

IMPLEMENTING STANDARD 2
Civil Aviation (Aircraft Operations) Regulations 2007 – Implementing Standards

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IMPLEMENTING STANDARD 2
Civil Aviation (Aircraft Operations) Regulations 2007

Standard NO:2.1 INOPERATIVE INSTRUMENTS AND EQUIPMENT
Regulation 8

Inoperative Instruments and equipment under Regulation 8 shall meet the following minimum standards:

- (a) this implementing standard authorises flight operations with inoperative instruments and equipment installed in situations where no master minimum equipment list is available and no Minimum Equipment List is required for the specific aircraft operation under these Regulations.
- (b) the inoperative instruments and equipment shall not be—
 - (i) part of the Visual Flight Rules-day instruments and equipment prescribed in the Act or Regulations made thereunder;
 - (ii) required on the aircraft's equipment list or the operations equipment list for the kind of flight operation being conducted;
 - (iii) required by the Act or Regulations made thereunder for the specific kind of flight operation being conducted; or
 - (iv) required to be operational by an airworthiness directive.
- (c) to be eligible for these provisions, the inoperative instruments and equipment shall be—
 - (i) determined by the pilot in command not to be a hazard to safe operation;
 - (ii) deactivated and placarded "Inoperative"; and
 - (iii) removed from the aircraft, the flight deck control placarded and the maintenance recorded in accordance with Regulation 8.
- (d) the following instruments and equipment may not be included in the Minimum Equipment List:
 - (i) instruments and equipment that are either specifically or otherwise required by the certification airworthiness requirements and which are essential for safe operations under all operating conditions;
 - (ii) instruments and equipment required for operable condition by an airworthiness directive, unless the airworthiness directive provides otherwise; and
 - (iii) instruments and equipment required for specific operations.

Standard NO: 2.2 DANGEROUS GOODS PROCEDURES AND REQUIREMENTS
Regulations 12 - 25

Standard NO:-2.2.1

Regulation 12

Approval for Transport of Dangerous Goods

The transport of dangerous goods under Regulation 12 shall meet the following minimum standards:

(a) owners and operators desirous of transporting dangerous goods shall be approved by the DCA; and

(b) an applicant shall satisfy the requirements of the International Civil Aviation Organisation Technical Instructions as amended, to be granted the approval.

Standard NO:-2.2.2

Regulation 13

Safe Transport of Dangerous Goods

The safe transport of dangerous goods under Regulation 13 shall meet the following minimum standards:

(a) the DCA shall stipulate the scope of approval after being satisfied that the applicant has complied with the provisions of the International Civil Aviation Organisation Technical Instructions.

(b) notwithstanding, where dangerous goods are to be transported outside the territory of Barbados, the operator shall comply with the appropriate variations noted by contracting states the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.3

Regulation 15

Classification of dangerous goods

The classification of goods as dangerous goods under Regulation 15 shall meet the applicable minimum standards of the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.4

Regulation 16

Packing of Dangerous Goods

The method of packing of goods under Regulation 16 shall meet the applicable minimum standards of the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.5

Regulation 17

Labelling and Marking of Dangerous Goods

The method and procedures for labelling and marking dangerous goods under Regulation 17 shall meet the applicable minimum standards of the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.6

Regulation 18

Dangerous Goods Transport Document

The Dangerous Goods Transport Document under Regulation 18 shall meet the minimum standards set out in the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.7

Regulation 19

Acceptance of Dangerous Goods by Operator or Handling Agent

The method of acceptance of dangerous goods under Regulation 19 shall meet the minimum standards set out in procedures in the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.8

Regulation 20

Damage, Leakage or Contamination by Dangerous Goods

The inspection for damage, leakage or contamination of dangerous goods under Regulation 20 shall meet the minimum standards set out in the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.9

Regulation 21

Removal of Contamination by Dangerous Goods

Removal of contamination caused by dangerous goods as a result of damage, leakage or contamination of dangerous goods under Regulation 21 shall meet the minimum standards set out in the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.10

Regulation 22

Loading of Dangerous Goods

Loading restrictions of dangerous goods under Regulation 22 shall meet the minimum standards set out in the International Civil Aviation Organisation Technical Instructions as amended.

Standard NO:-2.2.11

Regulation 23

Information on Dangerous Goods

The information regarding the transport of dangerous goods which is to be provided to ground staff, passengers, acceptance point personnel, crew members, pilot in command and the relevant civil aviation authorities in the event of an accident or incident, inspection for damage, leakage or contamination of dangerous goods under Regulation 23 shall meet the minimum standards set out in the International Civil Aviation Organisation Technical Instructions as amended from time to time.

Standard NO:-2.2.12

Regulation 24

Dangerous Goods Training Programmes

Training programmes for initial and recurrent dangerous goods training under Regulation 24 shall meet the following minimum standards:

(a) the training programme and training curricula or content of the training programme shall be in accordance with the International Civil Aviation Organisation Technical Instructions as amended;

(b) the training of personnel of an operator approved to carry dangerous goods shall 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 and how to identify such goods; and

(c) the training of crew members personnel of a national air operator approved to carry dangerous goods Aircraft, passenger handling staff; and security staff employed by the national air operator who deal with the screening of a passengers and their baggage, have received training which, as a minimum, shall 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 Dangerous Goods 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.

(d) an operator holding a permanent approval to carry dangerous goods shall ensure that—

(i) personnel engaged in the acceptance of dangerous goods have received training and are qualified to carry out their duties. As a minimum, such training shall cover the areas identified in Column 1 of Table 2 and be to a depth sufficient to ensure that staff can make decisions on the acceptance or refusal of dangerous goods offered for carriage by air;

(ii) personnel 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. At a minimum, this training shall 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;

(iii) personnel engaged in general cargo handling have received training to enable them to carry out their duties in respect of dangerous goods. As a minimum, this training shall 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 and how to handle and load them;

(iv) flightcrew members have received training which, as a minimum, shall cover the areas identified in Column 4 of Table 2. Training shall 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

(v) passenger handling staff; security staff employed by the operator who deal with the screening of passengers and their baggage; and crew members (other than flightcrew members) have received training which, as a minimum, shall cover the areas identified in Column 5 of Table 2. Training shall be to a depth sufficient to ensure that an 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;

(e) a national air operator shall ensure that all personnel who require dangerous goods training receive recurrent training at intervals of not longer than two years;

(f) a national air operator shall ensure that records of dangerous goods training are maintained for all personnel required such training and that these records are maintained at the location where the personnel perform such duties;

(g) a national air operator shall ensure that its handling agent's staff is 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 The Air Transport	x	x	x	x	x
Classification And List Of Dangerous Goods	x	x		x	
General Packing Requirements And Packing Instructions	x				
Packaging Specifications Marking	x				
Package Marking And Labeling	x	x	x	x	x
Documentation From The Shipper	x				
Acceptance Of Dangerous Good, Including The Use Of A Checklist	x				
Loading, Restrictions On Loading And Segregation	x	x	x	x	
Inspections For Damage Or Leakage And Decontamination Procedures	x	x			
Provision Of Information To pilot in command	x	x		x	
Dangerous Goods In Passengers' Baggage	x			x	x
Emergency Procedures	x	x		x	x

Note: x indicates an area to be covered.

(h) a national air operator shall provide dangerous goods training manuals which contain adequate procedures and information to assist personnel in identifying packages marked or labeled as containing hazardous materials including—

(i) instructions on the acceptance, handling, and carriage of hazardous materials;

(ii) instructions governing the determination of proper shipping names and hazard classes; and

(iii) packaging, labeling, and marking requirements.

Standard NO:-2.2.13

Regulation 25

Reporting of Dangerous Goods Incident or Accident

Dangerous Goods incidents and accidents under Regulation 25 shall be reported in accordance with the following minimum standards:

(a) reports of dangerous goods incidents and accidents are to be made to the civil aviation authority of the State in which the incident or accident occurred, and to the DCA by the pilot in command; and

(b) an operator shall also report to the DCA undeclared dangerous goods or inaccurately declared dangerous goods which are discovered in cargo or passengers' baggage. An initial report shall be dispatched within seventy-two hours of the discovery unless exceptional circumstances prevent this.

Standard NO: - 2.3 INSPECTION OF AIRCRAFT
Regulation 29 (15)

The frequency and details of the progressive inspections under Regulation 29 shall be as follows:

- (a) provide for the complete inspection of the aircraft within each twelve month period;
- (b) be consistent with the current recommendations of the manufacturer, field service experience;
- (c) be appropriate to the kind of operation in which the aircraft is engaged;
- (d) the progressive inspection schedule under Regulation 29(8)(b)(ii), shall ensure that the aircraft, at all times, is airworthy and conforms to all applicable aircraft specifications, type certificate data sheets, airworthiness directives and other approved data acceptable to the Director of Civil Aviation (DCA);
- (e) where the progressive inspection under this regulation is discontinued, the operator shall immediately notify the DCA, in writing, of such discontinuance;
- (f) where a progressive inspection is discontinued under paragraph
- (e), the first annual inspection required by these regulations shall be due within twelve months after the last complete inspection of the aircraft under the progressive inspection programme;
- (g) the one hundred hour inspection under Regulation (29)(3)(c) shall be due within one hundred hours of that complete inspection;
- (h) a complete inspection of an aircraft, for the purpose of determining when the annual and one hundred hour inspections are due, requires a detailed inspection of the aircraft and all its components in accordance with the progressive inspection programme;
- (i) a routine inspection of an aircraft and a detailed inspection of several components are not considered to be a complete inspection, required under paragraph (h);

Standard NO: - 2.4 AMENDMENT TO AIRCRAFT INSPECTION PROGRAMME

Regulation 30

1. A change to an Aircraft Maintenance Programme under Regulation 30 shall meet the following minimum standards:
2. The DCA shall use information generated from local operators' reliability reports, information from service information letters and service difficulty reports from manufacturers, International Safety Organizations and experiences from the aviation industry worldwide to influence a decision on an operator's approved inspection programme

Standard NO: - 2.5 RECORDS

Regulation 32, 33

Standard NO: - 2.5.1

Regulation 32

Maintenance Records Retention

The retention of maintenance records under Regulation 32 shall meet the requirements of the Civil Aviation Air Operators Certification and Administration Regulations, 2007.

Standard NO:-2.5.2

Regulation 33

Transfer of Maintenance Records

The transfer of maintenance records under Regulation 33 shall meet the requirements of Civil Aviation Air Operators Certification and Administration Regulations, 2007.

Standard NO: - 2.6 FITNESS OF FLIGHTCREW

Regulation 50

The fitness of flightcrew members under Regulation 50 shall meet the following minimum standards:

Whenever there is a reasonable basis to believe that a person may not be in compliance with Regulation 50 and upon the request of the DCA, that person shall furnish the DCA or authorize any clinic, doctor, or other person to release to the DCA, the results of each blood test taken for presence of alcohol or narcotic substances up to 8 hours before or immediately after acting or attempting to act as a crew member.

Standard NO:-2.7 DUTY STATION REQUIREMENTS FOR FLIGHTCREW

Regulation 52

Flightcrew members at duty stations under Regulation 52 shall meet the following minimum standards:

- (a) a required flightcrew member shall leave the assigned duty station if he is taking a rest period, and relief is provided—
 - (i) for the assigned pilot in command during the en-route cruise portion of the flight by a pilot who holds an Airline Transport Pilot Licence and an appropriate type rating, and who is currently qualified as pilot in command or co-pilot, and is qualified as pilot in command of that aircraft during the en-route cruise portion of the flight; and
 - (ii) in the case of the assigned co-pilot, by a pilot qualified to act as pilot in command or co-pilot of that aircraft during en-route operations.

Standard NO:-2.8 IN-FLIGHT FUEL MANAGEMENT REQUIREMENTS

Regulation 61

The management of fuel in flight under Regulation 61 shall meet the following minimum standards:

(a) in-flight fuel checks:

(i) a pilot in command shall ensure that fuel checks are carried out in flight at regular intervals. The remaining fuel shall be recorded and evaluated to—

(A) compare actual consumption with planned consumption;

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

(C) determine the expected fuel remaining on arrival at the destination; and

(ii) the relevant fuel data shall be recorded;

(b) in flight fuel management—

(i) 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 shall 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; and

(ii) 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.

Standard NO:-2.9 FLIGHTCREW DUTIES DURING CRITICAL PHASES OF FLIGHT

Regulation 62

A flightcrew member under Regulation 62 during critical phases of flight shall meet the following minimum standards:

(a) duties such as company required calls made for such non-safety related purposes as ordering galley supplies and confirming passenger connections, announcements made to passengers promoting the air operator or pointing out sights of interest, and filling out company payroll and related records are not duties required for the safe operation of the aircraft; and

(b) activities such as eating meals, engaging in non-essential conversations within the cockpit and non-essential communications between the cabin and cockpit crews, and reading publications not related to the proper conduct of the flight are not duties required for the safe operation of the aircraft.

Standard NO:-2.10 REPORTING MECHANICAL IRREGULARITIES

Regulation 66

The reporting of mechanical irregularities under Regulation 66 shall comply with the following minimum standards:

- (a) a national air operator shall provide an aircraft technical log to be carried on board each aircraft for recording or deferring mechanical irregularities and their correction;
- (b) the pilot in command shall enter or have entered in the aircraft technical log each mechanical irregularity that comes to his attention during flight time. Before each flight, the pilot in command shall, where the pilot does not already know, determine the status of each irregularity entered in the technical log at the end of the preceding flight;
- (c) a person who takes corrective action or defers action concerning a reported or observed failure or malfunction of an airframe, power plant, propeller, rotor, or personnel and shall include that procedure in the maintenance control manual. appliance, shall record the action taken in the aircraft technical log under the applicable maintenance requirements of the Act or Regulations made thereunder;
- (d) a national air operator shall establish a procedure for keeping copies of the aircraft technical log required by this section in the aircraft for access by appropriate representatives of the DCA.

