adequate knowledge of the route to be flown and of the aerodromes (including alternates), facilities and procedures to be used.

(b) The period of validity of the route and aerodrome competence qualification shall be 12 calendar months in addition to the remainder of:

(1) The month of qualification; or

(2) The month of the latest operation on the route or to the aerodrome.

(c) Route and aerodrome competence qualification shall be revalidated by operating on the route or to the aerodrome within the period of validity prescribed in sub-paragraph (b) above.

(d) If revalidated within the final 3 calendar months of validity of previous route and aerodrome competence qualification, the period of validity shall extend from the date of revalidation until 12 calendar months from the expiry date of that previous route and aerodrome competence qualification.

(e) In the event that more than 12 months elapse in which a pilot-in-command has not made such a trip on a route in close proximity and over similar terrain, within such a specified area, route or aerodrome, and has not practiced such procedures in a training device which is adequate for this purpose, prior to again serving as a pilot-in-command within that area or on that route, that pilot must be requalify.

BCAR–OPS 1.978 Alternative training and qualification programme
(See Appendix 1 to OPS 1.978)

(a) An operator, following a minimum of two years continuous operations, may substitute the training and checking requirements for

flight crew specified in Appendix 1 to OPS 1.978(a) by an alternative training and Qualification programme (ATQP) approved by the BDCA. The two years continuous operations may be reduced at the discretion of the BDCA.

(b) The ATQP must contain training and checking which establishes and maintains a level of proficiency demonstrated to be at least not less than the level of proficiency achieved by following the provisions of OPS 1.945, 1.965 and 1.970. The standard of flight crew training and qualification shall be established prior to the introduction of ATQP; the required ATQP training and qualification standards shall also be specified.

(c) An operator applying for approval to implement an ATQP shall provide the BDCA with an implementation plan in accordance with paragraph (c) of Appendix 1 to OPS 1.978.

(d) In addition to the checks required by OPS 1.965 and 1.970 an operator shall ensure that each flight crew member undergoes a Line Orientated Evaluation (LOE).

1. The line orientated evaluation (LOE) shall be conducted in a simulator. The LOE may be undertaken with other approved ATQP training.

2. The period of validity of a LOE shall be 12 calendar months, in addition to the remainder of the month of issue. If issued within the final three calendar months of validity of a previous LOE the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous LOE.

(e) After two years of operating within an approved ATQP an operator may, with the approval of the BDCA, extend the periods of validity of OPS 1.965 and 1.970 as follows:

1. Operator proficiency check — 12 calendar months in addition to the remainder of the month of issue. If issued within the final three calendar months of validity of a previous operator proficiency check, the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous operator proficiency check;

2. Line check — 24 calendar months in addition to the remainder of the month of issue. If issued within the final six calendar months of validity of a previous line check, the period of validity shall extend from the date of issue until 24 calendar months from the expiry date of that previous line check. The line check may be combined with a line oriented quality evaluation (LOQE) with the approval of the BDCA;

3. Emergency and safety equipment checking — 24 calendar months in addition to the remainder of the month of issue. If issued within the final 6 calendar months of validity of a previous check, the period of validity shall extend from the date of issue until 24 calendar months from the expiry date of that previous check.

(f) The ATQP shall be the responsibility of a nominated post holder.

BCAR–OPS 1.980 Operation on more than one type or variant
(See Appendix 1 to BCAR-OPS 1.980)
(See AMC OPS 1.980)

(a) An operator shall ensure that a flight crew member does not operate on more than one type or variant, unless: the flight crew member is competent to do so.

(b) When considering operations of more than one type or variant, an operator shall ensure that the differences and/or similarities of the aeroplanes concerned justify such operations, taking account of the following:

(1) The level of technology;
(2) Operational procedures;

(3) Handling characteristics. (See AMC OPS 1.980(b) and IEM OPS 1.980(b))

(c) An Operator shall ensure that a flight crew member operating more than one type or variant complies with all of the requirements prescribed in Subpart N for each type or variant unless the BDCA has approved the use of credit(s) related to the training, checking and recent experience requirements.

(d) An operator shall specify appropriate procedures and/or operational restrictions, approved by the BDCA, in the Operations Manual, for any operation on more than one type or variant covering:

(1) The flight crew members' minimum experience level;

(2) The minimum experience level on one type or variant before beginning training for and operation of another type or variant;

(3) The process whereby flight crew qualified on one type or variant will be trained and qualified on another type or variant; and

(4) All applicable recent experience requirements for each type or variant.

BCAR-OPS 1.981 Operation of helicopters and aeroplanes

(a) When a flight crew member operates both helicopters and aeroplanes:

(1 An operator shall ensure that operations of helicopter and aeroplane are limited to one type of each.

(2) The operator shall specify appropriate procedures and/or operational restrictions, approved by the BDCA, in the Operations Manual.

BCAR-OPS 1.985 Training records
(See IEM OPS 1.985)

(a) An operator shall:

(1) Maintain records of all training, checking and qualification prescribed in BCAR-OPS 1.945, 1.955, 1.965, 1.968 and 1.975 undertaken by a flight crew member; and

(2) Make the records of all conversion courses and recurrent training and checking available, on request, to the flight crew member concerned.

BCAR-OPS 1.987 Single pilot operations under the instrument flight rules (IFR) or at night

(a) The Operator shall specify in the operation manual the requirements of experience, recency and training applicable to single pilot operations intended to be carried out under the IFR or at night.

(b) The pilot-in-command should:

(1) for operations under the IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as pilot-in- command;

(2) for operations under the IFR, have accumulated at least 25 hours flight time under the IFR on the class of aeroplane, which may form part of the 50 hours flight *time in sub-paragraph a);*

(3) *for operations at night, have accumulated at least 15 hours flight time at night, which may form part of the 50 hours flight time in sub-paragraph a);*

(4) *for operations under the IFR, have acquired recent experience as a pilot engaged in a single pilot operation under the IFR of:*

(i) at least five IFR flights, including three instrument approaches carried out during the preceding 90 days on the class of aeroplane in the single pilot role; or

(ii) an IFR instrument approach check carried out on such an aeroplane during the preceding 90 days;

(5) for operations at night, have made at least three takeoffs and landings at night on the class of aeroplane in the single pilot role in the preceding 90 days; and

(6) Have successfully completed training programmes that include, in addition to the requirements of BCAR-OPS 1.941, passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

(c) The initial and recurrent flight training and proficiency shall be performed by the pilot-in-command in the single pilot role on the class of aeroplane in an environment representative of the operation.

BCAR-OPS 1.990 Flight crew equipment

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

Appendix 1 to BCAR–OPS 1.940 In-flight relief of flight crew members

(a) A flight crew member may be relieved in flight of his duties at the controls by another suitably qualified flight crew member.

(b) *Relief of the Pilot in command*

(1) The pilot in command may delegate conduct of the flight to:

(i) Another qualified pilot in command; or

(ii) For operations only above FL200, a pilot qualified as detailed in subparagraph (c) below.

(c) *Minimum requirements for a pilot relieving the pilot in command*

(1) Valid Airline Transport Pilot License;

(2) Conversion training and checking (including Type Rating training) as prescribed in BCAR–OPS 1.945;

(3) All recurrent training and checking as prescribed in BCAR–OPS 1.965 and BCAR-OPS 1.968; and

(4) Route competence qualification as prescribed in BCAR–OPS 1.975.

(d) *Relief of the co-pilot*

(1) The co-pilot may be relieved by:

(i) Another suitably qualified pilot; or

(ii) A cruise relief co-pilot qualified as detailed in sub-paragraph (e) below.

(e) *Minimum requirements for Cruise Relief Co-Pilot*

(1) Valid Commercial Pilot License with Instrument Rating;

(2) Conversion training and checking, including Type Rating training, as prescribed in BCAR–OPS 1.945 except the requirement for takeoff and landing training;

(3) All recurrent training and checking as prescribed in BCAR–OPS 1.965 except the requirement for take-off and landing training; and

(4) To operate in the role of co-pilot in cruise only and not below FL 200.

(5) The experience prescribed in BCAR-OPS 1.970 may be conducted in the simulator if in addition proficiency training is conducted, at interval not exceeding 90 days. This recurrent training may be combined with the training prescribed in BCAR-OPS 1.965

(f) Relief of the system panel operator. A system panel operator may be relieved in flight by a crew member who holds a flight engineer's licence or by a flight crew member with a qualification acceptable to the BDCA.

Appendix 2 to BCAR–OPS 1.940 Single pilot operations under IFR or at night

(a) Aeroplanes referred to in BCAR–OPS 1.940(b) (2) may be operated by a single pilot under IFR or at night when the following requirements are satisfied:

(1) The operator shall include in the Operations Manual a pilot's conversion and recurrent training programme which includes the additional requirements for a single pilot operation;

(2) In particular, the cockpit procedures must include:

(i) Engine management and emergency handling;

(ii) Use of normal, abnormal and emergency checklists;

(iii) ATC communication;

(iv) Departure and approach procedures;

(v) Autopilot management; and

(vi) Use of simplified in-flight documentation;

(3) The recurrent checks required by BCAR–OPS 1.965 shall be performed in the single pilot role on the type or class of aeroplane in an environment representative of the operation;

(4) The pilot shall have a minimum of 50 hours flight time on the specific type or class of aeroplane under IFR of which 10 hours is as pilot in command; and

(5) The minimum required recent experience for a pilot engaged in a single-pilot operation under IFR or at night shall be 5 IFR flights, including 3 instrument approaches, carried out during the preceding 90 days on the type or class of aeroplane in the single-pilot role. This requirement may be replaced by an IFR instrument approach check on the type or class of aeroplane.

(b) Additional requirements for single pilot operations under the instrument flight rules (IFR) or at night:

(1) An aeroplane shall not be operated under the IFR or at night by a single pilot unless approved by the BDCA.

(2) An aeroplane shall not be operated under the IFR or at night by a single pilot unless:

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

(ii) the aeroplane is propeller-driven;

(iii) the maximum approved passenger seating configuration is not more than nine;

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

(v) the aeroplane is equipped as required for the intended operations included in Subpart K.; and

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

Appendix 1 to BCAR–OPS 1.945 Operator's Conversion Course
(See AMC OPS 1.945)
[See AMC OPS 1.943/ 1.945 (a) (9) / 1.955 (b) (6)/1.965(e)]
[See IEM OPS 1.943 / 1.945 (a) (9) / 1.955 (b) (6)/1.965(e)]
(See IEM OPS 1.945)

(a) An operator's conversion course shall include:

(1) Ground training and checking including aeroplane systems, normal, abnormal and emergency procedures;

(2) Emergency and safety equipment training and checking which must be completed before aeroplane training commences;

i. Actual donning of a life-jacket where fitted;

ii. Actual donning of the protective breathing equipment (PBE) where fitted;

iii. Actual handling of fire extinguishers;

iv. Instruction on the location and use of all emergency and safety equipment carried in the aeroplane;

v. Instruction on the location and use of all type of exits; and

vi Security procedures.

vii. Demonstration of the method used to operate a slide where fitted;

viii. Actual fire- fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire except that, with Halon extinguishers, an alternative method acceptable to the BDCA may be used;

ix. The effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;

x. Actual handling of pyrotechnic, real or simulated, where fitted; and

xi. Demonstration on the use of life-rafts where fitted.

(3) aeroplane / STD training and checking; and

(4) Line flying under supervision and line check.

(b) The conversion course shall be conducted in the order set out in sub-paragraph (a) above.

(c) Elements of Crew Resource Management shall be integrated into the conversion course, and conducted by suitably qualified personnel.

(1) A specific modular CRM training programme shall be established so that the more important elements of the CRM training as follow:

(i) Reliability and human error, error chain, error detection and prevention;

(ii) Company behavioural security, Standard Operating Procedures (SOP), organizational factors;

(iii) Stress, Handling stress, fatigue, and surveillance;

(iv) Acquisition of information and its processing, situational awareness, load work management;

(v) Decision taking;

(vi) Communication and coordination inside and outside the cockpit;

(vii) Leadership and team work, synergy;

(viii) Automation and philosophy of the use of automation (for the aeroplane type if applicable);

(ix) Specific differences related to the aeroplane type;

(x) Controlled Flight Into Terrain (CFIT); Approach and Landing Accident Reduction (ALAR) and Active Runway Incursions (RWYI);

(xi) Real cases study;

(xii) Additional areas that justify an extra attention, in accordance with what has been identified by the accident prevention and flight safety programme (See BCAR-OPS 1.037).

(d) When a flight crew member has not previously completed an operator's conversion course, the operator shall ensure that in addition to sub-paragraph (a) above, the flight crew member undergoes general first aid training and, if applicable, ditching procedures training using the equipment in water.

Appendix 1 to BCAR–OPS 1.965 Recurrent training and checking – Pilots
(See AMC OPS 1.965)
(See AMC OPS 1.943 /1.945 (a) (9) /1.955 (b) (6)/1.965(e))
[See IEM OPS 1.943/ 1.945(a) (9)/1.955 (b) (6)/1.965(e)]
(See IEM OPS 1.965)

(a) Recurrent Training – Recurrent training shall comprise:

(1) Ground and refresher training

(i) The ground and refresher training programme shall include:

(A) Aeroplane systems;

(B) Operational procedures and requirements including ground de-/anti-icing (See AMC OPS 1.345(a)) and pilot incapacitation [(see AMC to Appendix 1 to BCAR-OPS 1.965)]; and

(C) Accident/Incident and occurrence review.

(ii) Knowledge of the ground and refresher training shall be verified by a questionnaire or other suitable methods.

(2) Aeroplane / STD training

(i) The aeroplane / STD training programme shall be established such that all major failures of aeroplane systems and associated procedures will have been covered in the preceding 3 year period.

(ii) When engine-out manoeuvres are carried out in an aeroplane, the engine failure shall be simulated.

(iii) Aeroplane / STD training may be combined with the operator proficiency check.

(3) Emergency and Safety Equipment Training

(i) Emergency and safety equipment training may be combined with emergency and safety equipment checking and shall be conducted in an aeroplane or a suitable alternative training device.

(ii) Every year the emergency and safety equipment training programme must include the following:

(A) Actual donning of a lifejacket where fitted;

(B) Actual donning of protective breathing equipment where fitted;

(C) Actual handling of fire extinguishers;

(D) Instruction on the location and use of all emergency and safety equipment carried on the aeroplane;

(E) Instruction on the location and use of all types of exits; and

(F) Security procedures.

(iii) Every 3 years the programme of training must include the following:

(A) Actual operation of all types of exits;

(B) Demonstration of the method used to operate a slide where fitted;

(C) Actual fire-fighting using equipment representative of that carried in the aeroplane on an actual or simulated fire except that, with Halon extinguishers, an alternative method acceptable to the BDCA may be used;

(D) The effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;

(E) Actual handling of pyrotechnics, real or simulated, where fitted; and

(F) Demonstration in the use of the life-raft(s) where fitted.

(4) *Crew Resource Management (CRM)*

(i) Elements of CRM shall be integrated into all appropriate phases of recurrent training; and

(ii) A specific modular CRM training programme shall be established such that all major topics of CRM training are covered over a period not exceeding 3 years, as follows:

(A) Human error and reliability, error chain, error prevention and detection;

(B) Company safety culture, SOPs, organizational factors;

(C) Stress, stress management, fatigue and vigilance;

(D) Information acquisition and processing, situation awareness, workload management;

(E) Decision making;

(F) Communication and coordination inside and outside the cockpit;

(G) Leadership and team work, synergy;

(H) Automation and philosophy of the use of Automation (if relevant to the type);

(I) Specific type-related differences;

(J) Controlled Flight Into Terrain (CFIT); Approach and Landing Accident Reduction (ALAR) and Active Runway Incursions (RWYI);

(K) Case based studies;

(L) Additional areas which warrant extra attention, as identified by the accident prevention and flight safety programme (see BCAR-OPS 1.037).

(iii) Operators shall establish procedures to update their CRM recurrent training programme. Revision of the Programme shall be conducted over a period not exceeding three years. The revision of the programme shall take into account the de-identified results of the CRM assessments of crews, and information identified by the accident prevention and flight safety programme.

(b) *Recurrent checking.* Recurrent checking shall comprise:

(1) *Operator proficiency checks*

(i) Where applicable, operator proficiency checks shall include the following manoeuvres:

(A) Rejected take-off when a Flight Simulator is available to represent that specific aeroplane, otherwise drills only;

(B) Take-off with engine failure between V1 and V2 or as soon as safety considerations permit;

(C) Precision instrument approach to minima with, in the case of multi-engine aeroplanes, one engine inoperative;

(D) Non-precision approach to minima;

(E) Missed approach on instruments from minima with, in the case of multi-engine aeroplanes, one engine inoperative; and

(F) Landing with one engine inoperative. For single-engine aeroplanes a practice forced landing is required.

(ii) When engine out manoeuvres are carried out in an aeroplane, the engine failure must be simulated.

(iii) In addition to the checks prescribed in sub-paragraphs (i) (A) to (F) above, the requirements [applicable to the revalidation or renewal of the aircraft Type or Class Rating] must be completed every 12 months and may be combined with the operator proficiency check.

(iv) For a pilot operating VFR only, the checks prescribed in sub-paragraphs (i)(C) to (E) above may be omitted except for an approach and go-around in a multiengine aeroplane with one engine inoperative.

(v) Operator proficiency checks must be conducted by a Type Rating Examiner.

(2) *Emergency and safety equipment checks*. The items to be checked shall be those for which training has been carried out in accordance with sub-paragraph (a) (3) above.

(3) *Line checks*;

(i) Line checks must establish the ability to perform satisfactorily a complete line operation including pre-flight and post flight procedures and use of the equipment provided, as specified in the Operations Manual.

(ii) The flight crew must be assessed on their [CRM] skills [in accordance with a methodology acceptable to the BDCA and published in the Operations Manual. The purpose of such assessment is to:

(A) Provide feedback to the crew collectively and individually and serve to identify retraining; and

(B) Be used to improve the CRM training system.

(iii) When pilots are assigned duties as pilot flying (PF) and pilot non-flying (NFP) they must be checked in both functions.

(iv) Line checks must be completed in an aeroplane.

(v) Line checks must be conducted by pilot in commands nominated by the operator and acceptable to the BDCA. The person conducting the line check, who is described in BCAR-OPS 1.965(a)(4)(ii), shall be trained in CRM concepts and the assessment of CRM skills and shall occupy an observer's seat where installed. In the case of long haul operations where additional operating flightcrew are carried, the person may fulfil the function of a cruise relief pilot and shall not occupy either pilot's seat during take-off, departure, initial cruise, descent, approach and landing. His CRM assessments shall

solely be based on observations made during the initial briefing, cabin briefing, cockpit briefing and those phases where he occupies the observer's seat.

Appendix 2 to BCAR–OPS 1.965 Recurrent training and checking – System Panel Operators

(a) The recurrent training and checking for System Panel Operators shall meet the requirements for pilots and any additional specific duties, omitting those items that do not apply to System Panel Operators.

(b) Recurrent training and checking for System Panel Operators shall, whenever possible, take place concurrently with a pilot undergoing recurrent training and checking.

(c) A line check shall be conducted by a pilot in command nominated by the operator and acceptable to the BDCA or by a System Panel Operator Type Rating Instructor or Examiner.