Standard NO:-2.11 PORTABLE ELECTRONIC DEVICES

Regulation 77

1. When interference with an aircraft system or equipment is suspected from use of a portable electronic device, crew members of the aircraft shall—

- (a) confirm passenger use of such portable electronic device;
- (b) instruct the passenger using such portable electronic device to terminate the use of such portable electronic device;
- (c) prohibit the use of suspected portable electronic device; and
- (d) recheck the affected systems and equipment of the aircraft.

2. The pilot in command shall report incidents of portable electronic device interference to the national air operator and include the following information in the report:

- (a) aircraft type, registration, date and Universal Co-ordinated Time of incident, aircraft location using VHF Omni Range bearing and distance or latitude and longitude coordinates, altitude, weather conditions, pilot name and telephone number;
- (b) description of effects on cockpit indicators, audio or systems, including radio frequency, identification, duration, severity and other pertinent information;
- (c) action taken by the pilot or crew to identify cause or source of interference;
- (d) description of device, brand name, model, serial number, mode of operation, device location (seat location), and regulatory approval number;
- (e) name and telephone number of passenger operating the device; and
- (f) additional information, as determined pertinent by the flightcrew.

Standard NO:-2.12 EXTENDED RANGE OPERATIONS WITH TWO-ENGINE AEROPLANE

Regulation 94

The United States of America, Federal Aviation Administration, Advisory Circular AC120-42, as amended from time to time, meets the minimum International Civil Aviation Organisation requirements for giving effect to the Chicago Convention in respect of the minimum standards relating to Regulation 94 which are for Extended Range Operations with two engine-aeroplanes. National air operators may be guided by the current AC120-42 in meeting the Barbados ETOPS requirements.

Standard NO:-2.13 EN-ROUTE ALTERNATE AERODROMES FOR EXTENDED RANGE OPERATIONS REQUIREMENTS

Regulation 95

The United States of America, Federal Aviation Administration, Circular AC120-42, as amended from time to time, meets the minimum International Civil Aviation Organisation requirements for giving effect to the Chicago Convention in respect of the minimum standards relating to Regulation 95 which are for En-route Alternate Aerodrome –ETOPS operations. National air operators may be guided by the current AC120-42 in meeting the Barbados ETOPS requirements.

Standard NO: - 2.14 ENROUTE ALTERNATE AERODROME FOR EXTENDED RANGE OPERATIONS WEATHER REQUIREMENTS

Regulation 95 (3)

The weather conditions for an Extended Range Operations en-route alternate under Regulation 95 shall be at or above the planning minima shown in Table 1.

Table 1

Type of approach	Planning Minima (RVR/visibility required and ceiling, if applicable)	
	Aerodrome with	
	At least 2 separate approach procedures based on 2 separate aids serving 2 separate runways (See note 1)	At least 2 separate approach procedures based on 2 separate aids serving 1 runway or, at least 1 approach procedure based on 1 aid serving 1 runway
Precision Approach Cat II, III (ILS, MLS)	Precision Approach Cat I Minima	Non-Precision Approach Minima
Precision Approach Cat I (ILS, MLS)	Non-Precision Approach Minima	Circling minima or, if not available, non-precision approach minima plus 200 feet/1000 metres
Non-Precision Approach	The lower of nonprecision approach minima plus 200 feet/1000 metres or circling minima	The higher of non-precision approach minima plus 200 feet/1000 metres or circling minima
Circling Approach	Circling Minima	

Note : Runways on the same aerodrome are considered to be separate runways when they are separate landing surfaces which may overlay or cross such that if one of the runways is blocked, it will not prevent the planned type of operations on the other runway and each of the landing surfaces has a separate approach based on a separate aid.

Standard NO: - 2.15 AIRCRAFT LOADING MASS AND BALANCE REQUIREMENTS
Regulation 100(6)

An operator shall ensure that during any phase of operation, the loading, mass and centre gravity of the aircraft complies with the limitations specified in the approved Aeroplane Flight Manual or the Helicopter Flight Manual, or the Operations Manual where more restrictive.

Mass and balance documentation under Regulation 100(6), shall be set out in the following manner:

(a) mass and balance documentation shall contain the following information:

- (i) the aircraft registration and type;
- (ii) the flight identification number and date;
- (iii) the identity of the pilot in command;
- (iv) the identity of the person who prepared the document;
- (v) the dry operating mass and the corresponding centre of gravity of the aircraft;
- (vii) the mass of the fuel at take-off and the mass of trip fuel;
- (vii) the mass of consumables other than fuel;
- (viii) the components of the load including passengers, baggage, freight and ballast;
- (ix) the take-off mass, landing mass and zero fuel mass;
- (x) the load distribution;
- (xi) the applicable aircraft centre of gravity positions; and
- (xii) the limiting mass and centre of gravity values,

(b) subject to the approval of the DCA, an operator may omit some of this data from the mass and balance documentation;

(c) where any last minute change occurs after the completion of the mass and balance documentation, this shall be brought to the attention of the pilot in command and the last minute change shall be entered on the mass and balance documentation. The maximum allowed change in the number of passengers or hold load acceptable as a last minute change shall be specified in the Operations Manual. If this number is exceeded, new mass and balance documentation shall be prepared;

(d) where mass and balance documentation is generated by a computerized mass and balance system, the operator shall verify the integrity of the output data. He shall 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 six months; and

(e) where an operator wishes to use an onboard mass and balance computer system as a primary source for dispatch, he shall obtain the approval of the DCA.

Standard NO:- 2.16 OPERATIONAL FLIGHT PLAN FOR COMERCIAL AIR TRANSPORT OPERATIONS REQUIREMENTS

Regulation 103 (1)

The requirements for an Operational Flight Plan in Commercial Air Transport Operations under Regulation 103 are as follows:

(a) the minimum contents of an operational flight plan shall be determined by the method of flight supervision and the type of operations conducted by the operator. An international air operator shall adhere to the 30 items operational flight plan as listed below whereas an operator conducting local flight within 25 minutes from the departure aerodrome and Visual Flight Rules flights may use an informal operational flight plan, being either an Air Traffic Control flight plan, a flight itinerary or other flight following information approved by the DCA;

(b) the format of the full operational flight plan shall allow the crew to record the fuel state and the progress of the flight relative to the plan. The operational flight plan may be computer generated or produced manually, working from charts and tables, by either the Flight Operations Officer or the flightcrew. When an operational flight plan is prepared manually, an approved form displaying the requisite information and providing the necessary space to make flight following entries as the flight progresses shall be used;

(c) the national air operator shall specify, in its company operations manual, how formal acceptance of the operational flight plan by the pilot in command and, if applicable, the Flight Operations Officer shall be recorded;

(d) the Minimum Required Content of an Operational Flight Plan which are as follows:

- (i) *air operator's name;
- (ii) *date;
- (iii) *aeroplane registration;
- (iv) *aeroplane tail number (as applicable);
- (v) *aeroplane type and model (as applicable);
- (vi) *flight number (as applicable);
- (vii) type of flight (Instrument Flight Rules or Visual Flight Rules)
(not required if all the national air operator's flights are the same);
- (viii) *pilot-in-command's name;
- (ix) *Flight Operations Officer's name (as applicable);
- (x) *departure aerodrome;
- (xi) *destination aerodrome;
- (xii) *alternate aerodrome (as applicable), including enroute alternates where required;
- (xiii) routing to destination by successive navigational way points and a method to obtain associated tracks for each;

- (xiv) routing to alternate aerodrome (as applicable);
- (xv) specification of any way points enroute to satisfy special operations requirements (Extended Range Twin-engine Operations, etc.);
- (xvi) *planned cruise altitudes to destination and alternate (as applicable);
- (xvii) planned cruise true air speed;
- (xviii) planned cruise indicated air speed, or mach number (as applicable);
- (xix) winds at planned cruise altitude: these may be expressed in terms of direction/velocity or as a component/drift angle;
- (xx) temperature at cruise altitude;
- (xxi) ground speed or wind component during cruise;
- (xxii) *estimated time en-route: if broken down into way point time components, a total shall be specified;
- (xxiii) time from destination to alternate (as applicable);
- (xxiv) distance to destination: if broken down into way point distance components, a total shall be specified;
- (xxv) distance from destination to alternate (as applicable);
- (xxvi) *fuel burn en-route and from destination to alternate;
- (xxvii) *fuel required for the type of flight plan as applicable for—
 - (A) taxi;
 - (B) destination;
 - (C) alternate;
 - (D) holding reserve; and
 - (E) additional requirements or en-route reserve (as applicable);
- (xxviii) *weights for—
 - (A) total fuel on board;
 - (B) zero fuel weight; and
 - (C) planned maximum take-off weight;
- (xxix) *signature of pilot-in-command and the Flight Operations Officer (as applicable) or alternate means of certifying acceptance; and
- (xxx) *number of persons on board, crew and passengers, as amended by final load figures.

Note: The items with asterisk () denote the minimum items which shall be adhered to by national air operators on short range operations of less than thirty minutes, night Visual Flight Rules operations and domestic operations.*

Standard NO:2.17 COMMERCIAL AIR TRANSPORT RECORDS OF EMERGENCY AND SURVIVAL EQUIPMENT REQUIREMENT

Regulation 104

The record of emergency and survival equipment carried on board an aircraft under Regulation 104 shall meet the following minimum standards: Where a life raft is required to be carried in accordance with Regulation 104, it shall be equipped with an attached survival kit containing at least the following:

- (a) a pyrotechnic signalling device;
- (b) a life raft repair kit;
- (c) a bailing bucket and sponge;
- (d) a signalling mirror;
- (e) a whistle;
- (f) a raft knife;
- (g) an inflation pump;
- (h) dye marker;
- (i) a waterproof flashlight;
- (j) a two day supply of water, calculated using the overload capacity of the raft, consisting of one pint of water per day for each person or a means of desalting or distilling salt water sufficient to provide an equivalent amount;
- (k) a book on sea survival; and
- (l) a first aid kit containing antiseptic swabs, burn dressing compresses, bandages and anti-motion sickness pills.

Standard NO:2.18 GENERAL REQUIREMENTS FOR AIRCRAFT OPERATIONS

Regulation 106

The following established international performance codes meet the minimum international civil aviation requirements for giving effect to the Chicago Convention in respect of the minimum standards relating to the performance requirements of these Regulations as applicable:

- (a) Federal Aviation Regulations of the United States of America;
- (b) Joint Aviation Requirements;
- (c) Canadian Aviation Regulations; and
- (d) British Civil Authority and Requirement.

Standard NO: 2.19. AIRCRAFT LANDING PERFORMANCE LIMITATIONS

Regulation 118

The landing performance limitations for aircraft under Regulation 118 shall meet the following minimum standards:

The in-flight determination of the landing distance should be based on the latest available report, preferably not more than thirty minutes before the expected landing time.

Standard NO:-2.20 GENERAL OPERATING RULES FOR CATEGORY II AND III OPERATIONS

Regulation 130

The United States of America, Federal Aviation Administration, Advisory Circular AC120-28 and AC120-29, as amended from time to time, meet the minimum International Civil Aviation Organization requirements for giving effect to the Chicago Convention in respect of the minimum standards relating to Regulation 130 which are for the approval of Category II and III operations. National air operators may be guided by the current AC120-28 and AC120-29 in meeting the Category II or Category III requirements.

**Standard NO: - 2.21 REQUIREMENTS FOR CATEGORY II AND CATEGORY III
MANUAL**

Regulation 131 (4)

The Category II and Category III manual under Regulation 131 shall meet the following minimum standards:

(a) An applicant for approval of a Category II or III manual or an amendment to an approved Category II manual shall submit the proposed manual or amendment to the DCA. Where the Category II or III programme submitted by an operator in support of his application under Regulation 131 contains an evaluation stage, the Cat II or III manual of the operator shall include the following:

- (i) the location of the aircraft and the place where the demonstrations are to be conducted; and
- (ii) the date the demonstrations are to commence (at least ten days after filing the application).

(b) a Category II or III manual shall contain—

- (i) the registration mark, make, and model of the aircraft to which it applies;
- (ii) a maintenance programme; and
- (iii) the procedures and instructions related to recognition of DH, use of runway visual range information, approach monitoring, the decision region (the region between the middle marker and the decision height), the maximum permissible deviations of the basic ILS indicator within the decision region, a missed approach, use of airborne low approach equipment, minimum altitude for the use of the autopilot, instrument and equipment failure warning systems, instrument failure, and other procedures, instructions, and limitations that may be found necessary by the DCA.

***Standard 2.22* REQUIREMENTS FOR THE USE OF AIRCRAFT LIGHTS**

Regulation 136

Lights other than those specified shall not be displayed if they are likely to be mistaken for the specified lights.

Standard NO: - 2.23 INTERCEPTION OF CIVIL AIRCRAFT
Regulation 149 (2)

1. The pilot in command of a civil aircraft, when intercepted by a military aircraft under Regulation 149 shall comply with the following international standards for interpreting and responding to visual signals:

2. (a) Barbados shall observe the following principles regarding the interception of civil aircraft:

- (i) interception of civil aircraft will be undertaken only as a last resort;
- (ii) where undertaken, an interception will be limited to determining the identity of the aircraft, unless it is necessary to return the aircraft to its planned track, direct it beyond the boundaries of national airspace, guide it away from a prohibited, restricted or danger area or instruct it to effect a landing at a designated aerodrome;
- (iii) practice interception of civil aircraft will not be undertaken;
- (iv) navigational guidance and related information will be given to an intercepted aircraft by radiotelephony, whenever radio contact can be established; and
- (v) in the case where an intercepted civil aircraft is required to land in the territory overflowed, the aerodrome designated for the landing is to be suitable for the safe landing of the aircraft type concerned;

(b) Barbados shall ensure that a standard method that has been established and made available to the public for the manoeuvring of aircraft intercepting a civil aircraft. Such method shall be designed to avoid any hazard for the intercepted aircraft;

(c) Barbados shall ensure that provision is made for the use of secondary surveillance radar, where available, to identify civil aircraft in areas where they may be subject to interception.