Appendix 1 to BCAR–OPS 1.968 Pilot qualification to operate in either pilot's seat

(a) Pilot in commands whose duties also require them to operate in the right-hand seat and carry out the duties of co-pilot, or pilot in commands required to conduct training or examining duties from the right hand seat, shall complete additional training and checking as specified in the Operations Manual, concurrent with the operator proficiency checks prescribed in BCAR–OPS 1.965(b). This additional training must include at least the following:

(1) An engine failure during take-off;

(2) A one engine inoperative approach and go-around; and

(3) A one engine inoperative landing.

(b) When engine-out manoeuvres are carried out in an aeroplane, the engine failure must be simulated.

(c) When operating in the right-hand seat, the checks required by BCAR–OPS for operating in the left-hand seat must, in addition, be valid and current.

(d) A pilot relieving the pilot in command shall have demonstrated, concurrent with the operator proficiency checks prescribed in BCAR-OPS 1.965(b), practice of drills and procedures which would not, normally, be the relieving pilot's responsibility. Where the differences between left and right seats are not significant (for example because of use of autopilot) then practice may be conducted in either seat.

(e) A pilot other than the pilot in command occupying the left-hand seat shall demonstrate practice of drills and procedures, concurrent with the operator proficiency checks prescribed in

BCAR–OPS 1.965(b), which would otherwise have been the pilot in command's responsibility acting as non flying pilot (NFP). Where the differences between left and right seats are not significant (for example because of use of autopilot) then practice may be conducted in either seat.

Appendix 1 to BCAR-OPS 1.980 Alternative training and qualification programme

(a) An operator's ATQP may apply to the following requirements that relate to training and qualifications:

1. OPS 1.450 and Appendix 1 to OPS 1.450 — Low Visibility Operations – Training and Qualifications;

2. OPS 1.945 Conversion training and checking and Appendix 1 to OPS 1.945;

3. OPS 1.950 Differences training and familiarisation training;

4. OPS 1.955 paragraph (b) — Nomination as commander;

5. OPS 1.965 Recurrent training and checking and Appendices 1 and 2 to OPS 1.965;

6. OPS 1.980 Operation on more than one type or variant and Appendix 1 to OPS 1.980.

(b) Components of the ATQP — an alternative training and qualification programme shall comprise the following:

1. Documentation that details the scope and requirements of the programme;

2. A task analysis to determine the tasks to be analysed in terms of:

   (i) knowledge;

   (ii) the required skills;

   (iii) the associated skill based training; and, where appropriate

   (iv) the validated behavioural markers.

3. Curricula — the curriculum structure and content shall be determined by task analysis, and shall include proficiency objectives including when and how those objectives shall be met. The process for curriculum development shall be acceptable to the BDCA;

4. A specific training programme for:

   (i) Each aeroplane type/class within the ATQP;

(ii) the instructors (Class rating instructor rating/Synthetic flight instructor authorisation/Type rating instructor rating — CRI/SFI/TRI), and other personnel undertaking flight crew instruction;

(iii) the examiners (Class rating examiner/Synthetic flight examiner/Type rating examiner — CRE/SFE/TRE); to include a method for the standardisation of the instructors and examiners;

5. A feedback loop for the purpose of curriculum validation and refinement, and to ascertain that the programme meets its proficiency objectives;

6. A method for the assessment of flight crew both during conversion and recurrent training and checking. The assessment process shall include event-based assessment as part of the LOE. The method of assessment shall comply with the provisions of OPS 1.965;

7. An integrated system of quality control, that ensures compliance with all the requirements processes and procedures of the programme;

8. A process that describes the method to be used if the monitoring and evaluation programmes do not ensure compliance with the established proficiency and qualification standards for flight crew;

9. A data monitoring/analysis programme.

(c) Implementation — The operator shall develop an evaluation and implementation strategy acceptable to the BDCA; the following requirements shall be fulfilled:

1. The implementation process shall include the following stages:

(i) a safety case that substantiates the validity of
:

(A) the revised training and qualification standards when compared with the standards achieved under OPS 1 prior to the introduction of ATQP.

(B) any new training methods implemented as part of ATQP. If approved by the BDCA the operator may establish an equivalent method other than a formal safety case.

(ii) Undertake a task analysis as required by paragraph (b)2 above in order to establish the operator's programme of targeted training and the associated training objectives.

(iii) A period of operation whilst data is collected and analysed to ensure the efficacy of the safety case or equivalent and validate the task analysis. During this period the operator shall continue to operate to the pre-ATQP OPS 1 requirements. The length of this period shall be agreed with the BDCA;

2. The operator may then be approved to conduct training and qualification as specified under the ATQP.

Appendix 1 to BCAR-OPS 1.980 Operation on more than one type or variant (See AMC OPS 1.980)

(a) When a flight crew member operates more than one aeroplane class, type or variant listed in AMC APL 1.215A (class-single pilot) and/or AMC APL 1.220 (type-single pilot), but not within a single license endorsement, an operator must comply with the following:

(1) A flight crew member shall not operate more than:

(i) Three piston engine aeroplane types or variants; or

(ii) Three turbo-propeller aeroplane types or variants; or

(iii) One turbo-propeller aeroplane type or variant and one piston engine aeroplane type or variant; or.

(vi) One turbo-propeller aeroplane type or variant and any aeroplane within a particular class.

(2) BCAR-OPS 1.965 for each type or variant operated unless the operator has demonstrated specific procedures and/or operational restrictions which are acceptable to the BDCA.

(b) When a flight crew member operates more than one aeroplane type or variant within one or more license endorsement as defined by AMC APL 1.220B (type - multi-pilot), an operator shall ensure that:

(1) The minimum flight crew complement specified in the Operations Manual is the same for each type or variant to be operated;

(2) A flight crew member does not operate more than two aeroplane types or variants for which a separate license endorsement is required; and

(3) Only aeroplanes within one license endorsement are flown in any one flight duty period unless the operator has established procedures to ensure adequate time for preparation.

Note: In cases where more than one license endorsement is involved, see sub-paragraphs (c) and (d) below.

(c) When a flight crew member operates more than one aeroplane type or variant listed in AMC APL 1.220 A and B (type - single pilot and type - multi pilot), but not within a single license endorsement, an operator must comply with:

(1) Subparagraphs (b) (1), (b) (2) and (b) (3) above; and

(2) Subparagraph (d) below.

(d) When a flight crew member operates more than one aeroplane type or variant listed in AMC APL 1.220 B (type - multi pilot), but not within a single license endorsement, an operator must comply with the following:

(1) Subparagraphs (b) (1), (b) (2) and (b) (3) above;

(2) Before exercising the privileges of 2 license endorsements:

(i) Flight crew members must have completed two consecutive operator proficiency checks and must have 500 hours in the relevant crew position in commercial air transport operations with the same operator.

(ii) In the case of a pilot having experience with an operator and exercising the privileges of 2 license endorsements, and then being promoted to command with the same operator on one of those types, the required minimum experience as pilot in command is 6 months and 300 hours, and the pilot must have completed 2 consecutive operator proficiency checks before again being eligible to exercise 2 license endorsements.

(3) Before commencing training for and operation of another type or variant, flight crew members must have completed 3 months and 150 hours flying on the base aeroplane which must include at least one proficiency check.

(4) After completion of the initial line check on the new type, 50 hours flying or 20 sectors must be achieved solely on aeroplanes of the new type rating.

(5) BCAR-OPS 1.970 for each type operated unless credits have been allowed by the BDCA in accordance with sub-paragraph (7) below.

(6) The period within which line flying experience is required on each type must be specified in the Operations Manual.

(7) Where credits are sought to reduce the training and checking and recent experience requirements between aeroplane types, the operator must demonstrate to the BDCA which items need not be repeated on each type or variant because of similarities (See AMC OPS 1.980(c) and IEM OPS 1.980(c)).

(i) BCAR-OPS 1.965(b) requires two operator proficiency checks every year. When credit is given in accordance with sub-paragraph (7) above for operator proficiency checks to alternate between the two types, each operator proficiency check revalidates the operator proficiency check for the other type. Provided that the period between proficiency checks for revalidation or renewal of type rating does not exceed that prescribed in BCAR-APL for each type, the BCAR-APL requirements will be satisfied. In addition relevant and approved recurrent training must be specified in the Operations Manual.

(ii) BCAR-OPS 1.965(c) requires one line check every year. When credit is given in accordance with sub-paragraph (7) above for line checks to alternate between types or variants, each line check revalidates the line check for the other type or variant.

(iii) Annual emergency and safety equipment training and checking must cover all requirements for each type.

(8) BCAR-OPS 1.965 for each type or variant operated unless credits have been allowed by the BDCA in accordance with subparagraph (7) above.

(e) When a flight crew member operates combinations of aeroplane types or variants as defined by AMC APL 1.215 (class - single pilot) and Appendix 2 of AMC APL 1.220 (type - multi pilot) an operator must demonstrate that specific procedures and/or operational restrictions are approved in accordance with BCAR-OPS 1.980(d).

SUBPART O - CABIN CREW

BCAR–OPS 1.988 Applicability
(See IEM OPS 1.988)

An operator shall ensure that all crew members, other than flight crew members, assigned by the operator to duties in the passenger compartment of an aeroplane comply with the requirements of this Subpart except for additional crew members solely assigned to specialist duties.

For the purpose of this Regulation, 'cabin crew member' means any crew member, other than a flight crew member, who performs, in the interests of safety of passengers, duties assigned to him/her by the operator or the commander in the cabin of an aeroplane.

BCAR–OPS 1.989 Identification

(a) An operator shall ensure that all cabin crew members wear the operator's cabin crew uniform and are clearly identifiable to the passengers as a cabin crew member.

(b) Other personnel, such as medical staff, security staff, child minders, escorts, technical staff, entertainers, interpreters, who undertake tasks in the cabin, shall not wear a uniform which might identify them to passengers as a cabin crew member, unless they comply with the requirements of this Subpart and any other applicable requirements of this Regulation.

BCAR–OPS 1.990 Number and composition of cabin crew
(See IEM OPS 1.990)

(a) An operator shall not operate an aeroplane with a maximum approved passenger seating configuration of more than 19, when carrying one or more passengers, unless at least one cabin crew member is included in the crew for the purpose of performing duties, specified in the Operations Manual, in the interests of the safety of passengers.

(b) When complying with sub-paragraph (a) above, an operator shall ensure that the minimum number of cabin crew is the greater of:

(1) One cabin crew member for every 50, or fraction of 50, passenger seats installed on the same deck of the aeroplane; or

(2) The number of cabin crew who actively participated in the aeroplane cabin during the relevant emergency evacuation demonstration, or who were assumed to have taken part in the relevant analysis, except that, if the maximum approved passenger seating configuration is less than the number evacuated during the demonstration by at least 50 seats, the number of cabin crew may be reduced by 1 for every whole multiple of 50 seats by which the maximum approved passenger seating configuration falls below the certificated maximum capacity.

(c) The BDCA may under exceptional circumstances require an operator to include in the crew additional cabin crew members.

(d) In unforeseen circumstances the required minimum number of cabin crew may be reduced provided that:

(1) The number of passengers has been reduced in accordance with procedures specified in the Operations Manual; and

(2) A report is submitted to the BDCA after completion of the flight.

(e) An operator shall ensure that when engaging the services of cabin crew members who are self-employed and/or working on a freelance or part-time basis, the requirements of Subpart O are complied with. In this respect, particular attention must be paid to the total number of aircraft types or variants that a cabin crew member may fly for the purposes of commercial air transportation, which must not exceed the requirements prescribed in BCAR-OPS 1.1030, including when his services are engaged by another operator.

BCAR–OPS 1.995 Minimum requirements

(a) Is at least 18 years of age;

(b) Has passed a medical examination or assessment at regular intervals as required by the BDCA so as to check the medical fitness to discharge his/her duties;

(c) Has successfully completed initial training in accordance with OPS 1.1005 and holds an attestation of safety training;

(d) Has completed the appropriate conversion and/or differences training covering at least the subjects listed in OPS 1.1010;

(e) Shall undergo recurrent training in line with the provisions of OPS 1.1015;

(f) Is competent to perform his/her duties in accordance with procedures specified in the Operations Manual.

BCAR–OPS 1.1000 Senior cabin crew members

(a) An operator shall nominate a senior cabin crew member whenever more than one cabin crew member is assigned. For operations when more than one cabin crew member is assigned, but only one cabin crew member is required, the operator shall nominate one cabin crew member to be responsible to the commander.

(b) The senior cabin crew member shall have responsibility to the pilot in command for the conduct and co-ordination of normal and emergency procedure(s) specified in the Operations Manual. During turbulence, in the absence of any instructions from the flight crew, the senior cabin crew member shall be entitled to discontinue non-safety related duties and advise the flight crew of the level of turbulence being experienced and the need for the fasten seat belt signs to be switched on. This should be followed by the cabin crew securing the passenger cabin and other applicable areas.

(c) Where required by BCAR–OPS 1.990 to carry more than one cabin crew member, an operator shall not appoint a person to the post of senior cabin crew member unless that person has at least one year's experience as an operating cabin crew member and has completed an appropriate course. [See IEM OPS 1.1000 (c)].

(d) An operator shall establish procedures to select the next most suitably qualified cabin crew member to operate as senior cabin crew member in the event of the nominated senior cabin crew member becoming unable to operate. Such procedures must be acceptable to the BDCA and take account of a cabin crew member's operational experience.

(e) CRM training: the operator shall ensure that all relevant elements in Appendix 2 to OPS1.1005/1.1010/1.1015 Table 1, Column (a) are integrated into the training and covered to the level required by Column (f), senior cabin crew course.

BCAR–OPS 1.1003 Single cabin crew member operations

(a) An operator shall ensure that each cabin crew member who does not have previous comparable experience completes the following, before operating as a single cabin crew member:

1. Training in addition to that required by OPS 1.1005 and OPS 1.1010 shall include particular emphasis on the following to reflect single cabin crew member operations:

(i) responsibility to the commander for the conduct of cabin safety and emergency procedure(s) specified in the Operations Manual;

(ii) importance of coordination and communication with the flight crew, management of unruly or disruptive passengers;

(iii) review of operator's requirements and legal requirements;

(iv) documentation;

(v) accident and incident reporting;

(vi) flight and duty time limitations.

2. Familiarization flying of at least 20 hours and 15 sectors. Familiarization flights shall be conducted under the supervision of a suitably experienced cabin crew member on the aeroplane type to be operated.
(b) An operator shall ensure, before a cabin crew member is assigned to operate as a single cabin crew member, that this cabin crew member is competent to perform his/her duties in accordance with the procedures specified in the Operations Manual. Suitability for single cabin crew operations shall be addressed in the criteria for cabin crew selection, recruitment, training and assessment of competence.

BCAR–OPS 1.1005 Initial Safety Training

(See Appendix 1 to BCAR–OPS 1.1005)
(See IEM OPS 1.1005/ 1.1010/1.1015/1.1020)

(a) An operator shall ensure that each cabin crew member successfully completes initial training. The training program must be approved by the BDCA, in accordance with Appendix 1 to BCAR– OPS 1.1005, and the checking prescribed in BCAR– OPS 1.1025 before undertaking conversion training.

(b) Training courses shall, at the discretion of the BDCA, and subject to its approval, be provided: either

1. by the operator

— directly, or

— indirectly through a training organization acting on behalf of the operator; or

2. by an approved training organization.

(c) The programme and structure of the initial training courses shall be in accordance with the applicable requirements and shall be subject to prior approval of the BDCA.

(d) At the discretion of the BDCA, the BDCA, the operator or the approved training organization providing the training course, shall deliver an attestation of safety training to a cabin crew member after he/she has completed the initial safety training and successfully passed the check referred to in OPS 1.1025.

(e) Where the BDCA authorizes an operator or an approved training organization to deliver the attestation of safety training to a cabin crew member, such attestation shall clearly state a reference to the approval of the BDCA.

BCAR–OPS 1.1010 Conversion and Differences training

(See Appendix 1 to BCAR–OPS 1.1010)
(See IEM OPS 1.1005/1.1010/1.1015/1.1020)

(a) An operator shall ensure that each cabin crew member has completed appropriate conversion and differences training, in accordance with the applicable rules and at least the subjects listed in Appendix 1 to OPS 1.1010. The training course shall be specified in the Operations Manual. The programme and structure of the training course shall be subject to prior approval by the Authority.

(1) *Conversion training;* A conversion course must be completed before being:

(i) First assigned by the operator to operate as a cabin crew member; or

(ii) Assigned to operate another aeroplane type; and

(2) *Differences training.* Differences training must be completed before operating:

(i) On a variant of an aeroplane type currently operated; or

(ii) With different safety equipment, safety equipment location, or normal and emergency procedures on currently operated aeroplane types or variants.

(b) An operator shall determine the content of the conversion or differences training taking account of the cabin crew member's previous training as recorded in the cabin crew member's training records required by BCAR–OPS 1.1035.

(c) Without prejudice to OPS 1.995 (c), related elements of both initial training (OPS 1.1005) and conversion and differences training (OPS 1.1010) may be combined.

(d) An operator shall **e**nsure that:

(1) Conversion training is conducted in a structured and realistic manner, in accordance with Appendix 1 to BCAR–OPS 1.1010;

(2) Differences training is conducted in a structured manner; and

(3) Conversion training, and if necessary differences training, includes the use of all safety equipment and all normal and emergency procedures applicable to the type or variant of aeroplane and involves training and practice on either a representative training device or on the actual aeroplane.

(d) An operator shall ensure that each cabin crew member before being first assigned to duties completes the operator's CRM training and aeroplane type specific CRM, in accordance with Appendix 1 to OPS 1.1010 (j). Cabin crew who are already operating as cabin crew members with an operator, and who have not previously completed the operator's CRM training, shall complete this training by the time of the next required recurrent training and checking in accordance with Appendix 1 to OPS 1.1010 (j), including aeroplane type specific CRM, as relevant.

BCAR–OPS 1.1012 Familiarization
(See AMC OPS 1.1012)

An operator shall ensure that, following completion of conversion training, each cabin crew member undertakes familiarization prior to operating as one of the minimum number of cabin crew required by BCAR–OPS 1.990.

BCAR–OPS 1.1015 Recurrent training

(See Appendix 1 to BCAR–OPS 1.1015)
(See IEM OPS 1.1015)
(See IEM OPS 1.1005/ 1.1010/1.1015/1.1020)

(a) An operator shall ensure that each cabin crew member undergoes recurrent training, covering the actions assigned to each crew member in normal and emergency procedures and drills relevant to the type(s) and/or variant(s) of aeroplane on which they operate in accordance with Appendix 1 to BCAR–OPS 1.1015.

(b) An operator shall ensure that the recurrent training and checking program, approved by the BDCA, includes theoretical and practical instruction, together with individual practice, as prescribed in Appendix 1 to BCAR–OPS 1.1015.

(c) The period of validity of recurrent training and the associated checking required by BCAR–OPS 1.1025 shall be 12 calendar months in addition to the remainder of the month of issue. If issued within the final 3 calendar months of validity of a previous check, the period of validity shall extend from the date of issue until 12 calendar months from the expiry date of that previous check.

BCAR–OPS 1.1020 Refresher training
(See Appendix 1 to BCAR–OPS 1.1020)
(See AMC OPS 1.1020)
(See IEM OPS 1.1005/1.1010/1.1015/1.1020)

(a) An operator shall ensure that each cabin crew member who has been absent from all flying duties for more than 6 months and still remains within the period of validity of the previous check required by BCAR-OPS 1.1025(b) (3) completes refresher training specified in the Operations Manual as prescribed in Appendix 1 to BCAR–OPS 1.1020 [See IEM OPS 1.1020(a)].

(b) An operator shall ensure that when a cabin crew member has not been absent from all flying duties, but has not, during the preceding 6 months, undertaken duties on a type of aeroplane as a cabin crew member required by BCAR–OPS 1.990 (b), before undertaking such duties on that type, the cabin crew member either:

(1) Completes refresher training on the type; or

(2) Operates two re-familiarization sectors as defined in AMC OPS 1.1012 paragraph 3.

BCAR–OPS 1.1025 Checking
(See AMC OPS 1.1025)

(a) An operator the operator or the approved training organisation providing the training course shall ensure that during or following completion of the training required by BCAR–OPS 1.1005, 1.1010 and 1.1015, each cabin crew member undergoes a check covering the training received in order to verify his proficiency in carrying out normal and emergency safety duties. These checks must be performed by personnel acceptable to the BDCA.

(b) An operator shall ensure that each cabin crew member undergoes checks as follows:

(1) *Initial training*. The items listed in Appendix 1 to BCAR–OPS 1.1005;

(2) *Conversion and Differences training.* The items listed in Appendix 1 to BCAR–OPS 1.1010; and

(3) *Recurrent training.* The items listed in Appendix 1 to BCAR–OPS 1.1015 as appropriate.

(4) 4. Refresher training. The items listed in Appendix 1 to OPS 1.1020.

BCAR–OPS 1.1030 Operation on more than one type or variant
(See ACJ OPS 1.1030)

(a) An operator shall ensure that each cabin crew member does not operate on more than three aeroplane types except that, with the approval of the BDCA, the cabin crew member may operate on four aeroplane types, provided that for at least two of the types:

(1) Non-type specific normal and emergency procedures are identical; and

(2) Safety equipment and type specific normal and emergency procedures are similar.

(b) For the purposes of sub-paragraph (a) above, variants of an aeroplane type are considered to be different types if they are not similar in each of the following aspects:

(1) Emergency exit operation;
(2) Location and type of portable safety equipment; and
(3) Type specific emergency procedures.

BCAR–OPS 1.1035 Training records
(See IEM OPS 1.1035)

(a) An operator shall:

(1) Maintain records of all training and checking required by BCAR–OPS 1.1005, 1.1010, 1.1015, 1.1020 and 1.1025; and

(2) keep a copy of the attestation of safety training; and

(3) keep the training records and records of medical examinations or assessments up to date, showing in the case of the training records the dates and contents of the conversion, differences and recurrent training received; and

(4) Make the records of all initial, conversion and recurrent training and checking available, on request, to the cabin crew member concerned.

Appendix 1 to BCAR–OPS 1.1005 Initial training
[See AMC to Appendix 1 to BCAR–OPS 1.1005 and Appendix 1 to BCAR–OPS 1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/ 1.1015/1.1020]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/ 1.1010/1.1015/1.1020]

An operator shall ensure that all elements of initial training are conducted by suitably qualified persons.

(a) *Fire and Smoke Training.* An operator shall ensure that fire and smoke training includes:

(1) Emphasis on the responsibility of cabin crew to deal promptly with emergencies involving fire and smoke and, in particular, emphasis on the importance of identifying the actual source of the fire;

(2) The importance of informing the flight crew immediately, as well as the specific actions necessary for co-ordination and assistance, when fire or smoke is discovered;

(3) The necessity for frequent checking of potential fire-risk areas including toilets, and the associated smoke detectors;

(4) The classification of fires and the appropriate type of extinguishing agents and procedures for particular fire situations, the techniques of application of extinguishing agents, the consequences of misapplication, and of use in a confined space; and

(5) The general procedures of ground based emergency services at aerodromes.

(b) *Water Survival Training*. An operator shall ensure that water survival training includes the actual donning and use of personal flotation equipment in water by each cabin crew member. Before first operating on an aeroplane fitted with life-rafts or other similar equipment, training must be given on the use of this equipment, as well as actual practice in water.

(c) *Survival Training.* An operator shall ensure that survival training is appropriate to the areas of operation, (e.g. polar, desert, jungle or sea).

(d) *Medical aspects and First Aid.* An operator shall ensure that medical and first aid training includes:

(1) Instruction on first aid and the use of first-aid kits;
(2) First aid associated with survival training and appropriate hygiene; and
(3) The physiological effects of flying and with particular emphasis on hypoxia.

(e) *Passenger handling.* An operator shall ensure that training for passenger handling includes the following:

(1) Advice on the recognition and management of passengers who are, or become, intoxicated with alcohol or are under the influence of drugs or are aggressive;

(2) Methods used to motivate passengers and the crowd control necessary to expedite an aeroplane evacuation;

(3) Regulations covering the safe stowage of cabin baggage (including cabin service items) and the risk of it becoming a hazard to occupants of the cabin or otherwise obstructing or damaging safety equipment or aeroplane exits;

(4) The importance of correct seat allocation with reference to aeroplane weight and balance. Particular emphasis shall also be given on the seating of disabled passengers, and the necessity of seating able-bodied passengers adjacent to unsupervised exits;

(5) Duties to be undertaken in the event of encountering turbulence including securing the cabin;

(6) Precautions to be taken when live animals are carried in the cabin;

(7) Dangerous Goods training as prescribed in Subpart R; and

(8) Security procedures, including the provisions of Subpart S.

(f) *Communication.* An operator shall ensure that, during training, emphasis is placed on the importance of effective communication between cabin crew and flight crew including technique, common language and terminology.

(g) *Discipline and responsibilities.* An operator shall ensure that each cabin crew member receives training on:

(1) The importance of cabin crew performing their duties in accordance with the Operations Manual;

(2) Continuing competence and fitness to operate as a cabin crew member with special regard to flight and duty time limitations and rest requirements;
(3) An awareness of the aviation regulations relating to cabin crew and the role of the BDCA;

(4) General knowledge of relevant aviation terminology, theory of flight, passenger distribution, meteorology and areas of operation;

(5) Pre-flight briefing of the cabin crew and the provision of necessary safety information with regard to their specific duties;

(6) The importance of ensuring that relevant documents and manuals are kept up-to date with amendments provided by the operator;

(7) The importance of identifying when cabin crew members have the BDCA and responsibility to initiate an evacuation and other emergency procedures; and

(8) aware of other crew members' assignments and functions in the event of an emergency so far as is necessary for the fulfillment of the cabin crew member's own duties

(9) awareness of the effects of surface contamination and the need to inform the flight crew of any observed surface contamination

(h) *Crew Resource Management*

Introductory CRM course:
(i) a cabin crew member shall complete an introductory CRM course before being first assigned to operate as a cabin crew member. Cabin crew who are already operating as cabin crew members in commercial air transportation and who have not previously completed an introductory course, shall complete an introductory CRM course by the time of the next required recurrent training and/or checking.

(ii) The training elements in Appendix 2 to OPS 1.1005/1.1010/1/1.1015 Table 1, Column (a) shall be covered to the level required in Column (b), introductory CRM course.

(iii) The introductory CRM course shall be conducted by at least one cabin crew CRM instructor.

Appendix 1 to BCAR–OPS 1.1010 Conversion and Differences training
[See IEM to Appendix 1 to BCAR–OPS 1.1010/1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/1.1010/1.1015/1.1020]

(a) *General.*

An operator shall ensure that:

(1) Conversion and differences training is conducted by suitably qualified persons; and

(2) During conversion and differences training, training is given on the location, removal and use of all safety and survival equipment carried on the aeroplane, as well as all normal and emergency procedures related to the aeroplane type, variant and configuration to be operated.

(b) *Fire and smoke training.*

An operator shall ensure that:

(1) Each cabin crew member is given realistic and practical training in the use of all fire fighting equipment including protective clothing representative of that carried in the aeroplane. This training must include:

(i) Each cabin crew member extinguishing a fire characteristic of an aeroplane interior fire except that, in the case of Halon extinguishers, an alternative extinguishing agent may be used; and

(ii) The donning and use of protective breathing equipment by each cabin crew member in an enclosed, simulated smoke-filled environment.

(c) *Operation of doors and exits.*

An operator shall ensure that

(1) Each cabin crew member operates and actually opens all normal and emergency exits in the normal and emergency modes, including failure of power assist systems where fitted. This is to include the action and forces required to operate and deploy evacuation slides This training shall be conducted in an aeroplane or representative training device; and

(2) The operation of all other exits, such as flight deck windows is demonstrated.

(d) *Evacuation slide training.* An operator shall ensure that:

(1) Each cabin crew member descends an evacuation slide from a height representative of the aeroplane main deck sill height;

(2) The slide is fitted to an aeroplane or a representative training device.

(3) A further descent is made when the cabin crew member qualifies on an aeroplane type in which the main deck exit sill height differs significantly from any aeroplane type previously operated.

(e) *Evacuation procedures and other emergency situations.* An operator shall ensure that:

(1) Emergency evacuation training includes the recognition of planned or unplanned evacuations on land or water. This training must include recognition of when exits are unusable or when evacuation equipment is unserviceable; and

(2) Each cabin crew member is trained to deal with the following:

(i) An in-flight fire, with particular emphasis on identifying the actual source of the fire;

(ii) Severe air turbulence;

(iii) Sudden decompression, including the donning of portable oxygen equipment by each cabin crew member; and

(iv) Other in-flight emergencies.

(f) *Crowd control.* An operator shall ensure that training is provided on the practical aspects of crowd control in various emergency situations, as applicable to the aeroplane type.

(g) *Pilot incapacitation.* An operator shall ensure that, unless the minimum flight crew is more than two, each cabin crew member is trained to assist if a pilot becomes incapacitated. This training shall include a demonstration of:

(1) The pilot's seat mechanism;
(2) Fastening and unfastening the pilot's seat harness;
(3) Use of the pilot's oxygen equipment; and
(4) Use of pilots' checklists.

(h) *Safety equipment.* An operator shall ensure that each cabin crew member is given realistic training on, and demonstration of, the location and use of safety equipment including the following:

(1) Slides, and where non self-supporting slides are carried, the use of any associated ropes;
(2) Life-rafts and slide-rafts, including the equipment attached to, and/or carried in, the raft;
(3) Lifejackets, infant lifejackets and flotation cots;
(4) Dropout oxygen system;
(5) First-aid oxygen;
(6) Fire extinguishers;
(7) Fire axe or crow-bar;

(8) Emergency lights including torches;
(9) Communications equipment, including megaphones;
(10) Survival packs, including their contents;
(11) Pyrotechnics (Actual or representative devices);
(12) First-aid kits, their contents and emergency medical equipment; and
(13) Other cabin safety equipment or systems where applicable.

(i) *Passenger Briefing/Safety Demonstrations.* An operator shall ensure that training is given in the preparation of passengers for normal and emergency situations in accordance with BCAR–OPS 1.285.

(j) When initial medical aspects and first aid training has not included the avoidance of infectious diseases, especially in tropical and sub-tropical climates, such training shall be provided if an operator's route network is extended or changed to include such areas.

(k) Crew resource management. An operator shall ensure that:

1. Each cabin crew member completes the operator's CRM training covering the training elements in Appendix 2 to OPS 1.1005/1.1010/1.1015 Table 1, Column (a) to the level required in Column (c) before undertaking subsequent aeroplane type specific CRM and/or recurrent CRM training.

2. When a cabin crew member undertakes a conversion course on another aeroplane type, the training elements in Appendix 2 to OPS 1.1005/1.1010/1.1015 Table 1, Column (a) shall be covered to the level required in Column (d), aeroplane type specific CRM.

3. The operator's CRM training and aeroplane type specific CRM shall be conducted by a least one cabin crew CRM instructor.

Appendix 1 to BCAR–OPS 1.1015 Recurrent training
[See AMC to Appendix 1 to BCAR–OPS 1.1005 and Appendix 1 to BCAR–OPS 1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1010/1.1015]
[See IEM to Appendix 1 to BCAR–OPS 1.1005/ 1.1015/1.1020] [See IEM to Appendix 1 to BCAR–OPS 1.1005/ 1.1010 / 1.1015 / 1.1020].

(a) An operator shall ensure that recurrent training is conducted by suitably qualified persons.

(b) An operator shall ensure that every 12 calendar months the program of practical training includes the following:

(1) Emergency procedures including pilot incapacitation;
(2) Evacuation procedures including crowd control techniques;
(3) Touch-drills by each cabin crew member for opening normal and emergency exits for passenger evacuation;
(4) The location and handling of emergency equipment, including oxygen systems, and the donning by each cabin crew member of lifejackets, portable oxygen and protective breathing equipment (PBE);
(5) First aid and the contents of the first aid kit(s);

(6) Stowage of articles in the cabin;
(7) Security procedures;
(8) Incident and accident review; and
(9) Awareness of the effects of surface contamination and the need to inform the flight crew of any observed surface contamination, and
(10) Crew Resource Management. An operator shall ensure that CRM training satisfies the following:

(i) the training elements in Appendix 2 to OPS 1.1005/1.1010/1/1.1015 Table 1, Column (a) shall be covered within a three year cycle to the level required by Column (e), Annual Recurrent CRM Training;
(ii) the definition and implementation of this syllabus shall be managed by a cabin crew CRM instructor;
(iii) when CRM training is provided by stand-alone modules, it shall be conducted by at least one cabin crew CRM instructor.

(c) An operator shall ensure that, at intervals not exceeding 3 years, recurrent training also includes:

(1) Each cabin crew member operating and actually opening each type or variant of normal and emergency exit in the normal and emergency modes, including failure of power assist systems where fitted. This is to include the action and forces required to operate and deploy evacuation slides. This training shall be conducted in an aeroplane or representative training device;

(2) Demonstration of the operation of all other exits including flight deck windows;

(3) Each cabin crew member being given realistic and practical training in the use of all fire-fighting equipment, including protective clothing, representative of that carried in the aeroplane. This training must include:

(i) Each cabin crew member extinguishing a fire characteristic of an aeroplane interior fire except that, in the case of Halon extinguishers, an alternative extinguishing agent may be used; and
(ii) The donning and use of protective breathing equipment by each cabin crew member in an enclosed, simulated smoke-filled environment.

(4) Use of pyrotechnics (Actual or representative devices); and

(5) Demonstration of the use of the life raft, or slide-raft, where fitted.

(6) An operator shall ensure that, unless the minimum flight crew is more than two, each cabin crew member is trained in the procedure for flight crew member incapacitation and shall operate the seat and harness mechanisms. Training in the use of flight crew members' oxygen system and use of the flight crew members' check lists, where required by the operator's SOPs, shall be conducted by a practical demonstration

(d) An operator shall ensure that all appropriate BCAR–OPS requirements are included in the training of cabin crew members.

Appendix 1 to BCAR–OPS 1.1020 Refresher training
See IEM to Appendix 1 to BCAR–OPS 1.1005/1.1010/ 1.1015/ 1.1020 – Training Methods

(a) An operator shall ensure that refresher training is conducted by suitable qualified persons and, for each cabin crew member, includes at least the following:

(1) Emergency procedures including pilot incapacitation;
(2) Evacuation procedures including crowd control techniques;
(3) The operation and actual opening of each type or variant of normal and emergency exit in the normal and emergency modes, including failure of power assist systems where fitted. This is to include the action and forces required to operate and deploy evacuation slides. This training shall be conducted in an aeroplane or representative training device;
(4) Demonstration of the operation of all other exits including flight deck windows; and
(5) The location and handling of emergency equipment, including oxygen systems, and the donning of lifejackets, portable oxygen and protective breathing equipment.

Appendix 1 to BCAR–OPS *1.1005/1.1010/1.1015* Training

1. The CRM training syllabi, together with CRM methodology and terminology, shall be included in the Operations Manual.

2. Table 1 indicates which elements of CRM shall be included in each type of training.

Table 1
CRM training:

Training elements (a)	Introductory CRM course (b)	Operator's CRM training (c)	Aeroplane type specific CRM (d)	Annual recurrent CRM training (e)	Senior cabin crew course (f)
General Principles					
Human factors in aviation General instructions on CRM principles and objectives	In depth	Not required	Not required	Not required	Overview
Human performance and limitations					
From the perspective of the individual cabin crew member					
Personality awareness, human error and reliability, attitudes and behaviours, self-assessment	In depth	Not required	Not required	Overview (three year cycle)	Not required
Stress and stress management					
Assertiveness					
Situation awareness, information acquisition and processing					

From the perspective of the whole aeroplane crew					
Error prevention and detection	Not required	In-depth	Relevant to the type (s)	Overview (three year cycle)	Reinforcement (relevant to the Senior cabin crew duties)
Workload management					
Effective communication and coordination between all crew members including the flight crew as well as inexperienced cabin crew members, cultural differences					
Leadership, cooperation, synergy, decision-making, delegation					
Individual and team responsibilities, decision making, and actions					

Training elements (a)	Introductory CRM course (b)	Operator's CRM training (c)	Aeroplane type specific CRM (d)	Annual recurrent CRM training (e)	Senior cabin crew course (f)
Identification and management of the passenger human factors: crowd control, passenger stress, conflict management, medical factors	Not required	In-depth			
From the perspective of the operator and the organisation					
Company safety culture, SOPs, organizational factors, factors linked to the type of operations	Not required	In-depth	Relevant to the type (s)	Overview (three year cycle)	Reinforcement (relevant to the Senior cabin crew duties)
Effective communication and coordination with other operational personnel and ground services					
Participation in cabin safety incident and accident reporting					
Case based studies (see note)		Required		Required	
***Note**:* In Column (d), if relevant aeroplane type specific case based studies are not available, then case based studies relevant to the scale and scope of the operation shall be considered.					

***Appendix 3 to OPS 1.1005/1.1010/1.1015 Medical* aspects and first aid training**

(a) Medical aspects and first aid training shall include the following subjects:

1. Physiology of flight including oxygen requirements and hypoxia;

2. Medical emergencies in aviation including:

(i) asthma;
(ii) choking;
(iii) heart attacks;
(iv) stress reactions and allergic reactions;
(v) shock;
(vi) stroke;
(vii) epilepsy;
(viii) diabetes;
(ix) air sickness;
(x) hyperventilation;
(xi) gastro-intestinal disturbances; and
(xii) emergency childbirth;

3. Practical cardio-pulmonary resuscitation by each cabin crew member having regard to the aeroplane environment and using a specifically designed dummy;

4. Basic first aid and survival training including care of:

(i) the unconscious;
(ii) burns;
(iii) wounds; and
(iv) fractures and soft tissue injuries;

5. Travel health and hygiene including:

(i) the risk of contact with infectious diseases especially when operating into tropical and sub-tropical areas. Reporting of infectious diseases, protection from infection and avoidance of water-borne and food-borne illness. Training shall include the means to reduce such risks;
(ii) hygiene on board;
(iii) death on board;
(iv) handling of clinical waste;
(v) aircraft disinfection; and
(vi) alertness management, physiological effects of fatigue, sleep physiology, circadian rhythm and time zone changes;

6. The use of appropriate aeroplane equipment including first aid kits, emergency medical kits, first aid oxygen and emergency medical equipment.

SUBPART P - HANDBOOKS, LOGBOOKS AND RECORDS

BCAR–OPS 1.1040 General Rules for Operations Manuals

(a) An operator shall ensure that the Operations Manual contains all instructions and information necessary for operations personnel to perform their duties.

(b) An operator shall ensure that the contents of the Operations Manual, including all amendments or revisions, do not contravene the conditions contained in the Air Operator Certificate (AOC) or any applicable regulations and are acceptable to, or, where applicable, approved by, the BDCA. [See IEM OPS 1.1040(b)]

(c) Unless otherwise approved by the BDCA, or prescribed by national law, an operator must prepare the Operations Manual in the English language. In addition, an operator may translate and use that manual, or parts thereof, into another language. [See IEM OPS 1.1040(c)]

(d) Should it become necessary for an operator to produce new Operations Manuals or major parts/volumes thereof, he must comply with subparagraph (c) above.