3. Action by intercepted aircraft:

(a) an aircraft which is intercepted by another aircraft shall immediately—

- (i) follow the instructions given by the intercepting aircraft, interpreting and responding to visual signals;
- (ii) notify, if possible, the appropriate air traffic services unit;
- (iii) attempt to establish radio communication with the intercepting aircraft or with the appropriate intercept control unit, by making a general call on the emergency frequency 121.5 MHz, giving the identity of the intercepted aircraft and the nature of the flight; and if no contact has been established and if practicable, repeating this call on the emergency frequency 243 MHz; and
- (iv) where equipped with SSR transponder, select Mode A, Code 7700, unless by the appropriate air traffic services unit;

(b) where any instructions received by radio from any sources conflict with those given by the intercepting aircraft by visual signals, the intercepted aircraft shall request immediate clarification while continuing to comply with the visual the intercepting aircraft.

(c) where any instructions received by radio from any sources conflict with those given by the intercepting aircraft by radio, the intercepted aircraft shall request immediate clarification while continuing to comply with the radio instructions given by the intercepting aircraft.

4. Radio communication during interception:

Where radio contact is established during interception but communication in a common language is not possible, attempts shall be made to convey instructions, acknowledgement of instructions and essential information by using the phrases and pronunciations in the table below and transmitting each phrase twice—

Phrases for use by INTERCEPTED aircraft			Phrases for use by INTERCEPTED aircraft		
Phrase	Pronunciation ¹	Meaning	Phrase	Pronunciation ¹	Meaning
CALL SIGN	KOL SA-IN	What is your call sign?	CALL SIGN (call sign) ²	<u>KOL</u> SA-IN (call sign)	My call sign is (call sign)
FOLLOW	FOL-LO	Follow me	WILCO	<u>VILL</u> -KO	Understood Will comply
DESCEND	DEE-SEND	Descend for landing	CAN NOT	<u>KANN</u> NOTT	Unable to comply
YOU LAND	YOU LAAND	Land at this aerodrome	REPEAT	REE- <u>PEET</u>	Repeat your instruction
PROCEED	PRO-SEED	You may proceed	AM LOST	AM- <u>LOSST</u>	Position unknown
			MAYDAY	<u>MAYDAY</u>	I am in distress
			HIJACK ³	<u>HI-JACK</u>	I have been hijacked
			LAND (place name)	LAAND (place name)	I request to land at (place name)
			DESCEND	DEE- <u>SEND</u>	I require descent

1. In the second column, syllables to be emphasized are underlined
2. The call sign required to be given is that used in radiotelephone, communications with air traffic services units and corresponding to the aircraft identification in the flight plan.
3. Circumstances may not always permit, nor make desirable, the use of the phrase "HIJACK".

Standard NO: - 2.24 UNIVERSAL SIGNALS

Regulation 160 (3)

The universal signs to be used in air transport operations shall have the following meanings:

(a) distress signals. The following signals, used either together or separately, mean that grave and imminent danger threatens, and immediate assistance is requested:

- (i) a signal made by radiotelegraphy or by any other signalling method consisting of the group SOS (••• — — — ••• in the Morse Code);
- (ii) a signal sent by radiotelephony consisting of the spoken word MAYDAY;
- (iii) rockets or shells throwing red lights, fired one at a time at short intervals; and
- (iv) a parachute flare showing a red light;

(b) none of the provisions in this clause shall prevent the use, by an aircraft in distress, of any means at its disposal to attract attention, make known its position and obtain help;

(c) the following signals, used either together or separately, means that an aircraft wishes to give notice of difficulties which compel it to land without requiring immediate assistance:

- (i) the repeated switching on and off of the landing lights; or
- (ii) the repeated switching on and off of the navigation lights in such manner as to be distinct from flashing navigation lights;

(d) the following signals, used either together or separately, means that an aircraft has a very urgent message to transmit concerning the safety of a ship, aircraft or other vehicle, or of some person on board or within sight:

- (i) a signal made by radiotelegraphy or by any other signaling method consisting of the group XXX; and
- (ii) a signal sent by radiotelephony consisting of the spoken words PAN, PAN;

(e) the following signals shall be used in the event of interception:

(i) signals initiated by intercepting aircraft and responses by intercepted aircraft;

<i>Series</i>	<i>INTERCEPTING Aircraft Signals</i>	<i>Meaning</i>	<i>INTERCEPTED Aircraft Responds</i>	<i>Meaning</i>
1	<p>DAY or NIGHT — Rocking aircraft and flashing navigational lights at irregular intervals (and landing lights in the case of a helicopter) from a position slightly above and ahead of, and normally to the left of, the intercepted aircraft (or to the right if the intercepted aircraft is a helicopter) and, after acknowledgement, a slow level turn, normally to the left, (or to the right in the case of a helicopter) on the desired heading.</p> <p><i>Note 1:- Meteorological conditions or terrain may require the intercepting aircraft to reverse the positions and direction of turn given above in Series 1.</i></p> <p><i>Note 2:- If the intercepted aircraft is not able to keep pace with the intercepting aircraft, the latter is expected to fly a series of race-track patterns and to rock the aircraft each time it passes the intercepted aircraft.</i></p>	<p>You have been intercepted. Follow me.</p>	<p>DAY or NIGHT — Rocking aircraft, flashing navigational lights at irregular intervals and following.</p>	<p>Understood, Will comply.</p>
2	<p>DAY or NIGHT — An abrupt break-away manoeuvre from the intercepted aircraft consisting of a climbing turn of 90 degrees or more without crossing the line of flight of the intercepted aircraft.</p>	<p>You may proceed.</p>	<p>DAY or NIGHT — Rocking the aircraft.</p>	<p>Understood, will comply.</p>
3	<p>DAY or NIGHT — Lowering landing gear (if fitted), showing steady landing lights and overflying runway in use or, if the intercepted aircraft is a helicopter, overflying the helicopter landing area. In the case of helicopters, the intercepting helicopter makes a landing approach, coming to hover near to the landing area.</p>	<p>Land at this aerodrome.</p>	<p>DAY or NIGHT — Lowering landing gear (if fitted), showing steady landing lights and following the intercepting aircraft and, if, after overflying the runway in use or helicopter landing area, landing is considered safe, proceeding to land.</p>	<p>Understood, will comply.</p>

(ii) signals initiated by intercepted aircraft and responses by intercepting aircraft

<i>Series</i>	<i>INTERCEPTED Aircraft Signals</i>	<i>Meaning</i>	<i>INTERCEPTING Aircraft Responds</i>	<i>Meaning</i>
4	DAY or NIGHT — Raising landing gear (if fitted) and flashing landing lights while passing over runway in use or helicopter landing area at a height exceeding 300 m (1 000 ft) but not exceeding 600 m (2 000 ft) [in the case of a helicopter, at a height exceeding 50 m (170 ft) but not exceeding 100 m (330 ft)] above the aerodrome level, and continuing to circle runway in use or helicopter landing area. If unable to flash landing lights, flash any other lights available.	Aerodrome you have designated is inadequate.	DAY or NIGHT — If it is desired that the intercepted aircraft follow the intercepting aircraft to an alternate aerodrome, the intercepting aircraft raises its landing gear (if fitted) and uses the Series 1 signals prescribed for intercepting aircraft. If it is decided to release the intercepted aircraft, the intercepting aircraft uses the Series 2 signals prescribed for intercepting aircraft.	Understood, follow me. Understood, you may proceed.
5	DAY or NIGHT — Regular switching on and off of all available lights but in such a manner as to be distinct from flashing lights.	Cannot comply.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.
6	DAY or NIGHT — Irregular flashing of all available lights.	In distress.	DAY or NIGHT — Use Series 2 signals prescribed for intercepting aircraft.	Understood.

(f) visual signals used to warn an unauthorised aircraft. By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, onbursting, red and green lights or stars will indicate to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited, or danger area, and that the aircraft is to take such remedial action as may be necessary.

(g) signals for aerodrome traffic. Aerodrome controllers shall use and pilots shall obey the following light and pyrotechnic signals:

<i>Light</i>	From Aerodrome Control to	
	Aircraft in flight	Aircraft on the ground
<i>Steady Green</i>	Cleared to land	Cleared for take-off
<i>Steady red</i>	Give way to other aircraft and continue circling	Stop
<i>Series of Green flashes</i>	Return for a landing*	Cleared to taxi
<i>Series of red flashes</i>	Aerodrome unsafe, do not land	Taxi clear of landing area in use
<i>Series of white flashes</i>	Land at this aerodrome and proceed to apron*	Return to starting point on the aerodrome
<i>Red Pyrotechnic</i>	Notwithstanding any previous instructions, do not land for the time being	
*Clearance to land and to taxi will be given in due course		

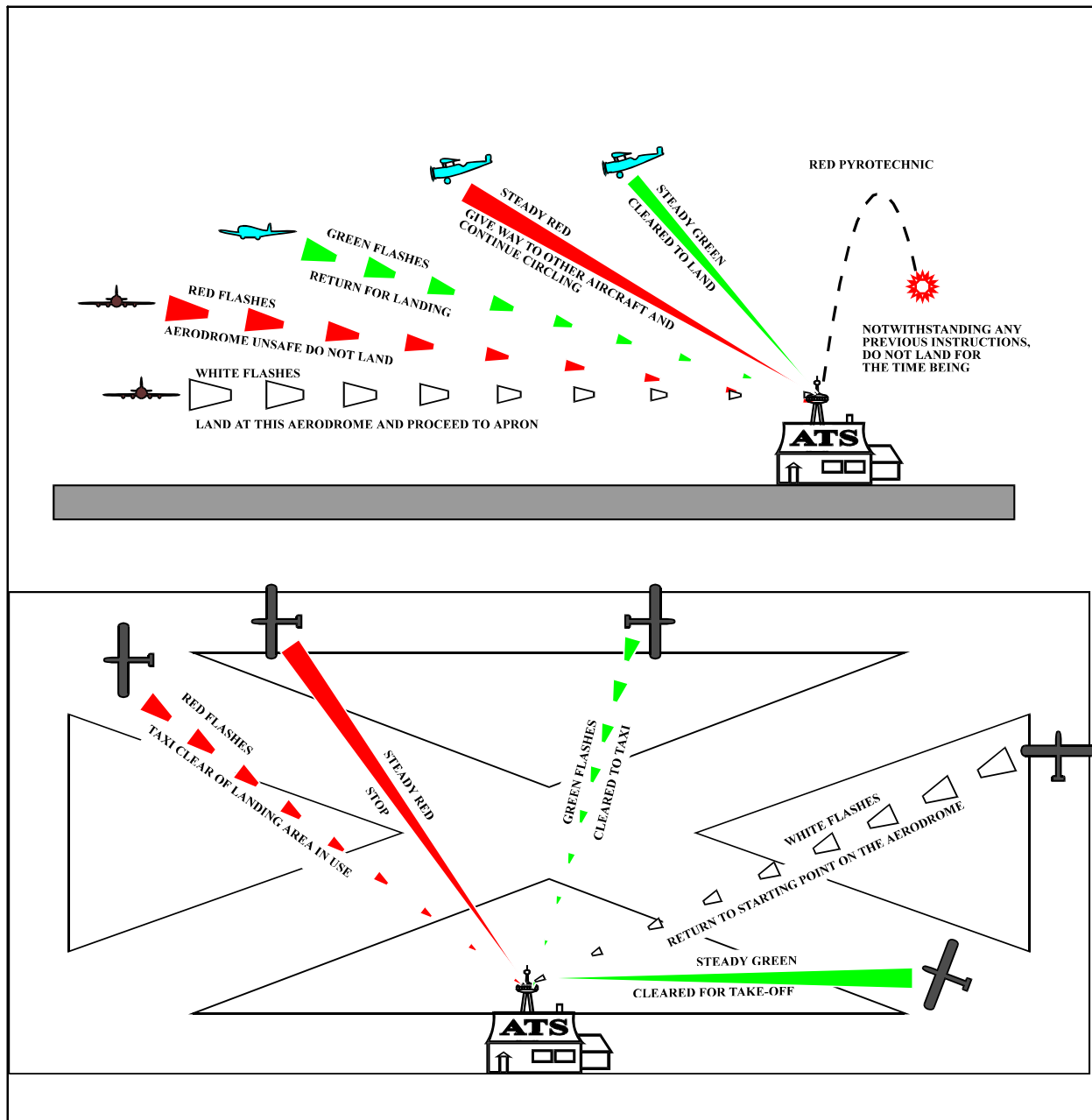


Figure 8.1

(h) Pilots shall acknowledge the aerodrome controller signals as follows:

(i) when in flight—

(A) during the hours of daylight by rocking the aircraft's swings; and

Note: This signal should not be expected on the base and final legs of the approach

(B) during the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights;

(ii) when on the ground—

(A) during the hours of daylight by moving the aircraft's ailerons or rudder; and

(B) during the hours of darkness by flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

(i) aerodrome authorities shall use the following visual ground signals shall be use during the following situations:

(i) *prohibition of landing.*

A horizontal red square panel with yellow diagonals (Figure 8.2) when displayed in a signal area indicates that landings are prohibited and that the prohibition is liable to be prolonged; and

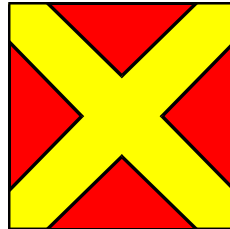


Figure 8.2

(ii) *need for special precautions while approaching or landing.*

A horizontal red square panel with one yellow diagonal (Figure 8.3) when displayed in a signal area indicates that owing to the bad state of the manoeuvring area, or for any other reason, special precautions shall be observed in approaching to land or in landing.

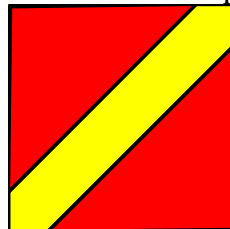


Figure 8.3

(iii) *use of runways and taxiways.*

A horizontal white dumb-bell (Figure 8.4) when displayed in a signal area indicates that aircraft are required to land, take off and taxi on runways and taxiways only.