(e) An operator may issue an Operations Manual in separate volumes.

(f) An operator shall ensure that all operations personnel have easy access to a copy of each part of the Operations Manual which is relevant to their duties. In addition, the operator shall supply crew members with a personal copy of, or sections from, Parts A and B of the Operations Manual as are relevant for personal study.

(g) An operator shall ensure that the Operations Manual is amended or revised so that the instructions and information contained therein are kept up to date. The operator shall ensure that all operations personnel are made aware of such changes that are relevant to their duties.

(h) Each holder of an Operations Manual, or appropriate parts of it, shall keep it up to date with the amendments or revisions supplied by the operator.

(i) An operator shall supply the BDCA with intended amendments and revisions in advance of the effective date. When the amendment concerns any part of the Operations Manual which must be approved in accordance with BCAR–OPS, this approval shall be obtained before the amendment becomes effective. When immediate amendments or revisions are required in the interest of safety, they may be published and applied immediately, provided that any approval required has been applied for.

(j) An operator shall incorporate all amendments and revisions required by the BDCA.

(k) An operator must ensure that information taken from approved documents, and any amendment of such approved documentation is correctly reflected in the Operations Manual and it will contain no information contrary to any approved documentation. However, this requirement does not prevent an operator from using more conservative data and procedures.

(l) An operator must ensure that the contents of the Operations Manual are presented in a form in which they can be used without difficulty. The design of the Operations Manual shall observe human factors principles.

(m) An operator may be permitted by the BDCA to present the Operations Manual or parts thereof in a form other than on printed paper. In such cases, an acceptable level of accessibility, usability and reliability must be assured.

(n) The use of an abridged form of the Operations Manual does not exempt the operator from the requirements of BCAR–OPS 1.130.

BCAR–OPS 1.1045 Operations Manual – structure and contents
(See Appendix 1 to BCAR–OPS 1.1045)
(See AMC OPS 1.1045)

(a) An operator shall ensure that the main structure of the Operations Manual is as follows:

Part A. *General/Basic*

This part shall comprise all non type-related operational policies, instructions and procedures needed for a safe operation.

Part B. *Airplane Operating Matters*

This part shall comprise all type-related instructions and procedures needed for a safe operation. It shall take account of any differences between types, variants or individual airplanes used by the operator.

Part C. *Route and Aerodrome Instructions and Information*

This part shall comprise all instructions and information needed for the area of operation.

Part D. *Training*

This part shall comprise all training instructions for personnel required for a safe operation.

(b) An operator shall ensure that the contents of the Operations Manual are in accordance with Appendix 1 to BCAR–OPS 1.1045 and relevant to the area and type of operation.

(c) An operator shall ensure that the detailed structure of the Operations Manual is acceptable to the BDCA. [See IEM OPS 1.1045(c)]

BCAR–OPS 1.1050 Airplane Flight Manual

The operator shall provide operations staff and flight crew with an aircraft operating manual, for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include details of the aircraft systems and of the checklists to be used. The design of the manual shall observe Human Factors principles. The flight manual shall be updated by implementing changes made mandatory by the State of Registry..

BCAR–OPS 1.1055 Journey log

(a) An operator shall retain the following information for each flight in the form of a Journey Log:

(1) Airplane registration;
(2) Date;
(3) Name(s) of crew member(s);
(4) Duty assignment of crew member(s);
(5) Place of departure;
(6) Place of arrival;
(7) Time of departure (off-block time);
(8) Time of arrival (on-block time);
(9) Flight time;
(10) Type of flight;
(11) Incidents, observations (if any); and
(12) Pilot in command's signature (or equivalent). [See IEM OPS 1.1055 (a)(12)]

(b) An operator may be permitted not to keep an airplane journey log, or parts thereof, by the BDCA if the relevant information is available in other documentation. [See IEM OPS 1.1055(b)]

(c) An operator shall ensure that all entries are made concurrently and that they are permanent in nature.

(d) An operator shall preserve the completed journey log, to provide a continuous registration of the operations conducted for the last six months.

BCAR–OPS 1.1060 Operational flight plan

(a) An operator must ensure that the operational flight plan used and the entries made during flight contain the following items:

(1) Airplane registration;

(2) Airplane type and variant;

(3) Date of flight;

(4) Flight identification;

(5) Names of flight crew members;

(6) Duty assignment of flight crew members;

(7) Place of departure;

(8) Time of departure (actual off-block time, take-off time);

(9) Place of arrival (planned and actual);

(10) Time of arrival (actual landing and on-block time);

(11) Type of operation (ETOPS, VFR, Ferry flight, etc.);

(12) Route and route segments with checkpoints/waypoints, distances, time and tracks;

(13) Planned cruising speed and flying times between check-points/waypoints. Estimated and actual times overhead;

(14) Safe altitudes and minimum levels;

(15) Planned altitudes and flight levels;

(16) Fuel calculations (records of in-flight fuel checks);

(17) Fuel on board when starting engines;

(18) Alternate(s) for destination and, where applicable, take-off and en-route, including information required in sub-paragraphs (12), (13), (14), and (15) above;

(19) Initial ATS Flight Plan clearance and subsequent re-clearance;

(20) In-flight re-planning calculations; and

(21) Relevant meteorological information.

(22) Signature of the pilot in command and the dispatcher

(b) Items which are readily available in other documentation or from another acceptable source or are irrelevant to the type of operation may be omitted from the operational flight plan.

(c) An operator must ensure that the operational flight plan and its use are described in the Operations Manual.

(d) An operator shall ensure that all entries on the operational flight plan are made concurrently and that they are permanent in nature.

(e) An operator shall ensure that the copy of the operational flight plan be kept at the originating station for the period required by BCAR-OPS 1.1065.

(f) Any In Flight Operational instructions involving a change in the ATS flight plan shall, when practicable, be coordinated with the appropriate ATS unit before transmission to the aeroplane.

BCAR–OPS 1.1065 Document storage periods

An operator shall ensure that all records and all relevant operational and technical information for each individual flight, are stored for the periods prescribed in Appendix 1 to BCAR–OPS 1.1065.

BCAR–OPS 1.1070 Operator's Maintenance Control Manual (MCM)

The operator shall maintain a Maintenance Control Manual (MCM) current and approved of maintenance procedures as it is indicated in BCAR-OPS 1.905, unless the BDAC approves otherwise, or be prescribed by the national regulations, the operator shall prepare the Maintenance Control Manual in English language. Furthermore, the operator shall be able to translate and to use the manual, or parts of such in another language.

BCAR–OPS 1.1071 Airplane Technical Log

An operator shall keep an airplane technical log as prescribed in BCAR–OPS 1.915.

BCAR–OPS 1.1073 Records of emergency and survival equipment carried

Operators shall at all times have available for immediate communication to rescue coordination centers, lists containing information on the emergency and survival equipment carried on board any of their aeroplanes engaged in international air navigation. The information shall include, as applicable, the number, color and type of life rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

BCAR–OPS 1.1075 Flight recorder records

An operator shall ensure, to the extent possible, in the event the aeroplane becomes involved in an accident or incident, the preservation of all related flight recorder records and, if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with Annex 13.

Appendix 1 to BCAR–OPS 1.1045
Operations Manual Contents
(See IEM to Appendix 1 to BCAR–OPS 1.1045)

An operator shall ensure that the Operations Manual contains the following:

A. GENERAL/BASIC

0. ADMINISTRATION AND CONTROL OF OPERATIONS MANUAL

0.1 *Introduction*

(a) A statement that the manual complies with all applicable regulations and with the terms and conditions of the applicable Air Operator Certificate (AOC).

(b) A statement that the manual contains operational instructions which are to be complied with by the relevant personnel.

(c) A list and brief description of the various parts, their contents, applicability and use.

(d) Explanations and definitions of terms and words needed for the use of the manual.

0.2 *System of amendment and revision*

(a) Details of the person(s) responsible for the issuance and insertion of amendments and revisions.

(b) A record of amendments and revisions with insertion dates and effective dates.

(c) A statement that handwritten amendments and revisions are not permitted except in situations requiring immediate amendment or revision in the interest of safety.

(d) A description of the system for the annotation of pages and their effective dates.

(e) A list of effective pages.

(f) Annotation of changes (on text pages and, as far as practicable, on charts and diagrams).

(g) Temporary revisions.

(h) A description of the distribution system for the manuals, amendments and revisions.

1. ORGANISATION AND RESPONSIBILITIES

1.1 *Organizational structure.* A description of the organizational structure including the company and the operations department organigram. The organigram must depict the relationship between the Operations Department and the other Departments of the company. In particular, the subordination and reporting lines of all Divisions, Departments etc, which pertain to the safety of flight operations, must be shown.

1.2 *Nominated post holders.* The name of each nominated post holder responsible for flight operations, the maintenance system, crew training and ground operations, as prescribed in BCAR–OPS 1.175(i). A description of their function and responsibilities must be included.

1.3 *Responsibilities and duties of operations management personnel.* A description of the duties, responsibilities and authority of operations management personnel pertaining to the safety of flight operations and the compliance with the applicable regulations.

1.4 *Authority, duties and responsibilities of the pilot in command.* A statement defining the authority, duties and responsibilities of the pilot in command.

1.5. *Duties and responsibilities of crew members other than the pilot in command.*

2. OPERATIONAL CONTROL AND SUPERVISION

2.1 *Supervision of the operation by the operator.* A description of the system for supervision of the operation by the operator (See BCAR–OPS 1.175(g)). This must show how the safety of flight operations and the qualifications of personnel are supervised. In particular, the procedures related to the following items must be described:

(a) License and qualification validity;

(b) Competence of operations personnel; and

(c) Control, analysis and storage of records, flight documents, additional information and data.

2.2 *System of promulgation of additional operational instructions and information.* A description of any system for promulgating information which may be of an operational nature but is supplementary to that in the Operations Manual. The applicability of this information and the responsibilities for its promulgation must be included.

2.3 *Accident prevention and flight safety program.* A description of the main aspects of the flight safety program.

The operator shall establish a flight safety document system for the use and guidance of the operations personnel (See Appendix 2 to BCAR-OPS 1.1045)

2.4 *Operational control.* A description of the procedures and responsibilities necessary to exercise operational control with respect to flight safety.

2.5 *Powers of the Belize Department of Civil Aviation (BDCA).* A description of the powers of the BDCA and guidance to the staff on how to facilitate inspections by the Belize Department of Civil Aviation.

3. QUALITY SYSTEM

A description of the quality system adopted including at least:

(a) Quality policy;

(b) A description of the organization of the Quality System; and

(c) Allocation of duties and responsibilities.

4. CREW COMPOSITION

4.1 *Crew Composition.* An explanation of the method for determining crew compositions taking account of the following:

(a) The type of airplane being used;

(b) The area and type of operation being undertaken;

(c) The phase of the flight;

(d) The minimum crew requirement and flight duty period planned;

(e) Experience (total and on type), recency and qualification of the crew members; and

(f) The designation of the pilot in command and, if necessitated by the duration of the flight, the procedures for the relief of the pilot in command or other members of the flight crew. (See Appendix 1 to BCAR–OPS 1.940.)

(g) The designation of the senior cabin crew member and, if necessitated by the duration of the flight, the procedures for the relief of the senior cabin crew member and any other member of the cabin crew.

(h) An operator shall ensure that the flight crewmembers demonstrate the ability to speak and understand the language used for aeronautical communications in accordance to the Annex 1.

4.2 *Designation of the pilot in command. Applicable* rules to the designation of the pilot in command.

4.3 *Flight crew incapacitation.* Instructions on the succession of command in the event of flight crew incapacitation.

4.4 *Operation on more than one type.* A statement indicating which airplanes are considered as one type for the purpose of:

(a) Flight crew scheduling; and

(b) Cabin crew scheduling.

5. QUALIFICATION REQUIREMENTS

5.1 A description of the required license, rating(s), qualification/competency (e.g. for routes and aerodromes), experience, training, checking and recency for operations personnel to conduct their duties. Consideration must be given to the airplane type, kind of operation and composition of the crew.

5.2 *Flight crew*

(a) Pilot in Command.

(b) Pilot relieving the pilot in command.

(c) Co-pilot.

(d) Pilot under supervision.

(e) System panel operator.

(f) Operation on more than one type or variant.

5.3 *Cabin crew.*

(a) Senior cabin crew member.

(b) Cabin crew member.

(i) Required cabin crew member.

(ii) Cabin crewmember and additional cabin crewmember during familiarization flights.

(c) Operation on more than one type or variant.

5.4 *Training, checking and supervision personnel.*

(a) For flight crew.
(b) For cabin crew.

5.5 *Other operations personnel*

6. CREW HEALTH PRECAUTIONS

6.1 *Crew health precautions.* The relevant regulations and guidance to crew members concerning health including:

(a) Alcohol and other intoxicating liquor;

(b) Narcotics;

(c) Drugs;

(d) Sleeping tablets;

(e) Pharmaceutical preparations;

(f) Immunizations;

(g) Deep diving;

(h) Blood donation;

(i) Meal precautions prior to and during flight;

(j) Sleep and rest; and

(k) Surgical operations.

7. FLIGHT TIME LIMITATIONS

7.1 *Flight and Duty Time Limitations and Rest Requirements.* The scheme developed by the operator in accordance with Subpart Q.

7.2 *Exceedances of flight and duty time limitations and/or reductions of rest period.*
Conditions under which flight and duty time may be exceeded or rest periods may be reduced and the procedures used to report these modifications.

8. OPERATING PROCEDURES

8.1 *Flight Preparation Instructions.* As applicable to the operation:

8.1.1 *Minimum Flight Altitudes.* A description of the method of determination and application of minimum altitudes including:

(a) A procedure to establish the minimum altitudes/flight levels for VFR flights; and

(b) A procedure to establish the minimum altitudes/flight levels for IFR flights.

8.1.2 *Criteria for determining the usability of aerodromes*

8.1.3 *Methods for establishing aerodrome operating minima*. The method for establishing aerodrome operating minima for IFR flights in accordance with BCAR–OPS 1 Subpart E. Reference must be made to procedures for the determination of the visibility and/or runway visual range and for the applicability of the actual visibility observed by the pilots, the reported visibility and the reported runway visual range.

8.1.4 En-route Operating Minima for VFR Flights or VFR portions of a flight and, where single engine airplanes are used, instructions for route selection with respect to the availability of surfaces which permit a safe forced landing.

8.1.5 *Presentation and Application of Aerodrome and En-route Operating Minima*

8.1.6 *Interpretation of meteorological information.* Explanatory material on the decoding of MET forecasts and MET reports relevant to the area of operations, including the interpretation of conditional expressions.

8.1.7 *Determination of the quantities of fuel, oil and water methanol carried.* The methods by which the quantities of fuel, oil and water methanol to be carried are determined and monitored in flight. This section must also include instructions on the measurement and distribution of the fluid carried on board. Such instructions must take account of all circumstances likely to be encountered on the flight, including the possibility of in-flight replanning and of failure of one or more of the airplane's power plants. The system for maintaining fuel and oil records must also be described.

8.1.8 *Weight and Centre of Gravity.* The general principles of weight and centre of gravity including:

(a) Definitions;

(b) Methods, procedures and responsibilities for preparation and acceptance of weight and centre of gravity calculations;

(c) The policy for using standard and/or actual weights;

(d) The method for determining the applicable passenger, baggage and cargo weight;

(e) The applicable passenger and baggage weights for various types of operations and airplane type;

(f) General instruction and information necessary for verification of the various types of weight and balance documentation in use;

(g) Last Minute Changes procedures;

(h) Specific gravity of fuel, oil and water methanol; and

(i) Seating policy/procedures.

8.1.9 *ATS Flight Plan.* Procedures and responsibilities for the preparation and submission of the air traffic services flight plan. Factors to be considered include the means of submission for both individual and repetitive flight plans.

8.1.10 *Operational Flight Plan.* Procedures and responsibilities for the preparation and acceptance of the operational flight plan. The use of the operational flight plan must be described including samples of the operational flight plan formats in use.

8.1.11 *Operator's Airplane Technical Log.* The responsibilities and the use of the operator's Airplane Technical Log must be described, including samples of the format used.

8.1.12 *List of documents, forms and additional information to be carried.*

8.2 *Ground Handling Instructions*

8.2.1 *Fuelling procedures.* A description of fuelling procedures, including:

(a) Safety precautions during refuelling and defueling including when an APU is in operation or when a turbine engine is running and the prop-brakes are on;

(b) Refuelling and defueling when passengers are embarking, on board or disembarking; and

(c) Precautions to be taken to avoid mixing fuels.

8.2.2 *Airplane, passengers and cargo handling procedures related to safety.* A description of the handling procedures to be used when allocating seats and embarking and disembarking passengers and when loading and unloading the airplane. Further procedures, aimed at achieving safety while the airplane is on the ramp, must also be given. Handling procedures must include:

(a) Children/infants, sick passengers and Persons with Reduced Mobility;

(b) Transportation of inadmissible passengers, deportees or persons in custody;

(c) Permissible size and weight of hand baggage;

(d) Loading and securing of items in the airplane;

(e) Special loads and classification of load compartments;

(f) Positioning of ground equipment;

(g) Operation of airplane doors;

(h) Safety on the ramp, including fire prevention, blast and suction areas;

(i) Start-up, ramp departure and arrival procedures;

(j) Servicing of airplanes;

(k) Documents and forms for airplane handling; and

(l) Multiple occupancy of airplane seats.

8.2.3 *Procedures for the refusal of embarkation.* Procedures to ensure that persons who appear to be intoxicated or who demonstrate by manner or physical indications that they are under the influence of drugs, are refused embarkation. This does not apply to medical patients under proper care.

8.2.4 *De-icing and Anti-icing on the ground.* A description of the de-icing and anti-icing policy and procedures for airplanes on the ground. These shall include descriptions of the types and effects of icing and other contaminants on airplanes while stationary, during ground movements and during take-off. In addition, a description of the fluid types used must be given including:

(a) Proprietary or commercial names;

(b) Characteristics;

(c) Effects on airplane performance;

(d) Hold-over times; and

(e) Precautions during usage.

8.3 *Flight Procedures*

8.3.1 *VFR/IFR Policy.* A description of the policy for allowing flights to be made under VFR, or of requiring flights to be made under IFR, or of changing from one to the other.

8.3.2 *Navigation Procedures.* A description of all navigation procedures relevant to the type(s) and area(s) of operation. Consideration must be given to:

(a) Standard navigational procedures including policy for carrying out independent cross-checks of keyboard entries where these affect the flight path to be followed by the airplane;
(b) A list of equipment that must be on board including any requirement in relation to the operations in the RNP airspace;

(c) MNPS and POLAR navigation and navigation in other designated areas;

(d) RNAV;

(e) In-flight replanning;

(f) Procedures in the event of system degradation; and

(g) RVSM.

8.3.3 *Altimeter setting procedures*

— metric altimetry and conversion tables,
And

— QFE operating procedures

8.3.4 *Altitude alerting system procedures*

8.3.5 Ground proximity warning system/terrain avoidance warning system.
Procedures and instructions required for the avoidance of controlled flight into terrain, including limitations on high rate of descent near the surface (the related training requirements are covered in D.2.1)

8.3.6 Criteria, instructions, procedures and training requirements to avoid collisions and the use of on board Anticollision System (TCAS/ACAS).

8.3.7 *Policy and procedures for in-flight fuel management*

8.3.8 *Adverse and potentially hazardous atmospheric conditions.* Procedures for operating in, and/or avoiding, adverse and potentially hazardous atmospheric conditions including:

(a) Thunderstorms;

(b) Icing conditions;

(c) Turbulence;

(d) Windshear;

(e) Jetstream;

(f) Volcanic ash clouds;

(g) Heavy precipitation;

(h) Sand storms;

(i) Mountain waves; an

(j) Significant Temperature inversions.

8.3.9 *Wake Turbulence.* Wake turbulence separation criteria, taking into account airplane types, wind conditions and runway location.

8.3.10 *Crew members at their stations.* The requirements for crew members to occupy their assigned stations or seats during the different phases of flight or whenever deemed necessary in the interest of safety and also include procedures for controlled rest on the flight deck.

8.3.11 *Use of safety belts for crew and passengers.* The requirements for crew members and passengers to use safety belts and/or harnesses during the different phases of flight or whenever deemed necessary in the interest of safety.

8.3.12 *Admission to Flight Deck.* The conditions for the admission to the flight deck of persons other than the flight crew. The policy regarding the admission of Inspectors from the BDCA must also be included.

8.3.13 *Use of vacant crew seats.* The conditions and procedures for the use of vacant crew seats.

8.3.14 *Incapacitation of crew members.* Procedures to be followed in the event of incapacitation of crew members in flight. Examples of the types of incapacitation and the means for recognizing them must be included.

8.3.15 *Cabin Safety Requirements.* Procedures covering:

(a) Cabin preparation for flight, in-flight requirements and preparation for landing including procedures for securing the cabin and galleys;

(b) Procedures to ensure that passengers are seated where, in the event that an emergency evacuation is required, they may best assist and not hinder evacuation from the airplane;

(c) Procedures to be followed during passenger embarkation and disembarkation; and

(d) Procedures when refuelling/defueling with passengers embarking, on board or disembarking.

(e) Smoking on board.

8.3.16 *Passenger briefing procedures.* The contents, means and timing of passenger briefing in accordance with BCAR–OPS 1.285.

8.3.17 *Procedures for airplanes operated whenever required cosmic or solar radiation detection equipment is carried.* Procedures for the use of cosmic or solar radiation detection equipment and for recording its readings including actions to be taken in the event that limit values specified in the Operations Manual are exceeded. In addition, the procedures, including ATS procedures, to be followed in the event that a decision to descend or re-route is taken.

8.3.18. Policy on the use of autopilot and auto throttle.

8.4 *All Weather Operation.* A description of the operational procedures associated with All Weather Operations. (See also BCAR-OPS Subparts D & E).

8.5 *ETOPS.* A description of the ETOPS operational procedures.

8.6 *Use of the Minimum Equipment and Configuration Deviation List(s)*

8.7 *Non revenue flights.* Procedures and limitations for:

(a) Training flights;

(b) Test flights;

(c) Delivery flights;

(d) Ferry flights;

(e) Demonstration flights; and

(f) Positioning flights, including the kind of persons who may be carried on such flights.

8.8 *Oxygen Requirements*

8.8.1 An explanation of the conditions under which oxygen must be provided and used.

8.8.2 The oxygen requirements specified for:

(a) Flight crew;

(b) Cabin crew; and

(c) Passengers.

9. DANGEROUS GOODS AND WEAPONS

9.1 Information, instructions and general guidance on the transport of dangerous goods including:

(a) Operator's policy on the transport of dangerous goods;
(b) Guidance on the requirements for acceptance, labelling, handling, stowage and segregation of dangerous goods;

(c) Procedures for responding to emergency situations involving dangerous goods;

(d) Duties of all personnel involved as per BCAR–OPS 1.1215; and

(e) Instructions on the carriage of the operator's employees.

9.2 The conditions under which weapons, munitions of war and sporting weapons may be carried.

10. SECURITY

10.1 Security instructions and guidance of a non-confidential nature which must include the authority and responsibilities of operations personnel. Policies and procedures for handling and reporting crime on board such as unlawful interference, sabotage, bomb threats, and hijacking must also be included.

10.2 A description of preventative security measures and training.

10.3 A checklist of the procedures to be followed in accordance to the BCAR-OPS 1.1250.

Note: Parts of the security instructions and guidance shall be kept confidential.

11. HANDLING, NOTIFYING AND REPORTING OCCURRENCES

Procedures for the handling, notifying and reporting occurrences. This section must include:

(a) Definition of occurrences and of the relevant responsibilities of all persons involved;

(b) Illustrations of forms used for reporting all types of occurrences (or copies of the forms themselves), instructions on how they are to be completed, the addresses to which they should be sent and the time allowed for this to be done;

(c) In the event of an accident, descriptions of which company departments, Authorities and other organizations that have to be notified, how this will be done and in what sequence;

(d) Procedures for verbal notification to air traffic service units of incidents involving Resolution Advisories ACAS, bird hazards, dangerous goods and hazardous conditions;

(e) Procedures for submitting written reports on air traffic incidents, resolution advisories ACAS, bird strikes, dangerous goods incidents or accidents, and unlawful interference;

(f) Reporting procedures to ensure compliance with BCAR-OPS 1.085(b) and 1.420. These procedures must include internal safety related reporting procedures to be followed by crew members, designed to ensure that the pilot in command is informed immediately of any incident that has endangered, or may have endangered, safety during flight and that he is provided with all relevant information.

12. RULES OF THE AIR

Rules of the Air including:

(a) Visual and instrument flight rules;

(b) Territorial application of the Rules of the Air;

(c) Communication procedures including COM-failure procedures;

(d) Information and instructions relating to the interception of civil airplanes;

(e) The circumstances in which a radio listening watch is to be maintained

(f) Signals;

(g) Time system used in operation;

(h) ATC clearances, adherence to flight plan and position reports;

(i) Visual signals used to warn an unauthorized airplane flying in or about to enter a restricted, prohibited or danger area;

(j) Procedures for pilots observing an accident or receiving a distress transmission;

(k) The ground/air visual codes for use by survivors, description and use of signal aids; and

(l) Distress and urgency signals.

13. LEASING

A description of the operational arrangements for leasing associated procedures and management responsibilities.

B AIRPLANE OPERATING MATTERS – TYPE RELATED

Taking account of the differences between types, and variants of types, under the following headings:

0. GENERAL INFORMATION AND UNITS OF MEASUREMENT

0.1 General Information (e.g. airplane dimensions), including a description of the units of measurement used for the operation of the airplane type concerned and conversion tables.

1. LIMITATIONS

1.1 A description of the certified limitations and the applicable operational limitations including:

(a) Certification Status

(b) Passenger seating configuration for each airplane type including a pictorial presentation;

(c) Types of operation that are approved; (e.g. VFR/IFR, CAT II/III, RNP Type, flight in known icing conditions, etc.);

(d) Crew composition;

(e) Weight and centre of gravity;

(f) Speed limitations;

(g) Flight envelope(s);

(h) Wind limits including operations on contaminated runways;

(i) Performance limitations for applicable configurations;

(j) Runway slope;

(k) Limitations on wet or contaminated runways;

(l) Airframe contamination; and

(m) Systems limitations

2. NORMAL PROCEDURES

2.1 The normal procedures and duties assigned to the crew, the appropriate check-lists, the system for use of the check-lists and a statement covering the necessary coordination procedures between flight and cabin crew. The following normal procedures and duties must be included:

(a) Pre-flight;

(b) Pre-departure;

(c) Altimeter setting and checking;

(d) Taxi, Take-Off and Climb;
(e) Noise abatement;

(f) Cruise and descent;

(g) Approach, Landing preparation and briefing;

(h) VFR Approach;

(i)Instrument approach;

(j)Visual Approach and circling;

(k) Missed Approach;

(l)Normal Landing;

(m) Post Landing; and

(n) Operation on wet and contaminated runways.

3. ABNORMAL AND EMERGENCY PROCEDURES

3.1 The abnormal and emergency procedures and duties assigned to the crew, the appropriate check-lists, the system for use of the check-lists and a statement covering the necessary co-ordination procedures between flight and cabin crew. The following abnormal and emergency procedures and duties must be included:

(a) Crew Incapacitation;

(b) Fire and Smoke Drills;

(c) Unpressurised and partially pressurized flight;

(d) Exceeding structural limits such as overweight landing;

(e) Exceeding cosmic radiation limits;

(f) Lightning Strikes;

(g) Distress Communications and alerting ATC to Emergencies;

(h) Engine failure;

(i)System failures;

(j)Guidance for Diversion in case of Serious Technical Failure;
(k) Ground Proximity Warning;

(l) TCAS Warning;

(m) Windshear; and

(n) Emergency Landing/Ditching.

(o) Departure contingency procedures

4. PERFORMANCE

4.0 Performance data must be provided in a form in which it can be used without difficulty.

4.1 *Performance data.* Performance material which provides the necessary data for compliance with the performance requirements prescribed in BCAR–OPS 1 Subparts F, G, H and I must be included to allow the determination of:

(a) Take-off climb limits – Weight, Altitude, Temperature;

(b) Take-off field length (dry, wet, contaminated);

(c) Net flight path data for obstacle clearance calculation or, where applicable, take-off flight path;

(d) The gradient losses for banked climbout;

(e) En-route climb limits;

(f) Approach climb limits;

(g) Landing climb limits;

(h) Landing field length (dry, wet, contaminated) including the effects of an in-flight failure of a system or device, if it affects the landing distance;

(i) Brake energy limits; and

(j) Speeds applicable for the various flight stages (also considering wet or contaminated runways).

4.1.1. *Supplementary data covering flights in icing conditions.* Any certificated performance related to an allowable configuration, or configuration deviation, such as anti-skid inoperative, must be included.

4.1.2. If performance Data, as required for the appropriate performance class, is not available in the approved AFM, then other data acceptable to the BDCA must be included. Alternatively, the Operations Manual may contain cross-reference to the approved Data contained in the AFM where such Data is not likely to be used often or in an emergency.

4.2 *Additional Performance Data.* Additional performance data where applicable including:

(a) All engine climb gradients;

(b) Drift-down data;

(c) Effect of de-icing/anti-icing fluids;

(d) Flight with landing gear down;

(e) For airplanes with 3 or more engines, one engine inoperative ferry flights; and

(f) Flights conducted under the provisions of the CDL.

5. FLIGHT PLANNING

5.1 Data and instructions necessary for preflight and in-flight planning including factors such as speed schedules and power settings. Where applicable, procedures for engine(s)-out operations,

ETOPS (particularly the one-engine-inoperative cruise speed and maximum distance to an adequate aerodrome determined in accordance with BCAR-OPS 1.245) and flights to isolated aerodromes must be included.

5.2 The method for calculating fuel needed for the various stages of flight, in accordance with BCAR– OPS 1.255.

5.3 Performance Data for ETOPS Critical Fuel Reserve and Area of
Operation including sufficient data to support the critical fuel reserve and area of operation calculation based on Approved Aeroplane Performance Data. The following data is required:

(a) Detailed engine(s) inoperative performance data including fuel flow for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:

(i) drift down (includes net performance) see OPS 1.505 where
applicable;

(ii) cruise altitude coverage including 10 000 feet;

(iii) holding;

(iv) altitude capability (includes net performance); and

(v) missed approach.

(b) Detailed all-engine-operating performance data, including nominal fuel flow data, for standard and non-standard atmospheric conditions and as a function of airspeed and power setting, where appropriate, covering:

(i) cruise (altitude coverage including 10 000 feet); and

(ii) holding.

(c) Details of any other conditions relevant to ETOPS operations which can cause significant deterioration of performance, such as ice accumulation on the unprotected surfaces of the aeroplane, ram air turbine (RAT) deployment, thrust-reverser deployment, etc.

The altitudes, airspeeds, thrust settings, and fuel flow used in establishing the ETOPS area of operations for each airframe-engine combination must be used in showing the corresponding terrain and obstruction clearances in accordance with this regulation.

6. WEIGHT AND BALANCE

Instructions and data for the calculation of the weight and balance including:

(a) Calculation system or index system;

(b) Information and instructions for completion of weight and balance documentation, including manual and computer generated types;

(c) Limiting weights and centre of gravity for the types, variants or individual airplanes used by the operator; and

(d) Dry Operating weight and corresponding centre of gravity or index.

7. LOADING

Procedures and provisions for loading and securing the load in the airplane.

8. CONFIGURATION DEVIATION LIST

The Configuration Deviation List(s) (CDL), if provided by the manufacturer, taking account of the airplane types and variants operated including procedures to be followed when an airplane is being dispatched under the terms of its CDL.

9. MINIMUM EQUIPMENT LIST

9.1 The Minimum Equipment List (MEL) taking account of the airplane types and variants operated and the type(s)/area(s) of operation. The MEL must include the navigational equipment and take into account the required navigation performance for the route and area of operation.

9.2 The Minimum Equipment List and the Configuration Deviation List regarding the corresponding configuration to the types of airplanes operated, and the concrete authorized operations, including any related requirement to operations in RNP airspace.

10. SURVIVAL AND EMERGENCY EQUIPMENT INCLUDING OXYGEN

10.1 A list of the survival equipment to be carried for the routes to be flown and the procedures for checking the serviceability of this equipment prior to take-off. Instructions regarding the location, accessibility and use of survival and emergency equipment and its associated check list(s) must also be included.

10.2 The procedure for determining the amount of oxygen required and the quantity that is available. The flight profile, number of occupants and possible cabin decompression must be considered. The information provided must be in a form in which it can be used without difficulty.

11. EMERGENCY EVACUATION PROCEDURES

11.1 *Instructions for preparation for emergency evacuation including crew co-ordination and emergency station assignment.*

11.2 *Emergency evacuation procedures.* A description of the duties of all members of the crew for the rapid evacuation of an airplane and the handling of the passengers in the event of a forced landing, ditching or other emergency.

12 AIRPLANE SYSTEMS

A description of the airplane systems, related controls and indications and operating instructions. (See IEM to Appendix 1 to BCAR–OPS 1.1045.)

C. ROUTE AND AERODROME INSTRUCTIONS AND INFORMATION

(a) Instructions and information relating to communications, navigation and aerodromes including minimum flight levels and altitudes for each route to be flown and operating minima for each aerodrome planned to be used, including:

(b) Minimum flight level/altitude;

(c) Operating minima for departure, destination and alternate aerodromes;

(d) Communication facilities and navigation aids;

(e) Runway data and aerodrome facilities;

(f) Approach, missed approach and departure procedures including noise abatement procedures;

(g) COM-failure procedures;

(h) Search and rescue facilities in the area over which the airplane is to be flown;

(i) A description of the aeronautical charts that must be carried on board in relation to the type of flight and the route to be flown, including the method to check their validity;

(j) Availability of aeronautical information and MET services;

(k) En-route COM/NAV procedures;

(l) Aerodrome categorization for flight crew competence qualification (See AMC OPS 1.975); and

(m) Special aerodrome limitations (performance limitations and operating procedures etc.).

D. TRAINING

1. Training syllabi and checking programs for all operations personnel assigned to operational duties in connection with the preparation and/or conduct of a flight.

2. Training syllabi and checking programs must include:

2.1 *For flight crew.* All relevant items prescribed in Subparts E and N;

2.2 *For cabin crew.* All relevant items prescribed in Subpart O;

2.3 *For operations personnel concerned, including crew members:*

(a) All relevant items prescribed in Subpart R (Transport of Dangerous Goods by Air); and

(b) All relevant items prescribed in Subpart S (Security).

2.4 *For operations personnel other than crew members (e.g. dispatcher, handling personnel etc.).* All other relevant items prescribed in BCAR–OPS pertaining to their duties.

3. *Procedures*

3.1 Procedures for training and checking.

3.2 Procedures to be applied in the event that personnel do not achieve or maintain the required standards.

3.3 Procedures to ensure that abnormal or emergency situations requiring the application of part or all of abnormal or emergency procedures and simulation of IMC by artificial means are not simulated during commercial air transportation flights.

4. Description of documentation to be stored and storage periods. (See Appendix 1 to BCAR–OPS 1.1065.)

Appendix 1 to BCAR–OPS 1.1065 Document storage periods

An operator shall ensure that the following information/documentation is stored in an acceptable form, accessible to the BDCA, for the periods shown in the Tables below.

Note: Additional information relating to maintenance records is prescribed in Subpart M.

Table 1 – Information used for the preparation and execution of a flight

Information used for the preparation and execution of the flight as described in BCAR–OPS 1.135	
Operational flight plan	3 months
Airplane Technical log	24 months after the date of the last entry
NOTAM/AIS briefing documentation if edited by the operator	3 months
Weight and balance documentation	3 months
Notification of special loads including written information to the pilot in command about dangerous goods	3 months

Table 2 – Reports

Reports	
Journey log	3 months
Flight report(s) for recording details of any occurrence, as prescribed in BCAR–OPS 1.420, or any event which the pilot in command deems necessary to report/record	3 months
Reports on exceedance of duty and/or reducing rest periods	3 months

Table 3 – Flight crew records

Flight Crew Records	
Flight, Duty and Rest time	15 months
License	As long as the flight crew member is exercising the privileges of the license for the operator
Conversion training and checking	3 years
Command course (including checking)	3 years
Recurrent training and checking	3 years
Training and checking to operate in either pilot's seat	3 years
Recent experience (See BCAR– OPS 1.970)	15 months
Route and aerodrome competency (See BCAR-OPS 1.975)	3 years
Training and qualification for specific operations when required by BCAR–OPS (e.g. ETOPS CATII/III operations)	3 years
Dangerous Goods training as appropriate	3 years

Table 4 – Cabin crew records

Cabin Crew Records	
Flight, Duty and Rest Time	15 months
Initial training, conversion and differences training (including checking)	As long as the cabin crew member is employed by the operator
Recurrent training and refresher (including checking)	Until 12 months after the cabin crew member has left the employ of the operator
Dangerous Goods training as appropriate	3 years

Table 5 – Records for other operations personnel

Records for other operations personnel	
Records for other operations personnel Training/qualification records of other personnel for whom an approved training program is required by BCAR–OPS	Last 2 training records

Table 6 – Other records

Other Records	
Records on cosmic and solar radiation dosage	Until 12 months after the crew member has left the employ of the operator
Quality System records	5 years
Dangerous Goods Transport Document	3 months after completion of the flight
Dangerous Goods Acceptance Checklist	3 months after completion of the flight

SUBPART Q - FLIGHT AND DUTY TIME LIMITATIONS AND REST REQUIREMENTS

BCAR-OPS 1.1080 APPLICABILITY.
(See ACJ OPS 1.1080)

a) Certificate holders must assure that flight crewmembers, cabin crewmembers, dispatchers and maintenance personnel are programmed in such a way that the flight time limitations established are not exceeded.

b) Terminology used in this chapter.

1. **Duty period**: means the period of elapsed time between one hour from reporting for an assignment involving flight time and 30 minutes after being release from that assignment by the certificate holder.

2. **Rest period**: means the period free of all restraint or duty for a certificate holder.

3. **Deadhead**: Time spent in deadhead transportation to or from duty assignment is not considered to be a part of a rest period.

4. **Flight time**: means time that commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing.

5. **Calendar day**: means the period of elapsed time, using Coordinated Universal Time or local time that begins at midnight and ends 24 hours later at the next midnight.

c) The certificate holders may program one or more flight operations or duty time to his crewmembers as long as the accumulated flight time , wait time, deadhead transportation, or any other activity do not exceed the duty time established in this chapter.