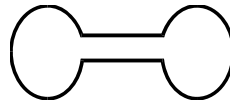


Figure 8.4

(iv) *use of runways and taxiways*

The same horizontal white dumb-bell as in Figure 8.4, but with a black bar placed perpendicular to the shaft across each circular portion of the dumb-bell (Figure 8.5) when displayed in a signal area indicates that aircraft are required to land and take off on runways only, but other manoeuvres need not be confined to runways and taxiways

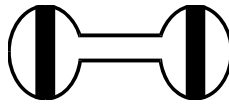


Figure 8.5

(v) *closed runways or taxiways.*

Crosses of a single contrasting colour, yellow or white (Figure 8.6), displayed horizontally on runways and taxiways or parts thereof indicate an area unfit for movement of aircraft.

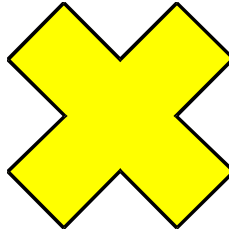


Figure 8.6

(vi) *directions for landing or take-off.*

A horizontal white or orange landing T (Figure 8.7) indicates the direction to be used by aircraft for landing and take-off, which shall be in a direction parallel to the shaft of the T towards the cross arm.

Note: When used at night, the landing T is either illuminated or outlined in white coloured lights.

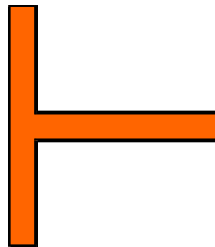


Figure 8.7

(vii) *directions for landing or take-off*

A set of two digits (Figure 8.8) displayed vertically at or near the aerodrome control tower indicates to aircraft on the manoeuvring area the direction for take-off, expressed in units of 10 degrees to the nearest 10 degrees of the magnetic compass.



Figure 8.8

(viii) *right-hand traffic*.

When displayed in a signal area, or horizontally at the end of the runway or strip in use, a righthand arrow of conspicuous colour (Figure 8.9) indicates that turns are to be made to the right before landing and after takeoff.

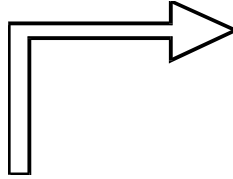


Figure 8.9

(ix) *air traffic services reporting office*.

The letter C displayed vertically in black against a yellow background (Figure 8.10) indicates the location of the air traffic services reporting office.

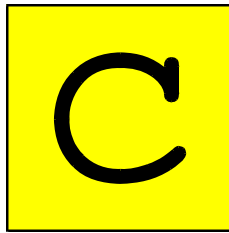


Figure 8.10

(x) *glider flights in operation*.

A double white cross displayed horizontally (Figure 8.11) in the signal area indicates that the aerodrome is being used by gliders and that glider flights are being performed.

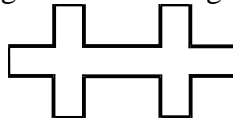


Figure 8.11

(j) the following marshalling signals shall be used from a signalman to an aircraft.

These signals are designed for use by the signalman, with hands illuminated as necessary to facilitate observation by the pilot, and facing the aircraft in a position:

- (i) for fixed-wing aircraft, the signalman shall be positioned forward of the left-wing tip within view of the pilot and, for helicopters, where the signalman can best be seen by the pilot.

The meaning of the relevant signals remains the same if bats, illuminated wands or torch lights are held.


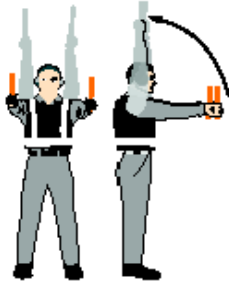

Note: The aircraft engines are numbered, for the signalman facing the aircraft, from right to left (i.e., No. 1 engine being the port outer engine).




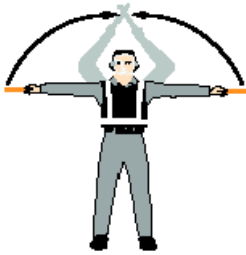

Note: Signals marked with an asterisk are designed for use to hovering helicopters.






(ii) prior to using the following signals, the signalman shall ascertain that the area within which an aircraft is to be guided is clear of objects which the aircraft might otherwise strike.






Note: The design of many aircraft is such that the path of the wing tips, engines and other extremities cannot always be monitored visually from the flight deck while the aircraft is being manoeuvred on the ground




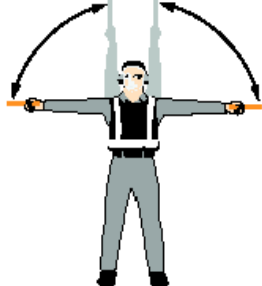
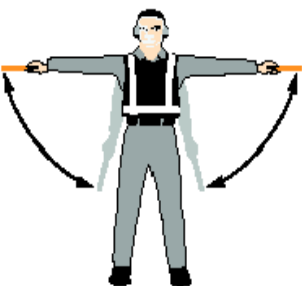
MARSHALLING SIGNALS






<p>1) Wingwalker/guide Proceed under further guidance by signalman: Raise right hand above head level with wand pointing up; move left-hand wand pointing down toward body. Note.— This signal provides an indication by a person positioned at the aircraft wing tip to the pilot/ marshaller/ push-back operator that the aircraft movement on/off a parking position would be unobstructed.</p>	
<p>2) Identify gate Raise fully extended arms straight above head with wands pointing up.</p>	
<p>3) Proceed to next signalman or as directed by tower/ground control Point both arms upward; move and extend arms outward to sides of body and point with wands to direction of next signalman or taxi area.</p>	




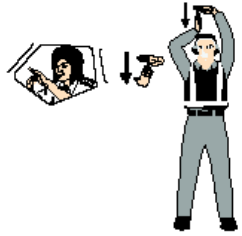

<p>4) Straight ahead Bend extended arms at elbows and move wands up and down from chest height to head.</p>	
<p>5(a). Turn left (from pilot's point of view) With right arm and wand extended at a 90-degree angle to body, make "come ahead" signal with left hand. The rate of signal motion indicates to pilot the rate of aircraft turn.</p>	
<p>5(b) Turn right (from pilot's point of view) With left arm and wand extended at a 90-degree angle to body, make "come ahead" signal with right hand. The rate of signal motion indicates to pilot the rate of aircraft turn.</p>	
<p>6(a) Normal stop Fully extend arms and wands at a 90-degree angle to sides and slowly move to above head until wands cross.</p>	
<p>6(b) Emergency stop Abruptly extend arms and wands to top of head, crossing wands.</p>	

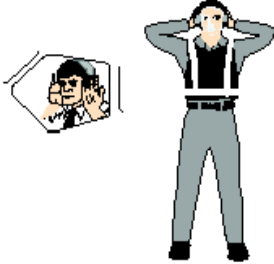

<p>7(a) Set brakes Raise hand just above shoulder height with open palm. Ensuring eye contact with flight crew, close hand into a fist. Do not move until receipt of “thumbs up” acknowledgement from flight crew.</p>	
<p>7(b) Release brakes Raise hand just above shoulder height with hand closed in a fist. Ensuring eye contact with flight crew, open palm. Do not move until receipt of “thumbs up” acknowledgement from flight crew.</p>	
<p>8(a) Chocks inserted With arms and wands fully extended above head, move wands inward in a “jabbing” motion until wands touch. Ensure acknowledgement is received from flight crew.</p>	
<p>8(b) Chocks removed With arms and wands fully extended above head, move wands outward in a “jabbing” motion. Do not remove chocks until authorized by flight crew.</p>	
<p>9 Start engine(s) Raise right arm to head level with wand pointing up and start a circular motion with hand; at the same time, with left arm raised above head level, point to engine to be started.</p>	

<p>10 Cut engines Extend arm with wand forward of body at shoulder level; move hand and wand to top of left shoulder and draw wand to top of right shoulder in a slicing motion across throat.</p>	
<p>11 Slow down Move extended arms downwards in a “patting” gesture, moving wands up and down from waist to knees</p>	
<p>12 Slow down engine(s) on indicated side With arms down and wands toward ground, wave either <i>right</i> or <i>left</i> wand up and down indicating engine(s) on <i>left</i> or <i>right</i> side respectively should be slowed down.</p>	
<p>13 Move back With arms in front of body at waist height, rotate arms in a forward motion. To stop rearward movement, use signal 6 a) or 6 b).</p>	
<p>14(a) Turns while backing (for tail to starboard) Point left arm with wand down and bring right arm from overhead vertical position to horizontal forward position, repeating right-arm movement.</p>	

<p>14(b) Turns while backing (for tail to port) Point right arm with wand down and bring left arm from overhead vertical position to horizontal forward position, repeating left-arm movement</p>	
<p>15 Affirmative/all clear Raise right arm to head level with wand pointing up or display hand with “thumbs up”; left arm remains at side by knee.</p>	
<p>16 Hover Fully extend arms and wands at a 90-degree angle to sides.</p>	
<p>17 Move upwards Fully extend arms and wands at a 90-degree angle to sides and, with palms turned up, move hands upwards. Speed of movement indicates rate of ascent.</p>	
<p>18 Move downwards Fully extend arms and wands at a 90-degree angle to sides and, with palms turned down, move hands downwards. Speed of movement indicates rate of descent.</p>	

<p>19(a) Move horizontally left (from pilot's point of view) Extend arm horizontally at a 90-degree angle to right side of body. Move other arm in same direction in a sweeping motion.</p>	
<p>19(b) Move horizontally right (from pilot's point of view) Extend arm horizontally at a 90-degree angle to left side of body. Move other arm in same direction in a sweeping motion.</p>	
<p>20 Land Cross arms with wands downwards and in front of body.</p>	
<p>21 Fire Move right-hand wand in a "fanning" motion from shoulder to knee, while at the same time pointing with left-hand wand to area of fire.</p>	
<p>22 Hold position/stand by Fully extend arms and wands downwards at a 45-degree angle to sides. Hold position until aircraft is clear for next manoeuvre.</p>	

<p>23 Dispatch aircraft Perform a standard salute with right hand and/or wand to dispatch the aircraft. Maintain eye contact with flight crew until aircraft has begun to taxi.</p>	
<p>24 Do not touch controls (technical/servicing communication signal) Extend right arm fully above head and close fist or hold wand in horizontal position; left arm remains at side by knee.</p>	
<p>25 Connect ground power (technical/servicing communication signal) Hold arms fully extended above head; open left hand horizontally and move finger tips of right hand into and touch open palm of left hand (forming a “T”). At night, illuminated wands can also be used to form the “T” above head</p>	
<p>26 Disconnect power (technical/servicing communication signal) Hold arms fully extended above head with finger tips of right hand touching open horizontal palm of left hand (forming a “T”); then move right hand away from the left. Do not disconnect power until authorized by flight crew. At night, illuminated wands can also be used to form the “T” above head.</p>	
<p>27 Negative (technical/servicing communication signal) Hold right arm straight out at 90 degrees from shoulder and point wand down to ground or display hand with “thumbs down”; left hand remains at side by knee.</p>	

<p>28 Establish communication via interphone (technical/servicing communication signal)</p> <p>Extend both arms at 90 degrees from body and move hands to cup both ears.</p>	
<p>29 Open/close stairs (technical/servicing communication signal)</p> <p>With right arm at side and left arm raised above head at a 45-degree angle, move right arm in a sweeping motion towards top of left shoulder.</p> <p><i>Note.— This signal is intended mainly for aircraft with the set of integral stairs at the front.</i></p>	

(k) signals from the pilot of an aircraft to a signalman.

The pilot in command or co-pilot shall use the following signals when communicating with a signalman:

- (i) brakes engaged: raise arm and hand, with fingers extended, horizontally in front of face, then clench fist;
- (ii) brakes released. raise arm, with fist clenched, horizontally in front of face, then extend fingers;

Note: These signals are designed for use by a pilot in the cockpit with hands plainly visible to the signalman, and illuminated as necessary to facilitate observation by the signalman.

Note: The aircraft engines are numbered in relation to the signalman facing the aircraft, from right to left (i.e., No. 1 engine being the port outer engine).

Note: The moment the fist is clenched or the fingers are extended indicates, respectively, the moment of brake engagement or release.

- (iii) insert chocks arms extended, palms outwards, move hands inwards to cross in front of face;
- (iv) remove chocks hands crossed in front of face, palms outwards, move arms outwards; and
- (v) ready to start engine(s). Raise the appropriate number of fingers on one hand indicating the number of the engine to be started;

Standard NO: - 2.25 VISUAL METEOROLOGICAL CONDITIONS
Regulation 162 (b)

The following are Visual Meteorological Conditions:

Airspace and VMC Minima Table*		
Airspace Class	A ***BC D E	F G
		Above 900m (3,000 ft) MSL or above 300m
		At and below 900m (3,000 ft) MSL or 300m (1,000 ft) above terrain, whichever is the higher
Distance from cloud	1,500 m horizontally 300m (1,000 ft) vertically	Clear of cloud and in sight of the surface
Flight visibility	8km at and above 3,050 in (10,000 ft) MSL km below 3,050m (10,000 ft) MSL	5km**
When the height of the transition altitude is lower than 3,050 in (10,000 ft) AMSL, FL 100 should be used in lieu of 10,000 ft.		
*When the height of the transition altitude is lower than 3050 metres (10000 feet) AMSL, FL100 should be used in lieu of 10000 feet.		
**When so prescribed by the appropriate Air Traffic Services Authority:		
(a) lower flight visibilities to 1500 metres may be permitted for flights operating:		
(1) at speeds that, in the prevailing visibility, will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision; or		
(2) in circumstances in which the probability of encounters with other traffic would normally be low, for example: in areas of low volume traffic and for aerial work at low levels.		
(b) HELICOPTERS may be permitted to operate in less than 1500 metres flight visibility, if manoeuvred at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision.		
***The Visual Meteorological Conditions minima in Class A airspace are included for guidance to pilots and do not imply acceptance of Visual Flight Rules flights in Class A airspace		

Standard NO 2.26 PASSENGERS and PASSENGER HANDLING

Standard NO: 2.26.1

Regulation 189

UNACCEPTABLE CONDUCT OF PASSENGER

An operator shall ensure that where alcohol and drugs are used on board an aircraft by passengers under Regulation 189 such use shall meet the following minimum standards:

(a) a person shall not drink any alcoholic beverage aboard an aircraft unless the operator has served that beverage to him;

(b) an operator shall not serve any alcoholic beverage to any person aboard any of its aircraft who—

(i) appears to be intoxicated; and

(ii) is escorting a person or being escorted in accordance with security regulations,

(c) an operator shall not allow any person to board any of its aircraft where such person appears to be intoxicated;

(d) an operator shall, within five days after the incident, report to the DCA the refusal of any person to comply with paragraph (a), or of any disturbance caused by a person who appears to be intoxicated aboard any of his aircraft;

(e) except in an emergency, no pilot of a civil aircraft may allow a person who appears to be intoxicated or who demonstrates by manner or physical indications that the individual is under the influence of drugs (except a medical patient under proper care) to be carried in that aircraft.

(f) a crew member shall do the following:

(i) on request of the DCA, submit to a test to indicate the percentage by weight of alcohol in the blood, when—

(A) the DCA is authorized to have the test conducted; and

(B) the DCA is requesting submission to the test to investigate a suspected violation of State law governing the same or substantially similar conduct prohibited Regulation 46(5);

(ii) whenever the DCA has a reasonable basis to believe that a person may have violated Regulation 46(5), that person shall, upon request by the DCA, furnish the DCA, or authorize any clinic, hospital, doctor, or other person to release to the DCA, the results of each test taken within 4 hours after acting or attempting to act as a crew member that indicates percentage by weight of alcohol in the blood; and

(g) any test information obtained by the DCA under paragraph (f) of this section may be evaluated in determining a person's qualifications for any airman certificate or possible violations of the Act or Regulations made thereunder.

Standard NO:2.26.2

Regulation 190

REFUELLING OR DEFUELLING WITH PASSENGERS EMBARKING ON BOARD OR DISEMBARKING

In establishing procedures with respect to the refueling of an aircraft with passengers on board in accordance with Regulation 190, an operator shall meet the following minimum standards:

- (a) one qualified person shall remain at a specified location during fuelling operations with passengers on board. This qualified person shall be capable of handling emergency procedures concerning fire protection and firefighting, handling communications and initiating and directing an evacuation;
- (b) crew, staff and passengers shall be warned that refueling or defuelling will take place;
- (c) "Fasten Seat Belts" signs shall be off;
- (d) "No Smoking" sign shall be on, together with interior lighting to enable emergency exits to be identified;
- (e) passengers shall be instructed to unfasten their seat belts and refrain from smoking;
- (f) sufficient qualified personnel shall be on board and be prepared for an immediate emergency evacuation;
- (g) if the presence of fuel vapour is detected inside the aeroplane, on any other hazard arises during the re/defuelling, fuelling shall be stopped immediately;
- (h) the ground area beneath the exits intended for emergency evacuation and slide deployment areas shall be kept clear; and
- (i) provision is made for a safe and rapid evacuation.

Standard NO: 2.26.3

Regulation 191

PASSENGER SEATS, SAFETY BELTS AND SHOULDER HARNESSSES

An operator shall ensure that passenger seats, safety belts, and shoulder harnesses under Regulation 191 shall meet the following minimum standards:

Each sideward facing seat shall comply as follows:

- (a) an occupant of a seat that makes more than an 18-degree angle with the vertical plane containing the aircraft centerline shall be protected from head injury by a safety belt and an energy absorbing rest that will support the arms, shoulders, head and spine, or by a safety belt and shoulder harness that will prevent the head from contacting any injurious objects; and
- (b) an occupant of any other seat shall be protected from head injury by a safety belt and, as appropriate to the type, location, and angle of facing of each seat, by one or more of the following:
 - (i) a shoulder harness that will prevent the head from contacting any injurious objects;
 - (ii) the elimination of any injurious objects within striking radius of the head; and
 - (iii) an energy absorbing rest that will support the arms, shoulders, head and spine.

Standard NO: 2.26.4

Regulation 194

MINIMUM SUPPLY AND USE OF PASSENGER OXYGEN

An operator shall ensure that the supply and use of passenger oxygen under Regulation 194 meets the following minimum standards:

(a) passenger cabin occupants. When the aeroplane is operating at flight altitudes above 10,000 feet, the following supply of oxygen shall be provided for the use of passenger cabin occupants:

(i) when an aeroplane certificated to operate at flight altitudes up to and including flight level 250, can at any point along the route to be flown, descend safely to a flight altitude of 14,000 feet or less within four minutes, oxygen shall be available at the rate prescribed by this part for a 30-minute period for at least 10 per cent of the passenger cabin occupants;

(ii) when an aeroplane is operated at flight altitudes up to and including flight level 250 and cannot descend safely to a flight altitude of 14,000 feet within four minutes, or when an aeroplane is operated at flight altitudes above flight level 250, oxygen shall be available at the rate prescribed by this part for not less than 10 percent of the passenger cabin occupants for the entire flight after cabin depressurization, at cabin pressure altitudes above 10,000 feet up to and including 14,000 feet and, as applicable, except that there shall be not less than a 10-minute supply for the passenger cabin occupants; and

(iii) for first-aid treatment of occupants who for physiological reasons might require undiluted oxygen following descent from cabin pressure altitudes above flight level 250, a supply of oxygen shall be provided for two percent of the occupants for the entire flight after cabin depressurization at cabin pressure altitudes above 8,000 feet, but in no case to less than one person. An appropriate number of acceptable dispensing units, but in no case less than two, shall be provided, with a means for the cabin crew to use this supply;

(b) passenger briefing. Before flight is conducted above flight level 250, a crew member shall instruct the passengers on the necessity of using oxygen in the event of cabin depressurization and shall point out to them the location and demonstrate the use of the oxygen-dispensing equipment.

Standard NO:2.26.5

Regulation 199

DENIAL OF TRANSPORTATION OF CERTAIN CATEGORIES OF PASSENGERS

A national air operator shall ensure that where transportation is denied under Regulation 199, the procedures for such denial meet the following minimum standards:

(a) a national air operator shall provide the DCA with a copy of each procedure it establishes in accordance with Regulation 199; and

(b) whenever the DCA finds that the procedures established by the national air operator under Regulation 198 does not meet the requirements prescribed by the DCA for safety, it may advise the national air operator to ensure that all procedures meet the DCA's requirements for safety;

(c) a national air operator shall make available to the public at each airport it serves a copy of each procedure it establishes under Regulation 199.

Standard NO:2.26.6.

Regulation 200

CARRIAGE OF PERSONS WITHOUT COMPLIANCE WITH CERTAIN PASSENGER-CARRYING REQUIREMENTS

Exemptions on certain passengers carrying requirements

1. An operator shall ensure that where passengers are carried under Regulation 200 that they are carried in accordance with the following minimum standards: (a) The provisions of Regulation 200 apply to the following persons:

- (i) a crew member.
- (ii) a company employee.
- (iii) a CAD air carrier inspector who is performing official duties.
- (iv) a person necessary for the—
 - (A) safety of the flight;
 - (B) safe handling of animals;
 - (C) safe handling of hazardous materials;
 - (D) security of valuable or confidential cargo;
 - (E) preservation of fragile or perishable cargo;
 - (F) Experiments on, or testing of, cargo containers or cargo handling devices;
 - (G) operation of special equipment for loading or unloading cargo; and
 - (H) loading or unloading of outsize cargo;
- (v) a person described in paragraph (a)(iv) of this section, when traveling to or from his assignment;
- (vi) a person performing duty as an honor guard accompanying a shipment made by or under the authority of the States;
- (vii) a dependant of an employee of the certificate holder when traveling with the employee on company business to or from outlying stations not served by adequate regular passenger flights.

2. A national air operator shall not operate an aeroplane carrying a person covered by paragraph (1) unless—

- (a) each person has unobstructed access from his seat to a regular or emergency exit;
- (b) the pilot in command has a means of notifying such person when smoking is prohibited and when safety belts shall be fastened; and
- (c) the aeroplane has an approved seat with an approved safety belt for such person. The seat shall be located so that the occupant is not in any position to interfere with the flightcrew members performing their duties.

3. Before each take-off, a national air operator operating an aeroplane carrying persons covered by this regulation shall ensure that such person has been orally briefed by the appropriate crew member on—

- (a) smoking;
- (b) the use of seat belts;
- (c) the location and operation of emergency exits;
- (d) the use of oxygen and emergency oxygen equipment; and
- (e) for extended over-water operations, the location of life rafts, and the location and operation of life vest including a demonstration of the method of donning and inflating a life vest.

4. A national air operator operating an aeroplane carrying persons covered under Regulation 200 shall incorporate procedures for the safe carriage of such persons into the certificate holder's operations manual.

Standard NO: 2.26.7

Regulation 201

CABIN CREW AT DUTY STATIONS

A national air operator shall ensure that where cabin crew are at duty stations under Regulation 201 the following minimum standards are met:

(a) when determining cabin crew seating positions, the national air operator shall ensure that they are—

- (i) close to a floor level exit;
- (ii) provided with a good view of the area of the passenger cabin for which the cabin crew member is responsible; and
- (iii) evenly distributed throughout the cabin, in the above order of priority;

(b) nothing in these standards shall be interpreted, where there are more cabin stations than cabin crew, as requiring the number of cabin crew members to be increased.

Standard NO: 2.26.8

Regulation 208

EXIT ROW SEATING

A national air operator shall ensure that the procedures to be followed in respect of exit row seating under Regulation 208 meets the following minimum standards:

(a) the standards to be utilized in determining whether a cabin crew may seat a person in a passenger exit seat are listed below. A cabin crew will not seat a person in a passenger exit where—

(i) such person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs—

- (A) to reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanisms;
- (B) to grasp and push, pull, turn, or otherwise manipulate those mechanisms;
- (C) to push, shove, pull, or otherwise open emergency exits;
- (D) to lift out, hold, deposit on nearby seats, or manoeuvre over the seatbacks to the next row objects the size and weight of over-wing window exit doors;
- (E) to remove obstructions of size and weight similar over-wing exit doors;
- (F) to reach the emergency exit expeditiously;
- (G) to maintain balance while removing obstructions;
- (H) to exit expeditiously;
- (I) to stabilize an escape slide after deployment; or
- (J) to assist others in getting off an escape slide;

(ii) such person is less than fifteen years of age or lacks the capacity to perform one or more of the applicable functions listed above without the assistance of an adult companion, parent, or other relative;

- (iii) the person lacks the ability to read and understand instructions required by this section and related to emergency evacuation provided by the national air operator in printed or graphic form or the ability to understand oral crew commands;
 - (iv) the person lacks sufficient visual capacity to perform one or more of the above functions without the assistance of visual aids beyond contact lenses or eyeglasses;
 - (v) the person lacks sufficient aural capacity to hear and understand instructions shouted by cabin crews, without assistance beyond a hearing aid;
 - (vi) the person lacks the ability adequately to impart information orally to other passengers; or
 - (vii) the person has a condition or responsibilities, such as caring for small children that might prevent the person from performing one or more of the functions listed above; or a condition that might cause the person harm if he or she performs one or more of the functions listed above.
- (b) determination as to the suitability of each person permitted to occupy an exit seat shall be made by the cabin crew or other persons designated in the operations manual of the national air operator;
- (c) in the event a cabin crew determines that a passenger assigned to an exit seat would be unable to perform the emergency exit functions, or if a passenger requests a non-exit seat, the cabin crew shall expeditiously relocate the passenger to a non-exit seat;
- (d) in the event of full booking in the non-exit seats, and if necessary to accommodate a passenger being relocated from an exit seat, the cabin crew shall move a passenger who is willing and able to assume the evacuation functions, to an exit seat;
- (e) each air operator agent shall, prior to boarding, assign seats consistent with the passenger selection criteria and the emergency exit functions, to the maximum extent feasible;
- (f) each air operator ticket agent shall make available for inspection by the public at all passenger loading gates and ticket counters at each aerodrome where it conducts passenger operations, written procedures established for making determinations in regard to exit row seating;
- (g) a cabin crew shall include in their passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she—
- (i) cannot meet the selection criteria;
 - (ii) has a non-discernible condition that will prevent him or her from performing the evacuation functions;
 - (iii) may suffer bodily harm as the result of performing one or more of those functions; or
 - (iv) does not wish to perform emergency exit functions.
- (h) each cabin crew shall include in their passenger briefings a reference to the passenger information cards and the functions to be performed in an emergency exit;
- (i) each passenger shall comply with instructions given by a crew member or other authorized employee of the national air operator implementing exit seating restrictions; and

(j) a pilot in command shall not allow taxi or pushback unless at least one required crew member has verified that all exit rows and escape paths are unobstructed and that no exit seat is occupied by a person the crew member determines is likely to be unable to perform the applicable evacuation functions;

Standard NO: 2.26.9

Regulation 210

OXYGEN FOR MEDICAL USE BY PASSENGERS

A national air operator shall ensure where oxygen is available for the medical use of passengers such oxygen and its use meets the following minimum standards:

(a) a national air operator may allow a passenger to use and operate equipment for the storage, generation, or dispensing of oxygen when the following conditions are met:

(i) the equipment is—

(A) furnished by the national air operator;

(B) approved ;

(C) maintained by the certificate holder in accordance with an approved maintenance programme;

(D) free of flammable contaminants on all exterior surfaces;

(E) capable of providing a minimum mass flow of oxygen to the user of four litres per minute;

(F) structured so that all valves, fittings, and gauges are protected from damage; and

(G) appropriately secured;

(ii) when the oxygen is stored in the form of a liquid, the equipment has been under the certificate holder's approved maintenance programme of the national air operator since its purchase new or since the storage container was last purged;

(iii) when the oxygen is stored in the form of a compressed gas—

(A) the equipment has been under the certificate holder's approved maintenance programme since its purchase new or since the last hydrostatic test of the storage cylinder; and

(B) the pressure in any oxygen cylinder does not exceed the rated cylinder pressure;

(iv) each person using the equipment has a medical need to use it evidenced by a written statement to be kept in that person's possession, signed by a licensed physician which specifies the maximum quantity of oxygen needed each hour and the maximum flow rate needed for the pressure altitude corresponding to the pressure in the cabin of the aeroplane under normal operating conditions. This paragraph does not apply to the carriage of oxygen in an aeroplane in which the only passengers carried are persons who may have a medical need for oxygen during flight, no more than one relative or other interested person for each of those persons, and medical attendants;

(v) when a physician's statement is required by paragraph (a)(iv), the total quantity of oxygen carried is equal to the maximum quantity of oxygen needed each hour, as specified in the physician's statement, multiplied by the number of hours used to compute the amount of aeroplane fuel required by this part;

- (vi) the pilot in command is advised when the equipment is on board, and when it is intended to be used; and
- (vii) the equipment is stowed, and each person using the equipment is seated, so as not to restrict access to or use of any required emergency, or regular exit or of the aisle in the passenger compartment;
- (b) a person shall not, nor shall a national air operator or its representative allow any person to, smoke within 10 feet of oxygen storage and dispensing equipment carried in accordance with paragraph (a);
- (c) a national air operator shall not allow any person to connect or disconnect oxygen dispensing equipment, to or from a gaseous oxygen cylinder while any passenger is aboard the aeroplane; and
- (d) the requirements of these paragraphs do not apply to the carriage of supplemental or first aid oxygen and related equipment required by the Act.