BCAR-OPS 1.1085 FLIGHT TIME LIMITATIONS: One and Two pilot crews

a) A certificate holder conducting international operations may schedule a pilot to fly in an airplane that has a crew of one or two pilots for eight hours or less during any 24 consecutive hours without a rest period during these eight hours.

b) If a certificate holder schedules a pilot to fly more than eight hours during any 24 consecutive hours, it shall give him an intervening rest period, at or before the end of eight scheduled hours of flight duty. This rest period must be at least twice the number of hours flown since the preceding rest period, but not less than eight hours. The certificate holder shall relieve that pilot of all duty with it during that rest period.

c) Each pilot who has flown more than eight hours during 24 consecutive hours must be given at least 18 hours of rest before being assigned to any duty with the certificate holder.

d) No pilot may fly more than 32 hours during any seven consecutive days, and each pilot must be relieved from all duty for at least 1 calendar day during any seven consecutive days, this rest period must be given at the pilot's base.

e) No pilot may fly as a member of a crew more than 100 hours during any one calendar month.

f) No pilot may fly as a member of a crew more than 1,000 hours during any 12 calendar month period.

BCAR-OPS 1.1090 FLIGHT TIME LIMITATIONS: Two pilots and one additional flight crewmember.

a) No certificate holder may schedule a pilot to fly, in an airplane that has a crew of two pilots and at least one additional flight crewmember, for a total of more than 10 hours during any 24 consecutive hours.

b) If a pilot has flown 20 or more hours during any 48 consecutive hours or 24 or more hours during any 72 consecutive hours, he must be given at least 18 hours of rest before being assigned to any duty with the air carrier. In any case, he must be given at least 1 calendar day during any seven consecutive days.

c) No pilot may fly as a flight crewmember more than:

1. 100 hours during any 30 consecutive days;
2. 290 hours during any 90 consecutive days; or
3. 1,000 hours during any 12 calendar month period.

BCAR-OPS 1.1095 FLIGHT TIME LIMITATIONS: Three or more pilots and an additional flight crewmember.

a) Each certificate holder shall schedule its flight hours to provide adequate rest periods on the ground for each pilot who is away from his base and who is a pilot on an airplane that has a crew of three or more pilots and an additional flight crewmember. It shall also provide adequate sleeping quarters on the airplane whenever a pilot is scheduled to fly more than 12 hours during any 24 consecutive hours.

b) The certificate holder shall give each pilot, upon return to his base from any flight or series of flights, a rest period that is at least twice the total number of hours he flew since the last rest period at his base. During the rest period required by this paragraph, the air carrier may not require him to perform any duty for it. If the required rest period is more than seven days, that part of the rest period in excess of seven days may be given at any time before the pilot is again scheduled for flight duty on any route.

c) No pilot may fly as a flight crewmember more than:

1. 120 hours during any 30 consecutive days
2. 310 hours during any 90 consecutive days; or
3. 1,200 hours during any 12 calendar month period.

BCAR-OPS 1.1100 FLIGHT TIME LIMITATIONS: Pilots not regularly assigned.

a) Except as provided in paragraphs (b) through (e) of this section, a pilot who is not regularly assigned as a flight crewmember for an entire calendar month under sections OPS 1.1090 or OPS 1.1095 may not fly more than 100 hours in any 30 consecutive days.

b) The monthly flight time limitations for a pilot who is scheduled for duty aloft for more than 20 hours in two pilot crews in any calendar month, or whose assignment in such a crew is interrupted more than once in that calendar month by assignment to a crew consisting of two or more pilots and an additional flight crewmember, are those set forth in section OPS 1.1085.

c) Except for a pilot covered by paragraph (b) of this section, the monthly and quarterly flight time limitations for a pilot who is scheduled for duty aloft for more than 20 hours in two pilot and additional flight crewmember crews in any calendar month, or whose assignment in such a crew is interrupted more than once in that calendar month by assignment to a crew consisting of three pilots and additional flight crewmember, are those set forth in section OPS 1.1090.

d) The quarterly flight time limitations for a pilot to whom paragraphs (b) and (c) of this section do not apply and who is scheduled for duty aloft for a total of not more than 20 hours within any calendar month are those set forth in OPS 1.1095.

e) The monthly and quarterly flight time limitations for a pilot assigned to each of two pilot, two pilot and additional flight crewmember, and three pilot and additional flight crewmember crews in a given calendar month, and who is not subject to paragraph(b), (c), or (d) of this section, are those set forth in OPS 1.1090.

BCAR-OPS 1.1105 FLIGHT TIME LIMITATIONS: Other commercial flying.

No pilot that is employed as a pilot by a certificate holder may conduct any other commercial flying if the combination off all commercial flying will exceed any flight time limitation established in this subpart.

BCAR-OPS 1.1110 FLIGHT TIME LIMITATIONS: Deadhead transportation.

Time spent in deadhead transportation to or from duty assignment is not considered to be a part of a rest period, but as duty time.

BCAR-OPS 1.1115 FLIGHT TIME LIMITATIONS: Flight engineers (mechanic on board).

a) In any operation in which one flight engineer or flight navigator is required, the flight time limitations in OPS 1.1090 apply to that flight engineer.

b) In any operation in which more than one flight engineer or flight navigator is required, the flight time limitations in OPS 1.1095 apply to those flight engineers.

BCAR-OPS 1.1117 DUTY TIME LIMITATIONS: Pilots.

The certificate holder:

a) Shall not schedule a pilot to serve for periods of duty time greater than 12 consecutive hours in the case of one or two crew pilots.,

b) Shall not schedule a pilot to serve for periods of duty time greater than 14 consecutive hours in the case of three crew pilots.

Duty time limitation can only be exceed due meteorological conditions or maintenance problems, in that case the pilot will be allowed to return to base if the flying time do not exceed one hour.

The Pilot duty time shall not exceed 288 hours in a 30 day period.

BCAR-OPS 1.1120 DUTY TIME LIMITATIONS: dispatchers.

a) The certificate holder shall establish the duty time period for a dispatcher in such a way as to allow an adequate familiarization with the existing weather conditions along the proposed route, before dispatching any airplane.

The dispatcher must be on duty until each airplane dispatched by him completes its flight or fly beyond his jurisdiction, or is relived by another qualified dispatcher.

b) Except in an emergency, due to circumstances beyond the control:

1. No certificate holder may schedule a dispatcher for more than 10 consecutive hours of duty time.

2. If a dispatcher is scheduled for more than 10 hours of duty time during any 24 consecutive hours, the certificate holder must provide a rest period of at least 8 hours. All dispatchers must be relieved of any duty for at least 1 calendar day in any 7 consecutive days.

c) Notwithstanding paragraphs a), and b) of this regulation, a certificate holder may schedule, with prior BCAD approval, a dispatcher for more than 10 hours of duty time in a period of 24 consecutive hours, if the dispatcher is relieved from duty time for at least 8 hours within the 24 consecutive hour period.

BCAR-OPS 1.1125 CABIN CREW MEMBERS: Flight time, Duty time, and rest requirements.

A certificate holder shall not assign duties to a person as a cabin crewmember, unless done in compliance with the following flight, duty time and rest requirements:

a) The flight time limitation may not be greater than 12 hours.

b) The scheduled duty time may not be greater than 12 hours.

c) When the scheduled duty time is 12 hours or less, the required rest period will be 8 hours, except as

established in paragraph d) of this section. The rest period will be scheduled between the final scheduled service, and the next scheduled service.

d) The required rest period may be scheduled or reduced, if the crewmember is provided with 10 consecutive hours of rest. This subsequent rest period must be schedule to begin no later than 24 hours after the beginning of the reduced rest period, and must be schedule between the final schedule service, and the next schedule service.

e) A certificate holder may assign a duty period greater than 12 hours, but not greater than 14 hours, if for the conduct of a flight or series of flights the certificate holder assigns and schedules an additional cabin crewmember to the minimum required. This must be approved by BCAD and be part of the Operation Specifications.

The duty time limitation can only be exceeded due meteorological conditions or maintenance problems, in that case the Cabin Crew Member will be allowed to return to his base if the flying time does not exceed one hour.

The Cabin Crew Member duty time must not exceed 288 hours in 30 days period.

f) The certificate holder must relieve the cabin crewmembers of any duty for at least 1 calendar day within any 7 consecutive days.

BCAR-OPS 1-1127 LANDINGS LIMITATIONS

No certificate holder may schedule a pilot to fly in an aeroplane for more than 18 landings in a 24 hour period. If the pilot exceeds the 18 landings limit, the flying time limitation will be reduce by 15 minutes for each additional landing.

BCAR-OPS 1.1130 MAINTENANCE PERSONNEL: Duty time limitations.

The certificate holder's maintenance personnel, or whoever undertakes maintenance of its airplanes, shall be relieved of any duty time for at least 1 calendar day in any 7 consecutive days.

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SUBPART R - TRANSPORT OF DANGEROUS GOODS BY AIR

BCAR–OPS 1.1150 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 OPS 1.1165(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 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) An operator's employee permitted by, and carried in accordance with, the instructions contained in the Operations Manual;

(iii) An authorized representative of an BDCA; or

(iv) A person with duties in respect of a particular shipment on board.

(4) *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.

(5) *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 1.1150(a) (3) & (a) (4)].

(6) 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 jeopardizes the aircraft or its occupants is also deemed to constitute a dangerous goods incident. [See IEM OPS 1.1150(a) (3) & (a) (4)].

(7) *Dangerous Goods Transport Document.* A document which is specified by the Technical Instructions. The person who offers dangerous goods for air transport and contains information about those dangerous goods completes it. 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.

(8) 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.

(9) *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.

(10) *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.

(11) *ID number.* A temporary identification number for an item of dangerous goods which has not been assigned a UN number.

(12) *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.)

(13) *Package.* The complete product of the packing operation consisting of the packaging and its contents prepared for transport.

(14) *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.

(15) *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 packaging.

(16) *Serious Injury.* An injury which is sustained by a person in an accident and which:

(i) Requires hospitalization 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.

(17) *State of Origin.* Territory in which the dangerous goods were first loaded on an aircraft.

(18) *Technical Instructions.* The latest effective edition of the Technical Instructions for the Safe Transport of Dangerous Goods by Air (Doc 9284–AN/905), including the

Supplement and any Addendum, approved and published by decision of the Council of the International Civil Aviation Organization.

(19) *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.

(20) *Unit Load Device.* Any type of aircraft container, aircraft pallet with a net, or aircraft pallet with a net over an igloo.

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BCAR–OPS 1.1155 Approval to Transport Dangerous Goods
(See IEM OPS 1.1155)

(a) An operator shall not transport dangerous goods unless approved to do so by the BDCA.

(b) Before the issue of an approval for the transport of dangerous goods, the operator shall satisfy the Authority that adequate training has been given, that all relevant documents (e.g. for ground handling, aeroplane 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.

BCAR–OPS 1.1160 Scope

Articles and substances which would otherwise be classed as dangerous goods but which are not subject to the Technical Instructions in accordance with Part 1 and 8 of those instructions are excluded from the provisions of this Subpart providing that:

(a) When placed on board with the approval of the operator to provide, during flight, medical aid to the patient, they are:

1. Carried for use in flight; or are part of the permanent equipment of the aeroplane when it has been adapted for specialised use for medical evacuation; or carried on a flight made by the same aeroplane to collect a patient of 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 but with the intention that they be off-loaded as soon as practicable; and

2. When placed on board with the approval of the operator to provide, during flight, medical aid to a patient the dangerous goods shall be restricted to the following and which must be kept in the position in which they are used or stowed securely when not in use and they are secured properly during takeoff and landing and at all other times when deemed necessary by the commander in the interest of safety:

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

(ii) Medications and other medical matter which must be under the control of trained personnel during the time when they are in use in the aeroplane;
(iii) Equipment containing wet cell batteries which must be kept and, when necessary secured, in an upright position to prevent spillage of the electrolyte;

(b) They are required to be aboard the aeroplane and are in accordance with the relevant requirements or for operating reasons, although articles and substances

intended as replacements or which have been removed for replacement must be transported on an aeroplane as specified in the Technical Instructions;

(c) They are in baggage:

1. Carried by passengers or crew members in accordance with the Technical Instructions; or

2. Which has been separated from its owner during transit (e.g.: lost baggage or improperly routed baggage) but which is carried by the operator.

BCAR–OPS 1.1165 Limitations on the Transport of Dangerous Goods

(a) An 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 aeroplane.

(b) An 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 1.1165(b)(1)); or

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

BCAR–OPS 1.1170 Classification

An operator shall take all reasonable measures to ensure that articles and substances are classified as dangerous goods as specified in the Technical Instructions.

BCAR–OPS 1.1175 Packing

An operator shall take all reasonable measures to ensure that dangerous goods are packed as specified in the Technical Instructions.

BCAR–OPS 1.1180 Labelling and Marking

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

(b) 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.

BCAR–OPS 1.1185 Dangerous Goods Transport Document

(a) An operator shall ensure that, except when otherwise specified in the Technical Instructions, dangerous goods are accompanied by a dangerous goods transport document.

(b) Where dangerous goods are carried on a flight which takes place wholly or partly outside the territory of a State, the English language must be used for the dangerous goods transport document in addition to any other language requirements.

BCAR–OPS 1.1195 Acceptance of Dangerous Goods

(a) An operator shall not accept dangerous goods unless:

1. The package, overpack or freight container has been inspected in

accordance with the acceptance procedures in the Technical Instructions;

2. Except when otherwise specified in the Technical Instructions, they are accompanied by two copies of a dangerous goods transport document.

3. The English language is used for:

(i) Package marking and labelling; and

(ii) The dangerous goods transport document, in addition to any other language requirements.

(b) An operator shall use an acceptance check list which shall allow for all relevant details to be checked and shall be in such form as will allow for the recording of the results of the acceptance check by manual, mechanical or computerised means..

BCAR–OPS 1.1200 Inspection for Damage, Leakage or Contamination

(a) An operator shall ensure that:

(1) Packages, overpacks and freight containers are inspected for evidence of leakage or damage immediately prior to loading on an aeroplane or into a unit load device, as specified in the Technical Instructions;

(2) A unit load device is not loaded on an aeroplane unless it has been inspected as required by the Technical Instructions and found free from any evidence of leakage from, or damage to, the dangerous goods contained therein;

(3) Leaking or damaged packages, overpacks or freight containers are not loaded on an aeroplane;

(4) Any package of dangerous goods found on an aeroplane and which appears to be damaged or leaking is removed or arrangements made for its removal by an appropriate authority or organization. In this case the remainder of the consignment shall be inspected to ensure it is in a proper condition for transport and that no damage or contamination has occurred to the aeroplane or its load; and

(5) Packages, overpacks and freight containers are inspected for signs of damage or leakage upon unloading from an aeroplane or from a unit load device and, if there is evidence of damage or leakage, the area where the dangerous goods were stowed is inspected for damage or contamination.

BCAR–OPS 1.1205 Removal of Contamination

(a) An operator shall ensure that:

(1) Any contamination found as a result of the leakage or damage of dangerous goods is removed without delay; and steps are taken to nullify any hazard as specified in the Technical Instructions; and

(2) An aeroplane which has been contaminated by radioactive materials is immediately taken out of service and not returned until the radiation level at any accessible surface and the transitory contamination are not more than the values specified in the Technical Instructions.

b) In the event of non compliance with any limit in the Technical Instructions applicable to radiation level or contamination,

1. The operator must:

(i) Ensure the shipper is informed if the non-compliance is identified during transport;

(ii) Take immediate steps to mitigate the consequences of the noncompliance;

(iii) Communicate the non-compliance to the shipper and relevant competent Authority(ies), respectively, as soon as practicable and immediately whenever an emergency situation has developed or is developing;

2. The operator must also, within the scope of his responsibilities:

(i) Investigate the non-compliance and its causes, circumstances and consequences;

(ii) Take appropriate action, to remedy the causes and circumstances that led to the non-compliance and to prevent a recurrence of similar circumstances that led to the non-compliance;

(iii) Communicate to the relevant competent Authority(ies) on the causes of the non-compliance and on corrective or preventative actions taken or to be taken.

BCAR–OPS 1.1210 Loading Restrictions

(a) *Passenger Cabin and Flight Deck.* An operator shall ensure that dangerous goods are not carried in an aeroplane cabin occupied by passengers or on the flight deck, unless otherwise specified in the Technical Instructions.

(b) *Cargo Compartments.* An operator shall ensure that dangerous goods are loaded, segregated, stowed and secured on an aeroplane as specified in the Technical Instructions.

(c) *Dangerous Goods Designated for Carriage Only on Cargo Aircraft.* An 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.

BCAR–OPS 1.1215 Provision of Information

(a) Information to personnel. An operator must provide such information in the operations manual and/or other appropriate manuals as will enable personnel to carry out their responsibilities with regard to the transport of dangerous goods as specified in the Technical Instructions, including the actions to be taken in the event of emergencies involving dangerous goods. Where applicable, such information must also be provided to his handling agent.

(b) Information to passengers and other persons.

1. An 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 an aeroplane; and

2. An operator shall ensure that notices are provided at acceptance points for cargo giving information about the transport of dangerous goods.

(c) Information to the commander. An operator shall ensure that:

1. Written information is provided to the commander about the dangerous goods to be carried on an aeroplane, as specified in the Technical Instructions;

2. Information for use in responding to in-flight emergencies is provided, as specified in the Technical Instructions;

3. A legible copy of the written information to the commander is retained on the ground at a readily accessible location until after the flight to which the written information refers. This copy or the information contained in it, must be readily accessible to the aerodromes of last departure and next scheduled arrival point, until after the light to which the information refers;

4. When dangerous goods are carried on a flight which takes place wholly or partially outside the territory of a State, the English language is used for the written information to the commander in addition to any other language requirements.

(See Table 1 of Appendix 1 to OPS 1.1065 for the document storage period.)

(d) Information in the event of an aeroplane incident or accident.

1. The operator of an aeroplane which is involved in an aeroplane incident shall, on request, provide any information as required by the Technical Instructions.

2. The operator of an aeroplane which is involved in an aeroplane accident or serious incident shall without delay, provide any information as required by the Technical Instructions.

3. The operator of an aeroplane shall include procedures in appropriate manuals and accident contingency plans to enable this information to be provided.

(e) Information in the event of an in-flight emergency.

1. If an in-flight emergency occurs the commander shall, as soon as the situation permits, inform the appropriate air traffic services unit of any dangerous goods carried as cargo on board the aeroplane as specified in the Technical Instructions.

BCAR–OPS 1.1220 Training programs
(See AMC OPS 1.1220)
(See IEM OPS 1.1220)

(a) An operator shall establish and maintain staff training programs, as required by the Technical Instructions, which shall be approved by the BDCA.

(b) *Operators not holding a permanent approval to carry dangerous goods.* An operator shall ensure that:

(1) Staff who are engaged in general cargo and baggage handling have received training to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 1 of Table 1 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers; and

(2) The following personnel:

(i) Crew members;

(ii) Passenger handling staff; and

(iii) Security staff employed by the operator who deal with the screening of passengers and their baggage, have received training which, as a minimum, must cover the areas identified in Column 2 of Table 1 and be to a depth sufficient to ensure that an awareness is

gained of the hazards associated with dangerous goods, how to identify them and what requirements apply to the carriage of such goods by passengers.

Table 1

AREAS OF TRAINING	**1**	**2**
General philosophy	X	X
Limitations on Dangerous Goods in air transport	X	X
Package marking and labelling	X	X
Dangerous Goods in passengers baggage		X
Emergency procedures		X

Note: 'X' indicates an area to be covered.

(c) *Operators holding a permanent approval to carry dangerous goods.* An operator shall ensure that:

(1) Staff who are engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties. As a minimum this training must cover the areas identified in Column 1 of Table 2 and be to a depth sufficient to ensure the staff can take decisions on the acceptance or refusal of dangerous goods offered for carriage by air;

(2) Staff who are engaged in ground handling, storage and loading of dangerous goods have received training to enable them to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 2 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods and how to handle and load them;

(3) Staff who are engaged in general cargo and baggage handling have received training to enable them to carry out their duties in respect of dangerous goods. As a minimum this training must cover the areas identified in Column 3 of Table 2 and be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods, how to identify such goods, how to handle and load them and what requirements apply to the carriage of such goods by passengers;

(4) Flight crew members have received training which, as a minimum, must cover the areas identified in Column 4 of Table 2. Training must be to a depth sufficient to ensure that an awareness is gained of the hazards associated with dangerous goods and how they should be carried on an aeroplane; and

(5) The following personnel:

(i) Passenger handling staff;

(ii) Security staff employed by the operator who deal with the screening of passengers and their baggage; and

(iii) Crew members other than flight crew members; have received training which, as a minimum, must cover the areas identified in Column 5 of Table 2. Training must be to a depth sufficient to ensure that awareness is gained of the hazards associated with dangerous goods and what requirements apply to the carriage of such goods by passengers or, more generally, their carriage on an aeroplane.

(d) An operator shall ensure that all staff who receive training undertake a test to verify understanding of their responsibilities.

(e) An operator must ensure that training is provided or verified upon the employment of a person in a position involving the transport of dangerous goods by air

(f) An operator shall ensure that all staff who require dangerous goods training receive recurrent training at intervals of not longer than 2 years.

(g) An operator shall ensure that records of dangerous goods training are maintained for all staff as required by the Technical Instructions.
(h) An operator shall ensure that his handling agent's staff are trained in accordance with the applicable column of Table 1 or Table 2.

Table 2

AREAS OF TRAINING	**1**	**2**	**3**	**4**	**5**
General Philosophy	X	X	X	X	X
Limitations on Dangerous Goods in air transport	X	X		X	X
Classification of Dangerous Goods	X				
List of Dangerous Goods	X	X		X	
General packing requirements and Packing instructions	X				
Packaging specifications and markings	X				
Package marking and labelling	X	X	X	X	X
Documentation from the shipper	X				
Acceptance of Dangerous Goods, including the use of a checklist	X				
Storage and loading procedures	X	X	X	X	X
Inspections for damage or leakage and decontamination procedures	X	X			
Provision of information to commander	X	X		X	
Dangerous Goods in passengers' baggage	X	X	X	X	X
Emergency procedures	X	X	X	X	X

Note: 'x' indicates an area to be covered.

BCAR–OPS 1.1225 Dangerous Goods Incident and Accident Reports
(See AMC OPS 1.1225)

(a) An operator shall report dangerous goods incidents and accidents to the Authority and the appropriate Authority in the State where the accident or incident occurred, as provided for in Appendix 1 to OPS 1.1225. The first report shall be despatched within 72 hours of the event unless exceptional circumstances prevent this and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible whatever additional information has been established.

(b) An operator shall also report to the Authority and the appropriate Authority in the State where the event occurred, the finding of undeclared or misdeclared dangerous goods discovered in cargo or passengers' baggage, as provided for in Appendix 1 to OPS 1.1225. The first report shall be dispatched within 72 hours of the discovery unless exceptional circumstances prevent this and include the details that are known at that time. If necessary, a subsequent report must be made as soon as possible whatever additional information has been established.

Appendix 1 to OPS 1.1225
Dangerous goods incident and accident reports

(a). An operator shall ensure that any type of dangerous goods incident or accident is 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 shall also be reported.
(b). The first report shall be dispatched within 72 hours of the event unless exceptional circumstances prevent this. It may be sent by any means, including e-mail, telephone of fax. This report shall include the details that are known at that time, under the headings identified in paragraph 3. If necessary, a subsequent report shall be made as soon as possible giving all the details that were not known at the time the first report was sent. If a report has been made verbally, written confirmation shall be sent as soon as possible.

(c) The first report and any subsequent report shall be as precise as possible and contain such of the following data that are relevant:

(1) Date of the incident or accident or the finding of undeclared or misdeclared dangerous goods;

(2) Location, the flight number and flight date;

(3) Description of the goods and the reference number of the air waybill, pouch, baggage tag, ticket, etc;

(4) Proper shipping name (including the technical name, if appropriate) and UN/ID number, when known;

(5) Class or division and any subsidiary risk;

(6) Type of packaging, and the packaging specification marking on it;

(7) Quantity;

(8) Name and address of the shipper, passenger, etc.;

(9) Any other relevant details;

(10) suspected cause of the incident or accident;
(11) Action taken;

(12) Any other reporting action taken; and

(13) Name, title, address and telephone number of the person making the report.

(d). Copies of relevant documents and any photographs taken should be attached to a report.
—

SUBPART S - SECURITY

BCAR-OPS 1.1235 Security requirements

An operator shall ensure that all appropriate personnel are familiar, and comply, with the relevant requirements of the national security programs of the State of the operator.

BCAR-OPS 1.1237 Domestic commercial operations

International Standards and Recommended Practices set forth in this Subpart should be applied by all domestic commercial operators.

BCAR-OPS 1.1240 Training programmes

(a). An operator shall establish, maintain and conduct approved training programs which enable the operator's crew members to take appropriate action to prevent acts of unlawful interference such as sabotage or unlawful seizure of aeroplanes and to minimise the consequences of such events should they occur. The training programme shall be compatible with the National Aviation Security programme. As a minimum, this programme shall include the following elements:

(1). Determination of the seriousness of any occurrence;

(2). crew communication and coordination;

(3). appropriate self-defense responses;

(4). use of non-lethal protective devices assigned to crew members whose use is authorized by the State of the Operator;

(5). understanding of behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behaviour and passenger responses;

(6). live situational training exercises regarding various threat conditions;

(7). light deck procedures to protect the aeroplane; and

(8). aeroplane search procedures and guidance on least-risk bomb locations where practicable.

(b). An operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aeroplane so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

BCAR-OPS 1.1245 Reporting acts of unlawful Interference

Following an act of unlawful interference on board an airplane the commander or, in his absence the operator, shall submit, without delay, a report of such an act to the designated local authority and the Authority of the State of the operator.

BCAR-OPS 1.1250 Airplane search procedure checklist

An operator shall ensure that there is on board a checklist of the procedures to be followed in search of a bomb or improvised

explosive device (IED) in case of suspected sabotage and for inspecting aeroplanes for concealed weapons, explosives or other dangerous devices where a well founded suspicion exists that the aeroplane may be the object of an act of unlawful interference. The checklist shall be supported by guidance on the appropriate course of action to be taken should a bomb or suspicious object be found and information on the least risk bomb location specific to the aeroplane where provided by the Type Certificate holder.

BCAR-OPS 1.1255 Flight crew compartment Security (cockpit).

(a) In all airplanes fitted with a cockpit door, this must be able to be locked from the inside to avoid non authorized entrance, and acceptable means should be provided so that the cabin crew can notify discreetly the flight crewmembers in the event of suspicious activity or security breaches in the cabin.

(b) All passenger-carrying aeroplanes of a maximum certificated take-off mass in excess of 45500 kg or with an approved maximum passenger seating configuration of more than 60 passenger seats, shall be equipped with an approved door in the flight deck. This door shall be able to lock and unlock from any flight crewmember station. The design of the door shall not impede the conduct of emergency evacuations.

(c) In all airplanes fitted with a cockpit door, in accordance with what is established in the section (b) above, it shall comply with:

1. The door should be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorized persons; and

2. Means shall be provided for monitoring from either pilot's station the area outside the flight crew compartment to the extent necessary to identify persons requesting entry to the flight crew compartment and to detect suspicious behaviour or potential threat.

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BCAR-OPS 1.001 Applicability

(a) This Annex 1 to the BCAR OPS 1 is applicable to propeller driven aeroplanes with a maximum seating configuration of 19 passenger seats or less, or with a maximum certificated takeoff weight of 12,500 lb or less.

(b) Certain regulations of this Annex 1 to BCAR OPS 1 also apply to propeller driven aeroplanes with a maximum seating configuration of 19 passenger seats or less, or with a maximum certificated takeoff weight of 12,500 lb or less operating on domestic routes only.

(c) The requirements of the BCAR-OPS 1 that are not considered in this Annex 1 shall be applicable as they are depicted in the BCAR-OPS 1.

Terminology:

(i) Operations from A to A: When the takeoffs and landing are conducted at the same place.

(ii) Operations from A to B: When the take off and landing are conducted at different places.

(iii) Night: Period of time between the end of the twilight in the evening and the beginning of the twilight at dawn, or time between sunset and sunrise that has been established by the BDCA. [See Section 2, Annex 1, ACJ to the BCAR-OPS 1.005 (a)]

BCAR-OPS 1.035 Quality System

In the case of organizations operating under this annex 1 the position of quality manager may be occupied by a person holding another responsible position, if external auditors are used and acceptable to the BDCA.

BCAR- OPS 1.075 Methods of carriage of persons:

Not required for VFR operations of single engine aeroplanes.

BCAR-OPS 1.100 Admission to the flight deck:

(a) An operator must establish rules for the carriage of passengers in a pilot seat.

(b) The commander must ensure that:

1. carriage of passengers in a pilot seat does not cause distraction and/or interference with the operation of the flight; and

2. the passenger occupying a pilot seat is made familiar with the relevant restrictions and safety procedures.

BCAR-OPS 1.105 Unauthorised Carriage:

Not required for VFR operations of single engine aeroplanes.

BCAR-OPS 1.135 Additional information and forms to be carried

(a) For domestic VFR flight operations from A to A, the following documents are not required to be on board the airplane:

1. Airplane Technical Log containing at least the information required in BCAR OPS 1.915(a); and BCAR OPS 1.1055 (a)

2. Appropriate NOTAM/AIS briefing documentation

3. Appropriate meteorological information;

4. Mass and balance documentation as specified in Subpart J;

5. Notification of special categories of passenger such as security personnel, if not considered as crew, handicapped persons, inadmissible passengers, deportees and persons in custody;

6. Notification of special loads including dangerous goods including written information to the pilot in command as prescribed in BCAR–OPS 1.1215(d);

7. Any other documentation which may be required by the States concerned with this flight, such as cargo manifest, passenger manifest etc; and

BCAR-OPS 1.195 Operational Control and flight dispatch. Functions and responsibilities.

For flights within the State, where there is no flight dispatch it is allowed that the flight may be dispatched by the pilot provided that:

(a) The dispatch procedure is explicitly established in the operations manual, and approved by the BDCA, and

(b) The pilot in command has received the corresponding training in accordance the training program included in the Operations Manual approved by the BDCA.

(c) The flight following may be conducted using the available means of communication acceptable to the BDCA.

BCAR-OPS 1.215 Use of Air Traffic Services

During VFR operations, the non mandatory communications with the ATS services shall be maintained with the appropriate recurrence to the nature of the operation, keeping in mind such factors as: radio coverage, flight conditions and ATS capacity. The assistance from the search and rescue, whenever required, shall be established in accordance with the BCAR-OPS 1.300.

BCAR-OPS 1.225 Aerodrome Operating Minima

During VFR operations, basic VFR minimums shall be applied. Whenever necessary, the operator shall establish additional requirements keeping in mind such factors as: radio coverage, orography, nature of the takeoff and landing sites, flight conditions and ATS capacity.

BCAR-OPS 1.235 Noise Abatement Procedures

Not applicable to the operation of single engine airplanes

BCAR-OPS 1.240 Routes and areas of operation (a) (4)

This section is not applicable to domestic operations.

BCAR-OPS 1.250 Establishment of Minimum Flight Altitudes

During VFR operations the following shall apply:

The operator shall ensure that the operations are conducted exclusively along routes or inside areas where ground clearance may be maintained safely, and shall keep in mind such factors as temperature, orography, unfavorable meteorological conditions (e.g. severe turbulence, down drafts, temperature corrections, and pressure variation from standard values)

BCAR-OPS 1.255 Fuel policy

(a) On flights from A to A. - The operator shall specify the minimum fuel requirements with

which the flight shall end. This minimum fuel, final reserve, shall not be less than the required to fly for a period of 30 minutes.

(b) On flights from A to B. - The operator shall ensure that the pre-flight usable fuel calculations include:

(1) Taxi fuel. - Fuel consumed before takeoff if significant; and

(2) Trip fuel (Fuel to reach the destination airport); and

(3) Alternate fuel. - Fuel to reach the destination alternate, if a destination alternate is required;

(4) Reserve fuel.

(i) Contingency fuel. - No less than 5% of the fuel for the foreseen flight, or in the case of an in-flight redispatch, 5% of the fuel for the remaining of the flight; and

(ii) Final fuel reserve. - Fuel to fly for an additional period of 45 minutes (piston engines), or 30 minutes (turbine engines); and

(c) Extra fuel. - Additional fuel that the pilot in command may require.

(d) For all VFR flights the final fuel reserve should be 30 minutes.

BCAR-OPS 1.265 Carriage of Inadmissible passengers, deportees or persons in custody

For operators which do not intend to transport of these kinds of persons, the establishment of procedures for their transportation, is not required.

BCAR-OPS 1.280 Passenger Seating:
Not Applicable to VFR operations of single engine aeroplanes.

BCAR-OPS 1.285 Passenger briefing

Demonstration and briefing shall be given as appropriate to the kind of operations. In single pilot operations, the pilot may not be allocated tasks distracting him/her from his/her flying duties.

BCAR-OPS 1.290 Flight Preparations

(a) Operations from *A to A.*

An operational flight plan is not required.

(b) *VFR Operations from A to B:*

The operational flight plan may be a simplified format, appropriate for the kind of operation, which may comply with the requirements of the type of operation; it shall be completed during each flight.

BCAR-OPS 1.295 Selection of Aerodromes

The necessary instructions for the use of aerodromes and sites for takeoff and landing are to be issued with reference to OPS 1.220.

BCAR-OPS 1.310 Crewmembers at stations

For VFR flights only instructions are required when operations are conducted with two pilot crews.

BCAR-OPS 1.375 In-flight fuel management

The appendix 1 BCAR-OPS 1.375 is not applicable to day VFR operations with single engine airplanes.

BCAR-OPS 1.405 Commencement and continuation of the approach

Not applicable to VFR operations

BCAR-OPS 1.410 Operating Procedures-Threshold crossing height

Not applicable to VFR operations

BCAR-OPS 1.430 to 1.460 including all pertinent appendixes

Not applicable to VFR operations

BCAR-OPS 1.530 Take-off

(a) BCAR–OPS 1.530 subpart (a) is applicable in addition to: In the case of airplanes performance class B, the BDCA shall accept other performance data submitted by the operator and based on demonstrations and / or documented experience.

(b) BCAR–OPS 1.530 subparts (b) and (c) are applicable in addition to: When the requirements of the subparts (b) and (c) can not be complied with due to physical limitations of the runway length, a clear public interest exist and the necessity of that operation, the BDCA may accept, case by case, other performance data submitted by the operator regarding special procedures which are based on a demonstration and / or documented experience. The operator that requires undertaking operations in accordance to what is established in the BCAR-OPS 1.530 subparagraph (a) shall obtain prior approval from the BDCA. The approval shall specify:

(1) Airplane type;

(2) Type of operation;

(3) Affected Aerodromes and runways;

(4) The takeoff is restricted to VMC conditions; and

(5) Be limited to aeroplanes where the first type certificate was first issued before 1 January 2005.

(c) The operation shall be accepted by the State in which the aerodrome is located.

BCAR-OPS 1.535 Takeoff Obstacle Clearance-Multiengine airplanes

(a) Subparagraphs (a) (3), (4), and (5). (b) (2), (c) (1), and (2) are not applicable to day VFR operations.

(b) For IFR or night VFR subparagraphs (b) and (c) are applicable in addition to:

(1) A visual guidance course may be conducted when the flight visibility is equal or greater than 1500 m.

(2) The minimum width of the required corridor is 300 m when the flight visibility is equal or greater than 1500 m.

BCAR-OPS 1.545 Landing-Destination and Alternate Aerodromes

(a) BCAR–OPS 1.545 is applicable in addition to: When the requirements can not be complied with due to physical limitations of the runway length, a clear public interest exist and the necessity of that operation, the BDCA may accept, case by case, other performance data submitted by the operator regarding special procedures which are based on a demonstration and / or documented experience.

(b) The operator that requires undertaking operations in accordance to subparagraph (a) above shall obtain prior approval from the BDCA. The approval shall specify:

(1) Airplane type;

(2) Type of operation;

(3) Affected Aerodromes and runways;

(4) The takeoff is restricted to VMC conditions;

(5) Be limited to aeroplanes where the type certificate was first issued before 1 January 2005..

(c) The operation shall be accepted by the State in which the aerodrome is located.

BCAR-OPS 1.550 Landing - Dry Runway

(a) BCAR–OPS 1.550 is applicable in addition to: When the requirements can not be complied with due to physical limitations of the runway length, a clear public interest exist and the necessity of that operation, the BDCA may accept, case by case, other performance data submitted by the operator regarding special procedures which are based on a demonstration and / or documented experience.

(b) The operator that requires undertaking operations in accordance to subparagraph (a) above shall obtain prior approval from the BDCA. The approval shall specify:

(1) Airplane type;

(2) Type of operation;

(3) Affected Aerodromes and runways;

(4) The takeoff is restricted to VMC conditions;

(5) Be limited to aeroplanes where the first type certificate was issued before 1 January 2005.

(c) The operation shall be accepted by the State in which the aerodrome is located.

BCAR–OPS 1.620 Weight values for passengers and baggage

(a) An operator shall compute the weight of passengers and checked baggage using either the actual weighed weight of each person or the actual weighed weight of baggage or the standard weight values specified in Tables 1 to 3 below except where the number of passenger seats available is less than 10. In such cases passenger weight may be established by use of a verbal statement by or on behalf of each passenger and adding to it a predetermined constant to account for hand baggage and clothing [See AMC OPS 1.620(a)]. The procedure specifying when to select actual or standard weights and the procedure to be followed when using verbal statements must be included in the Operations Manual.

(b) If determining the actual weight by weighing, an operator must ensure that passengers' personal belongings and hand baggage are included. Such weighing must be conducted immediately prior to boarding and at an adjacent location.

(c) If determining the weight of passengers using standard weight values, the standard weight values in Tables 1 and 2 below must be used. The standard weights include hand baggage and the weight of any infant below 2 years of age carried by an adult on one passenger seat. Infants occupying separate passenger seats must be considered as children for the purpose of this sub-paragraph.

(d) Weight values for passengers – 20 passenger seats or more

(3) Where the total number of passenger seats available on an airplane is 20 or more, the standard weights of male and female in Table 1 are applicable. As an alternative, in cases where the total number of passenger seats available is 30 or more, the 'All Adult' weight values in Table 1 are applicable.

(4) For the purpose of Table 1, holiday charter means a charter flight solely intended as an element of a holiday travel

package. The holiday charter weight values apply provided that not more than 5% of passenger seats installed in the airplane are used for the non-revenue carriage of certain categories of passengers [See IEM OPS 1.620(d)(2)].

Table 1

Passenger seats	20 and more		30 and more
	Male	Female	All Adult
All flights except holiday charters	194 lb	154 lb	185 lb
Holiday Charters	183 lb	152 lb	167 lb

(e) Weight values for passengers – 19 passenger seats or less.