Standard NO: 2.26.10

Regulation 211

CARRY-ON BAGGAGE

A national air operator shall ensure that where carry-on baggage is allowed on board an aircraft it meets and its allowance on board meets the following minimum standards:

- (a) a national air operator shall not allow the boarding of carry-on baggage on an aeroplane unless each passenger's baggage has been scanned to control the size and amount carried on board in accordance with an approved carry-on baggage programme in its operations specifications. In addition, a passenger shall not board an aeroplane where his carry-on baggage exceeds the baggage allowance prescribed in the carry-on baggage programme in the operations specifications of the national air operator;
- (b) a national air operator shall not allow all passenger entry doors of an aeroplane to be closed in preparation for taxi or pushback unless at least one required crew member has verified that each article of carryon baggage is stowed;
- (c) a national air operator shall not allow an aeroplane to take off or land unless each article of carry-on baggage is stowed—
 - (i) in a suitable closet or baggage or cargo stowage compartment placarded for its maximum weight and providing proper restraint for all baggage or cargo stowed within, and in a manner that does not hinder the possible use of any emergency equipment; or
 - (ii) under a passenger seat;
- (d) carry-on baggage, other than articles of loose clothing, shall not be placed in an overhead rack unless that rack is equipped with approved restraining devices or doors;
- (e) a national air operator shall ensure that a passenger seat under which carryon baggage is allowed to be stowed shall be fitted with a means to prevent articles of carry-on baggage stowed under it from sliding forward. In addition, each aisle seat shall be fitted with a means to prevent articles of carry-on baggage stowed under it from sliding sideward into the aisle under crash impacts severe enough to induce the ultimate inertia forces specified in the emergency landing condition regulations under which the aeroplane was type certificated;

(f) in addition to the methods of stowage in paragraph (c), flexible travel canes carried by blind individuals may be stowed—

- (i) under any series of connected passenger seats in the same row, where the cane does not protrude into an aisle and where the cane is flat on the floor; or
- (ii) between a non-emergency exit window seat and the fuselage, where the cane is flat on the floor; or
- (iii) beneath any two non-emergency exit window seats, where the cane is flat on the floor; or
- (iv) in accordance with any other method approved by the DCA.

Standard NO: 2.26.11

Regulation 212

CARRIAGE OF CARGO IN PASSENGER COMPARTMENTS

1. A national air operator shall ensure that where cargo is carried in the passenger compartment of an aircraft its carriage meets the following minimum standards for submission to the DCA for approval:

- (a) cargo may be carried anywhere in the passenger compartment where it is carried in an approved cargo bin that meets the following requirements;
- (b) the bin shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
- (c) the maximum weight of cargo that the bin is approved to carry and any instructions necessary to insure proper weight distribution within the bin shall be conspicuously marked on the bin;
- (d) the bin shall not impose any load on the floor or other structure of the aeroplane that exceeds the load limitations of that structure;
- (e) the bin shall be attached to the seat tracks or to the floor structure of the aeroplane, and its attachment shall withstand the load factors and emergency landing conditions applicable to the passenger seats of the aeroplane in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the aeroplane, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin;
- (f) the bin shall not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment;
- (g) the bin shall be fully enclosed and made of material that is at least flame resistant;
- (h) suitable safeguards shall be provided within the bin to prevent the cargo from shifting under emergency landing conditions; and
- (i) the bin shall not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

2. Cargo, including carry-on baggage, may be carried anywhere in the passenger compartment of a small aeroplane if it is carried in an approved cargo rack, bin, or compartment installed in or on the aeroplane, if it is secured by an approved means, or if it is carried in accordance with each of the following:

- (a) for cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions, or for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;
- (b) it is packaged or covered to avoid possible injury to occupants;
- (c) it does not impose any load on seats or in the floor structure that exceeds the load limitation for those components;
- (d) it is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or is located in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign or placard, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passengers is provided;
- (e) it is not carried directly above seated occupants.
- (f) it is stowed in compliance with these restrictions during take-off and landing.
- (g) for cargo-only operations, if the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aeroplane a means of unobstructed exit from the aeroplane if an emergency occurs.

3. A national air operator shall not carry cargo, including carry-on baggage, in or on any aircraft unless—

- (a) it is carried in an approved cargo rack, bin, or compartment installed in or on the aircraft;
- (b) it is secured by an approved means; or
- (c) it is carried in accordance with each of the following:
 - (i) for cargo, it is properly secured by a safety belt or other tie-down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions, or for carry-on baggage, it is restrained so as to prevent its movement during air turbulence;
 - (ii) it is packaged or covered to avoid possible injury to occupants;
 - (iii) it does not impose any load on seats or on the floor structure that exceeds the load limitation for those components;
 - (iv) it is not located in a position that obstructs the access to, or use of, any required emergency or regular exit, or the use of the aisle between the crew and the passenger compartment, or located in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passengers is provided;
 - (v) it is not carried directly above seated occupants;
 - (vi) it is stowed in compliance with this standard for take-off and landing.
 - (vii) for cargo only operations, paragraph (3)(iv) does not apply where the cargo is loaded so that at least one emergency or regular exit is available to provide all occupants of the aircraft a means of unobstructed exit from the aircraft where an emergency occurs.

4. Each passenger seat under which baggage is stowed shall be fitted with a means to prevent articles of baggage stowed under it from sliding under crash impacts severe enough to induce the ultimate inertia forces specified in the emergency landing condition regulations under which the aircraft was type certificated.

5. When cargo is carried in cargo compartments that are designed to require the physical entry of a crew member to extinguish any fire that may occur during flight, the cargo shall be loaded so as to allow a crew member to effectively reach all parts of the compartment with the contents of a hand fire extinguisher.

Standard NO: 2.26.12

Regulation 214

PASSENGER BRIEFINGS

A national air operator shall ensure that passenger briefings under Regulation 214 meets the following minimum standards:

(a) a national air operator operating a passenger-carrying aircraft shall ensure that all passengers are orally briefed by the appropriate crew member as follows:

(i) before each take-off, on each of the following:

(A) each passenger shall be briefed on when, where, and under what conditions smoking is prohibited including, but not limited to, any applicable regulations. This briefing shall include a statement that the Civil Aviation Regulations require passenger compliance with the illuminated passenger information signs, posted placards, areas designated for safety purposes as no smoking areas, and crew member instructions with regard to these items. The briefing shall also include a statement that Civil Aviation Regulations prohibits tampering with, disabling, or destroying any smoke detector in an aeroplane lavatory; smoking in lavatories and, when applicable, smoking in passenger compartments;

(B) the location of emergency exits;

(C) the use of safety belts, including instructions on how to fasten and unfasten the safety belts. Each passenger shall be briefed on when, where, and under what conditions the safety belt shall be fastened about that passenger. This briefing shall include a statement that the Civil Aviation Regulations require passenger compliance with lighted passenger information signs and crew member instructions concerning the use of safety belts;

(D) the location and use of any required emergency flotation means;

(E) on operations that do not use a cabin crew, the following additional information:

(I) the placement of seat backs in an upright position before take-off and landing;

(II) location of survival equipment; and

(III) where the flight involves operations above 12,000 MSL, the normal and emergency use of oxygen.

(ii) after each take-off, immediately before or immediately after turning the seat belt sign off, an announcement shall be made that passengers should keep their seat belts fastened, while seated, even when the seat belt sign is off;

(iii) except as provided in paragraph (a)(iv) of this standard, before each take-off a required crew member assigned to the flight shall conduct an individual briefing of each person who may need the assistance of another person to move expeditiously to an exit in the event of an emergency. In the briefing the required crew member shall—

(A) brief the person and his attendant, where any, on the routes to each appropriate exit and on the most appropriate time to begin moving to an exit in the event of an emergency;

and

(B) inquire of the person and his attendant, where any, as to the most appropriate manner of assisting the person so as to prevent pain and further injury;

(iv) the requirements of paragraph (a)(iii) of this standard shall not apply to a person who has been given a briefing before a previous leg of a flight in the same aircraft when the crew members on duty have been advised as to the most appropriate manner of assisting the person so as to prevent pain and further injury; and

(b) a national air operator shall carry on each passenger-carrying aircraft, in convenient locations for use of each passenger, printed cards supplementing the oral briefing and containing—

(i) diagrams of, and methods of operating, the emergency exits;

(ii) other instructions necessary for use of emergency equipment;

and

(iii) the certificate holder shall describe in its manual the procedure to be followed in the briefing required by paragraph (a) of this standard.

Standard NO: 2.26.13

Regulation 215

PASSENGER BRIEFING FOR EXTENDED OVER WATER OPERATIONS

A national air operator shall ensure that passenger briefings for extended over-water operations under Regulation 215 meets the following minimum standards:

(a) a national air operator operating an aeroplane in extended over-water operations shall ensure that all passengers are orally briefed by the appropriate crew member on the location and operation of life vests, life rafts, and other flotation means, including a demonstration of the method of donning and inflating a life vest;

(b) a national air operator shall describe in his manual the procedure to be followed in the briefing required by paragraph (a) of this standard;

(c) where the aeroplane proceeds directly over water after take-off, the briefing required by paragraph (b) of this standard shall be done before take-off; and

(d) where the aeroplane does not proceed directly over water after take-off, no part of the briefing required by paragraph (a) of this standard has to be given before take-off, but the entire briefing shall be given before reaching the over-water part of the flight.

Standard NO: 2.26.14

Regulation 216

PASSENGER SEAT BELTS AND INFORMATION SIGNS

A national air operator shall ensure that in using passenger seat belt signs and information signs under Regulation 216, the following minimum standards are met:

(a) passenger information signs shall meet the requirements of Civil Aviation Instruments and Equipment Regulations, 2004. The signs shall be constructed so that the crew members can turn them on and off;

(b) a person shall not operate an aeroplane on a flight on which smoking is prohibited unless either the “No Smoking” passenger information signs are illuminated during the entire flight, or one or more “No Smoking” placards are posted during the entire flight segment. If both the

illuminated signs and the placards are used, the signs shall remain illuminated during the entire flight segment;

(c) there shall be at least one legible sign or placard that reads “Fasten Seat Belt While Seated” which is visible from each passenger seat; and

(d) there shall be installed in each lavatory a sign or placard that prohibits by law any tampering with the smoke detector installed in the lavatory;

Standard NO: 2.26.15

Regulation 219

SECURING OF ITEMS OF MASS IN PASSENGER COMPARTMENT

A national air operator shall ensure that the security of items of mass in the passenger compartment under Regulation 219, meets the following minimum standards: A national air operator shall provide and use means to prevent each item of galley equipment and each serving cart, when not in use, and each item of crew baggage, which is carried in a passenger or crew compartment from becoming a hazard by shifting under the appropriate load factors corresponding to the emergency landing conditions under which the aeroplane was type certificated.

Standard NO:- 2.27 COMPANY PROCEDURES INDOCTRINATION FOR AIR OPERATORS

Regulation 229 (1)

Company procedures indoctrination training for national air operators shall include as applicable, the following:

- (a) Barbados Civil Aviation Regulations and Standards;
- (b) air operator certificate and operating conditions;
- (c) company organization, reporting relationships and communication procedures;
- (d) flight planning and operating procedures;
- (e) fuelling procedures including procedures for fuelling with passengers on board and fuel contamination precautions;
- (f) critical surface contamination and safety awareness programme;
- (g) passenger safety briefings and safe movement of passengers to/from the aeroplane;
- (h) use and status of company operations manual including maintenance release procedures and accident/incident reporting procedures;
- (i) use of minimum equipment lists (where applicable);
- (j) windshear, aeroplane icing, and other meteorological training appropriate to the area of operations;
- (k) navigation procedures and other specialized operations applicable to the operator;
- (l) accident/incident reporting;
- (m) passenger on board medical emergency;
- (n) handling of disabled passengers;
- (o) air operator's flight safety programme;
- (p) operational control system;
- (q) weight and balance system procedures;
- (r) standard operating procedures (where applicable); and
- (s) pre-flightcrew-member briefing.

Standard NO: - 2.28 INITIAL CREW RESOURCE MANAGEMENT TRAINING
Regulation 232 (2)

1. A Crew Resource Management Training Programme under Regulation 232 shall include—

- (a) an initial indoctrination or awareness segment;
- (b) a method to provide recurrent practice and feedback; and
- (c) a method of providing continuing reinforcement.

2. Curriculum topics to be contained in an initial Crew Resource Management training course include—

- (a) communications processes and decision behaviour;
- (b) internal and external influences on interpersonal communications;
- (c) barriers to communication;
- (d) listening skills;
- (e) decision making skills;
- (f) effective briefings;
- (g) developing open communications;
- (h) inquiry, advocacy, and assertion training;
- (i) crew self-critique;
- (j) conflict resolution;
- (k) team building and maintenance;
- (l) leadership and follow-ship training;
- (m) interpersonal relationships;
- (n) workload management;
- (o) situational awareness;
- (p) how to prepare, plan and monitor task completions;
- (q) workload distribution;
- (r) distraction avoidance;
- (s) individual factors; and
- (t) stress reduction.

Standard NO: - 2.29 INITIAL EMERGENCY EQUIPMENT DRILLS
Regulation 233 (2)

1. Each aircraft crew member shall accomplish emergency training during the specified training periods, using those items of installed emergency equipment for each type of aeroplane in which he or she is to serve.

2. During initial training, each aircraft crew member shall perform the following onetime emergency drills:

(a) Protective Breathing Equipment and Fire-fighting Drill:

- (i) locate source of fire or smoke (actual or simulated fire);
- (ii) implement procedures for effective crew co-ordination and communication, including notification of flightcrew members about fire situation;
- (iii) don and activate installed PBE or approved PBE simulation device;
- (iv) manoeuvre in limited space with reduced visibility;
- (v) effectively use the aircraft's communication system;
- (vi) identify class of fire;
- (vii) select the appropriate extinguisher;
- (viii) properly remove extinguisher from securing device;
- (ix) prepare, operate and discharge extinguisher properly; and
- (x) utilize correct firefighting techniques for type of fire.

(b) Emergency Evacuation Drill:

- (i) recognize and evaluate an emergency;
- (ii) assume appropriate protective position;
- (iii) command passengers to assume protective position;
- (iv) implement crew co-ordination procedures;
- (v) ensure activation of emergency lights;
- (vi) assess aircraft conditions;
- (vii) initiate evacuation (dependent on signal or decision);
- (viii) command passengers to release seatbelts and evacuate;
- (ix) assess exit and redirect, if necessary; to open exit, including deploying slides and commanding helpers to assist;
- (x) command passengers to evacuate at exit and run away from aircraft;
- (xi) assist special need passengers, such as handicapped, elderly, and persons in a state of panic;
- (xii) actually exit aircraft or training device using at least one of the installed emergency evacuation slides;

Note: The crew-member may either observe the aircraft exits being opened in the emergency mode and the associated exit slid or/raft pack being deployed and inflated, or perform the tasks resulting in the accomplishment of these actions.

3. Each aircraft crew member shall accomplish additional emergency drill during initial training, including performing the following emergency drills:

(a) Emergency Exit Drill:

- (i) correctly pre-flight each type of emergency exit and evacuation slide or slide-raft (if part of cabin crew's assigned duties);
- (ii) disarm and open each type of door exit in normal mode;
- (iii) close each type of door exit in normal mode;
- (iv) arm of each type of door exit in emergency mode;
- (v) opening each type of door exit in emergency mode;
- (vi) use manual slide inflation system to accomplish or ensure slide or slide-raft inflation;
- (vii) open each type of window exit; and
- (viii) remove escape rope and position for use;

(b) Hand Fire Extinguisher Drill:

- (i) pre-flight each type of hand fire extinguisher;
- (ii) locate source of fire or smoke and identify class of fire;
- (iii) select appropriate extinguisher and remove from securing device;
- (iv) prepare extinguisher for use;
- (v) actually operate and discharge each type of installed hand fire extinguisher;

Note: Fighting an actual or a simulated fire is not necessary during this drill.

- (vi) utilize correct fire-fighting techniques for type of fire; and
- (vii) implement procedures for effective crew co-ordination and communication, including notification of crew members about the type of fire situation;

(c) Emergency Oxygen System Drill:

- (i) Preflight and operation of portable oxygen devices
- (ii) actually operate portable oxygen bottles, including masks and tubing;
- (iii) verbally demonstrate operation of chemical oxygen generators;
- (iv) prepare for use and operate oxygen device properly, including donning and activation;
- (v) administer oxygen to self, passengers, and to those persons with special oxygen needs;

- (vi) utilize proper procedures for effective crew co-ordination and communication;
- (vii) manually open each type of oxygen mask compartment and deploy oxygen masks;
- (viii) identify compartments with extra oxygen masks;
- (ix) implement immediate action decompression procedures; and
- (x) reset oxygen system, if applicable;
- (xi) pre-flight and operation of PBE;
- (xii) activate PBE;

(d) Flotation Device Drill:

- (i) pre-flight flotation device, if appropriate;
- (ii) don and inflate life vests;
- (iii) remove and use flotation seat cushions; and
- (iv) demonstrate swimming techniques using a seat cushion;

(e) Ditching Drill, (if applicable):

Note: During a ditching drill students shall perform the “prior to impact” and “after impact” procedures for a ditching, as appropriate to the specific operator’s type of operation.

- (i) implement crew co-ordination procedures, including briefing with captain to obtain pertinent ditching information and briefing cabin crews;
- (ii) co-ordinate time frame for cabin and passenger preparation;
- (iii) adequately brief passengers on ditching procedures;
- (iv) ensure cabin is prepared, including the securing of carry-on baggage, lavatories, and galleys;
- (v) demonstrate how to properly deploy and inflate slide-rafts and also if applicable liferafts;
- (vi) remove, position, attach slide-rafts to aircraft;
- (vii) inflate rafts;
- (viii) use escape ropes at over-wing exits;
- (ix) command helpers to assist;
- (x) use slides and and life vests or seat cushions as flotation devices;
- (xi) remove appropriate emergency equipment from aircraft;
- (xii) board rafts properly;
- (xiii) initiate raft management procedures (i.e., Disconnecting rafts from aircraft, applying immediate first aid, rescuing persons in water, salvaging floating rations

and equipment, deploying sea anchor, tying rafts together, activating or ensuring operation of emergency locator transmitter);

- (xiv) initiate basic survival procedures (i.e., Removing and utilizing survival kit items, repairing and maintaining raft, ensuring protection from exposure, erecting canopy, communicating location, providing continued first aid, providing sustenance);
- (xv) use heaving line to rescue persons in water;
- (xvi) tie slide-rafts or rafts together;
- (xvii) use life-line on edge of slide-raft or raft as a handhold; and
- (xviii) secure survival kit items.

4. Each aircraft crew member shall accomplish additional emergency drill requirements during initial and recurrent training including observing the following emergency drills:

(a) Life-Raft Removal And Inflation Drill, if applicable:

- (i) removal of a life raft from the aircraft or training device; and
- (ii) inflation of a life raft.

(b) Slide-Raft Transfer Drill:

- (i) transfer of each type of slide-raft pack from an unusable door to a usable door;
- (ii) disconnect slide-raft at unusable door;
- (iii) redirect passengers to usable slide-raft; and
- (iv) installation and deployment of slide-raft at usable door.

(c) Slide And Slide-Raft Deployment, Inflation, And Detachment Drill:

- (i) engage slide girt bar in floor brackets;
- (ii) inflate slides with and without quick-release handle (manually and automatically);
- (iii) disconnecting slide from aircraft for use as a flotation device;
- (iv) arm slide-rafts for automatic inflation; and
- (v) disconnecting slide-raft from the aircraft.

(d) Emergency Evacuation Slide Drill:

- (i) open armed exit with slide or slide-raft deployment and inflation; and
- (ii) egress from aircraft via the evacuation slide and run away to a safe distance.

Standard NO: - 2.30 INITIAL AIRCRAFT GROUND TRAINING
Regulation 234 (b)

1. Flightcrew—

(a) a national air operator shall have an initial aircraft ground training curriculum for the flightcrew applicable to the type of operations conducted and aircraft flown. Instructions shall include at least the following general subjects:

- (i) air operator's dispatch, flight release, or flight locating procedures;
- (ii) principles and methods for determining weight and balance, and runway limitations for take-off;
- (iii) air operator's operations specifications, authorisations and limitations; and
- (iv) adverse weather recognition and avoidance, and flight procedures which shall be followed when operating in the following conditions:
 - (A) icing;
 - (B) fog;
 - (C) turbulence;
 - (D) heavy precipitation;
 - (E) thunderstorms;
 - (F) low-level windshear and microburst; and
 - (G) low visibility;
 - (H) contaminated runways.
- (v) normal and emergency communications procedures and navigation equipment including the national air operator communications procedures and Air Traffic Control clearance requirements;
- (vi) navigation procedures used in area departure, en-route, area arrival, approach and landing phases;
- (vii) approved crew resource management training;
- (viii) air traffic control systems, procedures, and phraseology; and
- (ix) aircraft performance characteristics during all flight regimes, including—
 - (A) the use of charts, tables, tabulated data and other related manual information;
 - (B) normal, abnormal, and emergency performance problems;
 - (C) meteorological and weight limiting performance factors (such as temperature, pressure, contaminated runways, precipitation, climb/runway limits);
 - (D) inoperative equipment performance limiting factors (such as SMEL/CDL, inoperative antiskid); and

(E) special operational conditions (such as unpaved runways, high altitude aerodromes and drift down requirements);

(b) a national air operator shall have an initial aircraft ground training curriculum for the flightcrew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft systems:

(i) Aircraft:

(A) aircraft dimensions, turning radius, panel layouts, cockpit and cabin configurations;

(B) other major systems and components or appliances of the aircraft.

(C) operating limitations;

(D) approved aircraft flight manual.

(ii) Powerplants:

(A) basic engine description;

(B) engine thrust ratings;

(C) engine components such as accessory drive, ignition, oil, fuel control, hydraulic, and bleed air features;

(iii) Electrical:

(A) sources of aircraft electrical power (engine driven generators, APU generator, and external power);

(B) electrical buses;

(C) circuit breakers;

(D) aircraft battery; and

(E) standby power systems;

(iv) Hydraulic:

(A) hydraulic reservoirs, pumps, accumulators; filters, check valves, interconnects and actuators; and

(B) other hydraulically operated components;

(v) Fuel:

(A) fuel tanks (location and quantities);

(B) engine driven pumps;

(C) boost pumps;

(D) system valves and crossfeeds;

(E) quantity indicators; and

(F) provisions for fuel jettisoning;

(vi) Pneumatic:

(A) bleed air sources (APU or external ground air); means of routing, venting and controlling bleed air via valves; and

(B) ducts, chambers, and temperature and pressure limiting devices;

(vii) Air-Conditioning And Pressurization:

(A) heaters, air-conditioning packs, fans, and other environmental control devices;

(B) pressurization system components such as outflow and negative pressure relief valves; and

(C) automatic, standby, and manual pressurization controls and annunciators;

(viii) Flight Controls:

(A) primary controls (yaw, pitch, and roll devices);

(B) secondary controls (leading and trailing edge devices, flaps, trim, and damping mechanisms);

(C) means of actuation (direct, indirect or fly by wire); and

(D) redundancy devices;

(ix) Landing Gear:

(A) landing gear extension and retraction mechanism including the operating sequence of struts, doors, and locking devices, and brake and antiskid systems, if applicable;

(B) steering (nose or body steering gear);

(C) bogie arrangements;

(D) air and ground sensor relays; and

(E) visual downlock indicators;

(x) Ice And Rain Protection:

(A) rain removal systems; and

(B) anti-icing and de-icing system(s) affecting flight controls, engines, pitot static probes, fluid outlets, cockpit windows, and aircraft structures;

(xi) Equipment And Furnishings:

(A) exits;

(B) galleys;

(C) water and waste systems;

(D) lavatories;

(E) cargo areas;

(F) crew member and passenger seats;

(G) bulkheads;

- (F) seating and/or cargo configurations; and
- (G) non-emergency equipment and furnishings;

(xii) Navigation Equipment:

- (A) flight directors;
- (B) horizontal situation indicator;
- (C) radio magnetic indicator;
- (D) navigation receivers (GPS, ADF, VOR, LORAN-C, RNAV, Marker Beacon, DME);
- (E) inertial systems (INS, IRS);
- (F) functional displays;
- (G) fault indications and comparator systems;
- (H) aircraft transponders;
- (I) radio altimeters;
- (J) weather radar; and
- (K) cathode ray tube or computer generated displays of aircraft position and navigation information;

(xiii) Auto Flight System:

- (A) autopilot;
- (B) auto throttles;
- (C) flight director and navigation systems;
- (D) automatic approach tracking;
- (E) auto land; and
- (F) automatic fuel and performance management systems;

(xiv) Flight Instruments:

- (A) panel arrangement;
- (B) flight instruments (attitude indicator, directional gyro, magnetic compass, airspeed indicator, vertical speed indicator, altimeters, standby instruments); and
- (C) instrument power sources, and instrument sensory sources (e.g., Pitot static pressure);

(xv) Display Systems:

- (A) weather radar; and
- (B) other Cathode Ray Tube displays (e.g., checklist, vertical navigation or longitudinal navigation displays);

(xvi) Communication Equipment:

- (A) VHF/HF/SAT COM radios;
- (B) audio panels;
- (C) in-flight interphone and passenger address systems;
- (D) voice recorder; and
- (E) air ground passive communications systems (ACARS);

(xvii) Warning Systems:

- (A) aural, visual, and tactile warning systems (including the character and degree of urgency related to each signal); and
- (B) warning and caution annunciators systems (including ground proximity and take-off warning systems);

(xviii) Fire Protection:

- (A) fire and overheat sensors, loops, modules, or other means of providing visual and/or aural indications of fire or overheat detection;
- (B) procedures for the use of fire handles, automatic extinguishing systems and extinguishing agents; and
- (C) power sources necessary to provide protection for fire and overheat conditions in engines, APU, cargo bay or wheel well, cockpit, cabin and lavatories;

(xix) Oxygen:

- (A) passenger, crew, and portable oxygen supply systems;
- (B) sources of oxygen (gaseous or solid);
- (C) flow and distribution networks;
- (D) automatic deployment systems;
- (E) regulators, pressure levels and gauges; and
- (F) servicing requirements;

(xx) Lighting:

- (A) cockpit, cabin, and external lighting systems;
- (B) power sources;
- (C) switch positions; and
- (D) spare light bulb locations;

(xxi) Emergency Equipment:

- (A) fire and oxygen bottles;
- (B) first aid kits;
- (C) life rafts and lifevests;
- (D) crash axes;

- (E) emergency exits and lights;
- (F) slides and slide rafts;
- (G) escape straps or handles; and
- (H) hatches, ladders and movable stairs;

(xxii) auxiliary Power Unit (APU):

- (A) electric and bleed air capabilities;
- (B) interfaces with electrical and pneumatic systems;
- (C) inlet doors and exhaust ducts; and
- (D) fuel supply;

(xxiii) performance

(c) a national air operator shall have an initial aircraft ground training curriculum for the flightcrew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft systems integration items:

(i) Use Of Checklist:

- (A) safety checks;
- (B) cockpit preparation (switch position and checklist flows);
- (C) checklist callouts and responses; and
- (D) checklist sequence;

(ii) Flight Planning:

- (A) pre-flight and in-flight planning;
- (B) performance limitations (meteorological, weight, and MEL and CDL tems);
- (C) required fuel loads;
- (D) weather planning (lower than standard take-off minimums or alternate requirements);

(iii) Display Systems:

- (A) weather radar;
- (B) CRT displays (checklists, vertical navigation or longitudinal navigation displays).