(3) Where the total number of passenger seats available on an airplane is 19 or less, the standard weights in Table 2 are applicable.

(4) On flights where hand baggage is carried in the cabin or where hand baggage is accounted for separately, 13 lb shall be added to the above male and female weights. Articles such as an overcoat, an umbrella, a small handbag or purse, reading material or a small camera are not considered as hand baggage for the purpose of this sub-paragraph.

Table 2

Passenger seats	1 – 19
Male	189 lb
Female	149 lb
Children	77 lb

(f) Weight values for baggage

(3) The standard weight values given in Table 3 are applicable for each piece of checked baggage.

Table 3 – checked bag weights

Type of Flight	Baggage Standard weight
Flights to and from MZBZ	33 lb
All other	25 lb

(g) If an operator wishes to use standard weight values other than those contained in Tables 1 to 3 above, he must advise the BDCA of his reasons and gain its approval in advance. He must also submit for approval a detailed weighing survey plan and apply the statistical analysis method given in Appendix 1 to BCAR–OPS 1.620(g). After verification and approval by the BDCA of the results of the weighing survey, the revised standard weight values are only applicable to that operator. The revised standard weight values can only be used in circumstances consistent with those under which the survey was conducted. Where revised standard weights exceed those in Tables 1–3, then such higher values must be used. [See IEM OPS 1.620(g)]

(h) On any flight identified as carrying passengers whose weights, including hand baggage, are expected to exceed the standard passenger weight, an operator must determine the actual weight of such passengers by weighing or by adding an adequate weight increment. [See IEM OPS 1.620(h) & (i)]

(i) If standard weight values for checked baggage are used and passengers check in baggage that is expected to exceed the standard baggage weight, an operator must determine the actual weight of such baggage by weighing or by adding an adequate weight increment. [See IEM OPS 1.620(h) & (i)]

(j) An operator shall ensure that a pilot in command is advised when a non-standard method has been used for determining the weight of the load and that this method is stated in the weight and balance documentation.

BCAR–OPS 1.625 Weight and balance documentation
(See Appendix 1 to BCAR-OPS 1.625)

(a) An operator shall establish weight and balance documentation prior to each flight specifying the load and its distribution. The weight and balance documentation must enable the pilot in command to determine that the load and its distribution is such that the weight and balance limits of the airplane are not exceeded. The person preparing the weight and balance documentation must be named on the document. The person supervising the loading of the airplane must confirm by signature that the load and its distribution are in accordance with the weight and balance documentation. This document must be acceptable to the pilot in command, his acceptance being indicated by countersignature or equivalent. [See also BCAR–OPS 1.1055(a) (12)]

(b) An operator must specify procedures for Last Minute Changes to the load.

(c) Subject to the approval of the BDCA, an operator may use an alternative to the procedures required by paragraphs (a) and (b) above.

BCAR-OPS 1.640 Airplane operating lights

The BDCA may issue an exemption for one or all the requirements of the subparagraph (a) until 01 June 2009 for airplanes operated in day VFR conditions. Whose first airworthiness certificate was issued prior to 22 May 1995, and do not have an electric generating system. The exemption if approved must be accepted by overflown States.

BCAR-OPS 1.650 VFR day operations

BCAR-OPS 1.650 is applicable in addition to: Single engine airplane whose first individual airworthiness was issued prior to 22 May 1995, may be exempted by the BDCA of the requirements of (f), (g), (h), and (i) if its compliance supposed the installation of new equipment (retrofit)

BCAR–OPS 1.652 IFR or night operations Flight and navigational instruments and associated equipment
(See AMC OPS 1.650/1.652)
(See IEM OPS 1.650/1.652)

An operator shall not operate an airplane in accordance with Instrument Flight Rules (IFR) or by night in accordance with Visual Flight Rules (VFR) unless it is equipped with the flight and navigational instruments and associated equipment and, where applicable, under the conditions stated in the following sub-paragraphs:

(a) A magnetic compass;

(b) An accurate time-piece showing the time in hours, minutes and seconds;

(c) Two sensitive pressure altimeters calibrated in feet with sub-scale settings, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.

(d) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to either condensation or icing.

(e) A vertical speed indicator;

(f) A turn and slip indicator;

(g) An attitude indicator;

(h) A stabilized direction indicator;

(i) A means of indicating in the flight crew compartment the outside air temperature calibrated in degrees Celsius (See AMC OPS 1.650 (i) & 1.652(i)); and

(j) Two independent static pressure systems, except that for propeller driven airplanes with maximum certificated take-off weight of 5700 kg or less, one static pressure system and one alternate source of static pressure is allowed.

(k) Whenever two pilots are required the second pilot's station shall have separate instruments as follows:

(7) A sensitive pressure altimeter calibrated in feet with a sub-scale setting, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight and which may be one of the 2 altimeters required by sub-paragraph (c) above.

(8) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to either condensation or icing.

(9) A vertical speed indicator;

(10) A turn and slip indicator;

(11) An attitude indicator; and

(12) A stabilized direction indicator.

(l) Those airplanes with a maximum certificated take-off weight in excess of 12,500 lb or having a maximum approved passenger seating configuration of more than 19 seats must be equipped with an additional, standby, attitude indicator (artificial horizon), capable of being used from either pilot's station, that:

(6) Is powered continuously during normal operation and, after a total failure of the normal electrical generating system is powered from a source independent of the normal electrical generating system;

(7) Provides reliable operation for a minimum of 30 minutes after total failure of the normal electrical generating system, taking into account other loads on the emergency power supply and operational procedures;

(8) Operates independently of any other attitude indicating system;

(9) Is operative automatically after total failure of the normal electrical generating system; and

(10) Is appropriately illuminated during all phases of operation, except for airplanes with a maximum certificated take-off weight of 12,500 lb or less, already registered on 1 April 1995, and equipped with a standby attitude indicator in the left-hand instrument panel.

(m) In complying with sub-paragraph (l) above, it must be clearly evident to the flight crew when the standby attitude indicator, required by that subparagraph, is being operated by emergency power. Where the standby attitude indicator has its own dedicated power supply there shall be an associated indication, either on the instrument or on the instrument panel, when this supply is in use.

(n) A chart holder in an easily readable position which can be illuminated for night operations.

(o) If the stand by attitude instrument system is installed and usable through flight attitudes of 360° of pitch and bank, the turn and slip indicators may be substituted by slip

indicators. Usable regarding the attitude instrument means that the system works from 0 to 360 degrees in pitch and bank without collapsing.

(p) Whenever duplicate instruments are required, the requirement embraces separate displays for each pilot and separate selectors or other associated equipment where appropriate;

(q) All airplanes must be equipped with means for indicating when power is not adequately supplied to the required flight instruments; and

(r) All airplanes with compressibility limitations not otherwise indicated by the required airspeed indicators shall be equipped with a Mach number indicator at each pilot's station.
(s) An operator shall not conduct IFR or night operations unless the airplane is equipped with a headset with boom microphone or equivalent for each flight crew member on flight deck duty and a transmit button on the control wheel for each required pilot. [See IEM OPS 1.650(p)/1.652(s)].

BCAR OPS 1.665 Ground proximity warning system and terrain awareness warning system

This regulation does not apply to domestic flights.

BCAR-OPS 1.670 Airborne weather radar equipment

For domestic VFR flights the weather radar equipment is not required.

BCAR OPS1.790 Hand fire extinguishers

Paragraph (e) does not apply to domestic flights, provided that the passenger compartment is not separated from the flight deck.

BCAR OPS 1.795 Crash axes and crowbars

This regulation does not apply to aircraft 12,500 lb or less.

BCAR OPS 1.815 Emergency lighting

This regulation does not apply to domestic flights.

BCAR–OPS 1.820 Emergency Locator Transmitter

All aircraft operating locally or shall ensure that all ELTs that are capable of transmitting on 406 MHz no later than Jan 1, 2012

BCAR OPS 1.865 Communication and Navigation equipment for operations under IFR, or under VFR over routes not navigated by reference to visual landmarks

(c) 1 (i) The ADF is required equipment only where the navigation is based on NDB signals. For day VFR operations this equipment is not required.

BCAR-OPS 1.866 Transponder equipment

(a) An operator shall not operate an airplane unless it is equipped with;

(1) A pressure altitude reporting SSR transponder; and

(2) Any other SSR transponder capability required for the route being flown.

(b) With authorisation from the BDCA, an operator may operate an aircraft equipped with an SSR transponder with its altitude reporting inoperative for a period of time determined by the BDCA.

BCAR-OPS 1.905 Operator's Maintenance Control Manual (MCM)

The MCM may be adapted to the type of operation conducted (See ACJ to BCAR-OPS 1.070 Annex 1)

BCAR-OPS 1.915 Operator's Airplane Technical Log (See ACJ to BCAR-OPS 1.915 Annex 1)

The BDCA may approve an abbreviated format of the Technical Log.

BCAR–OPS 1.940 Composition of Flight Crew
(See Appendices 1 & 2 to BCAR–OPS 1.940)

(a) An operator shall ensure that:

(1) The composition of the flight crew and the number of flight crew members at designated crew stations are both in compliance with, and no less than the minimum specified in, the Airplane Flight Manual (AFM);

(2) The flight crew includes additional flight crew members when required by the type of operation, and is not reduced below the number specified in the Operations Manual;

(3) All flight crew members hold an applicable and valid license acceptable to the BDCA and are suitably qualified and competent to conduct the duties assigned to them;

(4) Procedures are established, acceptable to the BDCA, to prevent the crewing together of inexperienced flight crew members (See AMC OPS 1.940(a) (4));

(5) One pilot amongst the flight crew, qualified as a pilot-in-command in accordance with BCAR-APL, is designated as the pilot in command who may delegate the conduct of the flight to another suitably qualified pilot; and

(6) When a dedicated System Panel Operator is required by the AFM, the flight crew includes one crew member who holds a Flight Engineer's license or is a suitably qualified flight crew member and acceptable to the BDCA.

(7) When engaging the services of flight crew members who are self-employed and/or working on a freelance or part-time basis, the requirements of Subpart N are complied with. In this respect, particular attention must be paid to the total number of aircraft types or variants that a flight crew member may fly for the purposes of commercial air transportation, which must not exceed the requirements prescribed in BCAR-OPS 1.980 and BCAR-OPS 1.981, including when his services are engaged by another operator. For crew members serving the operator as a pilot in command, initial operator's Crew Resource Management (CRM) training shall be completed before commencing unsupervised line flying, unless the crew member has previously completed an initial operator's CRM course.

(b) *Minimum flight crew for operations under IFR or at night.* For operations under IFR or at night, an operator shall ensure that:

(1) For all turbo-propeller airplanes with a maximum approved passenger seating configuration of more than 19 passenger seats and for all turbojet airplanes, the minimum flight crew is 2 pilots; or

(2) Airplanes other than those covered by sub-paragraph (b) (1) above are operated by a single pilot provided that the requirements of Appendix 2 to

BCAR–OPS 1.940 are satisfied. If the requirements of Appendix 2 are not satisfied, the minimum flight crew is 2 pilots.

BCAR OPS 1.943 Initial Operator's Crew Resource Management (CRM) training

This regulation applies to single pilot operation also.

BCAR-OPS 1.945 Conversion Training and Checking

(a) Subparagraph (a) (7) line flying under supervision (IOE) may be conducted in an airplane of the same class. The number of flights (IOE) shall depend on the complexity of the operation.

(b) Subparagraph (a) (8) is not applicable.

BCAR-OPS 1.960 Pilots in Command holding a Commercial Pilot License

Subparagraph (a) (1) (i) is not applicable to day VFR operations.

BCAR-OPS1.965 Recurrent Training and Checking

(a) Subparagraph (a) (1) shall be applicable to day VFR operations as follows: All training and checking must be related to the type of operation and airplane class in which the crewmember is going to operate, taking into account any particularity of the equipment to be used.

(b) Subparagraph (a) (3) (ii) shall be applicable as follows: training in the airplane may be conducted by a CRE, FE or TRE.

(c) Subparagraph (a) (4) (i) shall be applicable as follows: the operator's proficiency check may be conducted by a TRE, CRE, or a pilot in command properly qualified and trained in CRM concepts (when applicable), and evaluation skills, chosen by the operator and accepted by the BDCA.

This nominee must have completed no less than 2000 hours flight time as a pilot of aeroplanes, including 500 hours of pilot in command flight time in class and experience in commercial operations in type.

(d) Subparagraph (b) (2) shall be applicable as follows: in day VFR operations in those cases in which the operations are conducted in periods not exceeding 8 consecutive months, one proficiency check shall be conducted before the beginning of the flying season.

BCAR-OPS 1.968 Pilot qualification to operate in either pilot's seat

Not applicable to day VFR operations in single engine airplanes.

BCAR-OPS 1.975 Route and Aerodrome competency qualification

(a) For day VFR operations subparagraphs (b), (c), and (d) are not applicable, except that the operator must ensure that in those cases in which an special approval is required by the State in which the aerodrome is located the associated requirements are complied.

(b) For IFR or night VFR operations as an alternative to what is established in subparagraphs from (b) to (d) the route and aerodrome competency qualifications may be revalidated as follows:

(1) Except for aerodromes with more traffic the conduction of 10 sectors within the operation area in the preceding 12 months in addition to any other required instruction.

(2) Operations may only be conducted to aerodromes with more traffic if:

(i) The pilot in command has been qualified in the aerodrome in the last 36 months, by acting as flying pilot or as an observer

(ii) The approach in conducted in VMC conditions from the minimum sector altitude applicable.

(iii) Adequate instruction has been conducted before the flight.

BCAR-OPS 1.980 Operation on more than type or variant

(a) This regulation is no applicable to operations limited to single pilot, piston engine day VFR operations.

(b) For IFR or night VFR the requirement of the Appendix 1 to the BCAR-OPS 1.980 (d) (d) (2) (i) of 500 hours in the relevant crew position before exercising the privileges of 2 license endorsements is reduced to 100 hours or 20 sectors, if one of the endorsements refers to one class of airplane. The flight check must be conducted before the pilot may act as pilot in command

BCAR-OPS 1.981 Operation of helicopters and airplanes

This regulation is not applicable if the operation is limited to single pilot, piston engine airplanes.

BCAR-OPS 1.1045 Operations Manual structure and contents

(See ACJ to the BCAR-OPS 1.1045 in the annex 1)

BCAR-OPS 1.1060 Operational flight plan

(a) For day VFR flights from A to A is not required.

(b) For flights from A to B within the same State, a simplified operational flight plan is acceptable; it must contain:

(1) Airplane registration

(2) Date of flight

(3) Departure place

(4) Arrival Place

(5) Type of operation (VFR / IFR)

(6) Routes and route segments with checkpoints, waypoints, distance, time, and heading. As checkpoints or waypoints compulsory reporting points shall be utilized plus TOC, TOD change over points, and points that are more than 30 minutes apart.

(7) Planned cruise speed, and flight time between reporting points, estimated and actual time overhead.

(8) Safe altitudes

(9) Planned altitudes

(10) Fuel calculations in-flight fuel checks overhead checkpoints

(11) Fuel on board at engine start

(12) Destination alternates and if applicable takeoff and Enroute alternates

Note: If this simplified operational flight plan is used, an in-flight redispatch shall not be allowed

(c) This regulation does not apply to domestic flights, for international flights subparagraph (b) above applies.

BCAR-OPS 1.1070 Operator's Maintenance Control Manual (MCM)

The MCM may be developed in an adequate manner to the type of operation conducted.

BCAR-OPS 1.1071 Airplane Technical Log

(See ACJ to the BCAR-OPS 1.915 in the Annex 1)

BCAR-OPS 1.1080 APPLICABILITY.

a) Certificate holders must assure that flight crewmembers, cabin crewmembers, dispatchers and maintenance personnel are programmed in such a way that the flight time limitations established are not exceeded.

b) Terminology used in this chapter.

6. Duty period means the period of elapsed time between 30 minutes from reporting for an assignment involving flight time and 30 minutes after being release from that assignment by the certificate holder.
7. Rest period: means the period free of all restraint or duty for a certificate holder.
8. Deadhead: Time spent in deadhead transportation to or from duty assignment is not considered to be a part of a rest period.
9. Flight time: means time that commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing.
10. Calendar day means the period of elapsed time, using Coordinated Universal Time or local time that begins at midnight and ends 24 hours later at the next midnight.

c) The certificate holders may program one or more flight operations or duty time to his crewmembers as long as the accumulated flight time , wait time, deadhead transportation, or any other activity do no exceed the duty time established in this chapter.

BCAR-OPS 1.1235 Security requirements

(See ACJ to the BCAR-OPS 1.1005 (a) in the Annex 1)

BCAR-OPS 1.1240 Training programs

The training programs shall be tailored to the type of operation conducted. A self study training program may be acceptable for VFR operations

BCAR-OPS 1.1250 Airplane search procedure checklist

Not applicable to day VFR operations

SECTION 2

ACJ to the Appendix 2 on BCAR-OPS 1.175; The Management and Organization of an AOC holder

Supervision: The supervision of the personnel may be accomplished by those in charged of the corresponding area, provided that there is the availability of time for such function.

ACJ to the BCAR-OPS 1.915 Operator's Airplane Technical Log

Attach a sample form of a simplified Airplane Technical Log

ACJ to the BCAR-OPS 1.1070 Maintenance Control Manual (MCM)

The MCM may be simplified as much as possible provided that it corresponds to the type of operation conducted by the operator.

ACJ on Subpart R Transport of Dangerous Good by Air

BCAR-OPS 1.1155, 1.1160, 1.1215, 1.1220, 1.1225 are applicable to operators who desire an approval to transport Dangerous Goods.

ACJ on Subpart S Security

The security requirements of the BCAR-OPS 1.1235 are applicable in States in which the national security program is applicable to operators covered under this Annex 1 to the BCAR-OPS.

ACJ on BCAR-OPS 1.005 (a)

The twilight ends in the afternoon when the center of the solar disk this 6 degrees below the horizon and it begins in the morning when the center of the solar disk this 6 degrees above the horizon

ACJ on BCAR-OPS 1.290 (b) (2) Flight Preparations

When a Configuration Deviation List (CDL) has been published for airplanes of this size, it shall be included in the AFM or equivalent document

ACJ on BCAR-OPS 1.1045 Operations Manual-structure and contents

1. The appendix 1 to the BCAR-OPS 1.1045 establishes in detail the policies, operations, instructions and other information that the operations manual shall contain, so that the operations personnel may conduct their tasks in a satisfactory way. When writing their operations manual, the operator may use other documents related with the subject. The material produced by the operator for Part B of its operations manual may be supplemented with the applicable parts of Airplane Flight Manual (AFM), or with those of the Airplane Operating Manual (AOM) elaborated by the airplane manufacturer.

For airplanes to which this annex 1 is applicable, is acceptable that the POH or equivalent document, may be used as part B of the operations manual, whenever the POH covers all the required elements.

For the part C of the operations manual, the material produced by the operator may be supplemented or substituted with the route manual produced by a specialized professional company.(Jeppessen)

2. If the operator decides to use the material from another source for its operations manual, it shall either copy the material applicable and include it directly in the corresponding part of the manual, or the manual must contain a declaration that certain manuals (or portions of the same) may be utilized instead of the contents of the operations manual.

3. If an operator decides to use the material of an alternating source, this does not exempt the operator of his responsibility of verifying the applicability and currency of this material. Also, the operations manual must contain the list of these documents and their revision status or applicable amendments.