(iv) Navigation Systems:

- (A) pre-flight and operation of applicable receivers;
- (B) onboard navigation systems; and
- (C) flight plans information input and retrieval;

(v) Autoflight/flight Directors

(A) autopilot;

(B) auto thrust;

(C) flight director systems, including the appropriate procedures, normal and abnormal indications, and annunciators;

(vi) cockpit familiarization:

(A) activation of aircraft system controls and switches to include normal, abnormal and emergency switches;

and

(B) control positions and relevant annunciators, lights, or other caution and warning systems.

(d) A national air operator shall ensure that initial ground training for pilots and flight engineers consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the DCA:

(i) Piston-engined aeroplane—64 hours.

(ii) Turbopropeller-powered aeroplane —80 hours.

(iii) Turbo-jet aeroplane—120 hours.

(iv) Helicopter— 64 hours.

(v) Powered-lift— 80 hours.

(vi) Other aircraft— 64 hours.

2. Cabin Crew—

(a) a national air operator shall have an initial ground-training curriculum for cabin crew applicable to the type of operations conducted and aircraft flown, including at least the following general subjects:

(i) Aircraft Familiarization:

(A) aircraft characteristics and description;

(B) flight deck configuration;

(C) cabin configuration;

(D) galleys;

(E) lavatories; and

(F) stowage areas;

(ii) Aircraft Equipment And Furnishings:

(A) cabin crew stations;

- (B) cabin crew panels;
- (C) passenger seats;
- (D) passenger service units and convenience panels;
- (E) passenger information signs;
- (F) aircraft markings;
- (G) aircraft placards;
- (H) bassinets and bayonet tables.

(iii) Aircraft Systems:

- (A) air-conditioning and pressurization system;
- (B) aircraft communication systems (call, interphone and passenger address);
- (C) lighting and electrical systems;
- (D) oxygen systems (flightcrew, observer and passenger); and
- (E) water system;

(iv) Aircraft Exits:

- (A) general information;
- (B) exits with slide or slide rafts (pre-flight and normal operation);
- (C) exits without slides (pre-flight and normal operations); and
- (D) window exits.

(v) Crew-Member Communication And Co-Ordination:

- (A) authority of pilot in command;
- (B) routine communication signals and procedures; and
- (C) crew-member briefing;

(vi) Routine Crew-Member Duties And Procedures:

- (A) crew-member general responsibilities;
- (B) reporting duties and procedures for specific aircraft;
- (C) pre-departure duties and procedures prior to passenger boarding;
- (D) passenger boarding duties and procedures;
- (E) prior to movement on the surface duties and procedures;
- (F) prior to take-off duties and procedures applicable to specific aircraft;
- (G) in-flight duties and procedures;
- (H) prior to landing duties and procedures;
- (I) movement on the surface and arrival duties and procedures;
- (J) after arrival duties and procedures; and

- (K) intermediate stops;
 - (vii) Passenger Handling Responsibilities:
 - (A) crew-member general responsibilities;
 - (B) infants, children, and unaccompanied minors;
 - (C) passengers needing special assistance;
 - (D) passengers needing special accommodation;
 - (E) carry-on stowage requirements;
 - (F) passenger seating requirements; and
 - (G) smoking and no smoking requirements;
 - (viii) Approved Crew Resource Management (CRM) training for cabin crew members.
- (b) a national air operator shall have an initial ground training curriculum for cabin crew applicable to the type of operations conducted and aircraft flown, including at least the following aircraft specific emergency subjects:
- (i) Emergency Equipment:
 - (A) emergency communication and notification systems;
 - (B) aircraft exits;
 - (C) exits with slide or slide rafts (emergency operation);
 - (D) slides and slide rafts in a ditching;
 - (E) exits without slides (emergency operation);
 - (F) window exits (emergency operation);
 - (G) exits with tail cones (emergency operation);
 - (H) cockpit exits (emergency operation);
 - (I) ground evacuation and ditching equipment;
 - (J) first aid equipment;
 - (K) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
 - (L) firefighting equipment;
 - (M) emergency lighting systems; and
 - (N) additional emergency equipment;
 - (ii) Emergency Assignments And Procedures:
 - (A) general types of emergencies specific to aircraft;
 - (B) emergency communication signals and procedures;
 - (C) rapid decompression;

- (D) insidious decompression and cracked window and pressure seal leaks;
- (E) fires;
- (F) ditching;
- (G) ground evacuation;
- (H) unwarranted evacuation (i.e., passenger initiated);
- (I) illness or injury;
- (J) abnormal situations involving passengers or crewmembers;
- (K) hijacking;
- (L) bomb threat;
- (M) turbulence;
- (N) other unusual situations including an awareness of other crew member's assignments and functions as they pertain to the cabin crew member's own duties; and
- (O) previous aircraft accidents and incidents;

(iii) Aircraft Specific Emergency Drills:

- (A) emergency exit drill;
- (B) hand fire extinguisher drill;
- (C) emergency oxygen system drill;
- (D) flotation device drill;
- (E) ditching drill, if applicable;
- (F) life raft removal and inflation drill, if applicable;
- (G) slide-raft pack transfer drill, if applicable;
- (H) slide or slide-raft deployment, inflation and detachment drill, if applicable; and
- (I) emergency evacuation slides drill, if applicable;

(c) a national air operator shall ensure that initial ground training for cabin crew includes a competence check to determine his or her ability to perform assigned duties and responsibilities; and

(d) a national air operator shall ensure that initial ground training for cabin crew consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the DCA:

- (i) Piston-engined - 8 hours.
- (ii) Turbopropeller-powered - 8 hours.
- (iii) Turbo-jet – 16 hours.
- (iv) Other aircraft – 8 hours.

3. Flight Operations Officer—

(a) a national air operator shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following general dispatch subjects:

- (i) Barbados regulations;
- (ii) operations manual;
- (iii) operations specifications;
- (iv) normal and emergency communications procedures;
- (ii) available sources of weather information;
- (iii) actual and prognostic weather charts;
- (iv) interpretation of weather information, including the effects on radio reception;
- (v) adverse weather phenomena (e.g., clear air turbulence, windshear, and thunderstorms);
- (vi) notices to Airmen system;
- (vii) navigational charts and publications;
- (viii) air traffic control and instrument procedures;
- (ix) familiarization with operational area;
- (x) characteristics of special aerodromes and other operationally significant aerodromes which the operator uses (i.e., terrain, approach aids, or prevailing weather phenomena);
- (xi) joint flight operations officer and pilot responsibilities; and
- (xii) approved Crew Resource Management (Crew Resource Management) training for flight operations officers;

(b) a national air operator shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following aircraft characteristics:

- (i) general operating characteristics of the national air operator's aircraft; and
- (ii) aircraft specific training with emphasis on the following topics:
 - (A) aircraft operating and performance characteristics;
 - (B) navigation equipment including peculiarities and limitations;
 - (C) instrument approach and communications equipment;
 - (D) emergency equipment;
- (iii) flight manual training;
- (iv) MEL/CDL; and
- (iv) equipment training;

(c) a national air operator shall provide initial aircraft ground training for flight operations officers that includes instruction in dangerous goods.

(d) a national air operator shall provide initial aircraft ground training for flight operations officers that includes differences training.

(e) a national air operator shall provide initial aircraft ground training for flight operations officers that include instruction in at least the following emergency procedures:

- (i) assisting the flightcrew in an emergency; and
- (ii) alerting of appropriate governmental, company and private agencies;

(f) a national air operator shall ensure that initial ground training for flight operations officers includes a competence check given by an appropriate supervisor or ground instructor that demonstrates the required knowledge and abilities.

(g) a national air operator shall ensure that initial ground training for flight operations officers consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the DCA:

- (i) Piston-engined aircraft – 30 hours.
- (ii) Turbopropeller-powered aircraft – 40 hours.
- (iii) Turbo-jet aircraft – 40 hours.
- (iv) Other aircraft – 30 hours

Standard NO: - 2.31 INITIAL AIRCRAFT FLIGHT TRAINING
Regulation 235(4)

1. A national air operator shall ensure that pilot initial flight training includes at least the following:

Note: Flight training may be conducted in an appropriate aircraft or adequate training simulator (simulator shall have landing capability).

(a) Preparation:

- (i) visual inspection (for aircraft with a flight engineer, use of pictorial display authorized);
- (ii) pre-taxi procedures; and
- (iii) performance limitations;

(b) Surface Operation:

- (i) pushback;
- (ii) power back taxi, if applicable to type of operation to be conducted;
- (iii) starting;
- (iv) taxi; and
- (v) pre-take-off checks;

(c) Take-off:

- (i) normal;
- (ii) crosswind;
- (iii) rejected;
- (iv) power failure after V_1 ; and
- (v) lower than standard minimum, if applicable to type of operation to be conducted;

(d) Climb:

- (i) normal; and
- (ii) one-engine inoperative during climb to en route altitude;

(e) Enroute:

- (i) steep turns (pilot in command only);
- (ii) approaches to stalls (take-off, en route, and landing configurations);
- (iii) in-flight power plant shutdown;
- (iv) in-flight power plant restart; and
- (v) high speed handling characteristics;

(f) Descent:

- (i) normal; and
- (ii) maximum rate;

(g) Approaches:

- (i) Visual Flight Rules procedures;
- (ii) visual approach with 50% loss of power of available power-plants;
- (iii) visual approach with slat or flap malfunction;
- (iv) Instrument Flight Rules precision approaches (Instrument Landing System normal and Instrument Landing System with one engine inoperative);
- (v) Instrument Flight Rules non-precision approaches (Nondirectional beacon normal and VHF omni Range normal); and
- (vi) non-precision approach with one engine inoperative (Localiser back course procedures, SDF and LDA, GPS, TACAN and circling approach procedures);

Note: Simulator shall be qualified for training and checking on the circling manoeuvre.

- (vii) missed approach from precision approach;
- (viii) missed approach from non-precision approach; and
- (ix) missed approach with power plant failure;

(h) Landings:

- (i) normal with a pitch mis-trim (small aircraft only);
- (ii) normal from precision instrument approach;
- (iii) normal from precision instrument approach with most critical engine inoperative;
- (iv) normal with 50% loss of power on one side (2 engines inoperative on 3-engine aeroplanes) (pilot in command only);
- (v) normal with flap or slat malfunction;
- (vi) rejected landings;
- (vii) crosswind;
- (viii) manual reversion or degraded control augmentation;
- (ix) short or soft field (small aircraft only); and
- (x) glassy or rough water (seaplanes only);

(i) After Landing:

- (i) parking;
- (ii) emergency evacuation; and
- (iii) docking, mooring and ramping (seaplanes only);

(j) Other Flight Procedures During Any Airborne Phase:

- (i) holding;
- (ii) ice accumulation on airframe;
- (iii) air hazard avoidance; and
- (iv) windshear and microburst;

(k) Normal, Abnormal And Alternate Systems Procedures During Any Phase:

- (i) pneumatic or pressurization;
- (ii) air conditioning;
- (iii) fuel and oil;
- (iv) electrical;
- (v) hydraulic;
- (vi) flight controls;
- (vii) anti-icing and de-icing systems;
- (viii) autopilot;
- (ix) flight management guidance systems or automatic or other approach and landing aids;
- (x) stall warning devices, stall avoidance devices, and stability augmentation systems;
- (xi) airborne weather radar;
- (xii) flight instrument system malfunction;
- (xiii) communications equipment; and
- (xiv) navigation systems;

(l) Emergency Systems Procedures During Any Phase:

- (i) aircraft fires;
- (ii) smoke control;
- (iii) power plant malfunctions;
- (iv) fuel jettison;
- (v) electrical, hydraulic, pneumatic systems;
- (vi) flight control system malfunction; and
- (vii) landing gear and flap system malfunction.

(2) A national air operator shall ensure that flight engineer flight training includes at least the following training and practice in procedures related to the carrying out of flight engineer duties

and functions. This training and practice may be accomplished either in flight or in a flight simulation training device.

(a) Preparation.

(i) Airplane Preflight.

- (A) logbook procedures.
- (B) safety checks.
- (C) cabin/interiors.
- (D) exterior walkaround.
- (E) servicing/deicing.
- (F) use of oxygen.

(ii) Ground Operations.

- (A) performance data.
 - (1) to/ln data.
 - (2) airport analysis.
 - (3) mass and balance.
- (B) use of checklist.
 - (1) panel setup.
- (C) starting.
 - (1) external power.
 - (2) external air.
 - (3) apu.
- (D) communications.
 - (1) station procedures.
 - (2) ACARS.
- (E) taxi.

(iii) Takeoff.

- (A) powerplant control.
- (B) flaps/landing gear.
- (C) fuel management.
- (D) other systems operation.
- (E) aircraft performance.
- (F) checklist Completion.

(iv) Climb.

- (A) powerplant control.
- (B) fuel management.
- (C) pressurization.
- (D) electrical system.
- (E) air conditioning.
- (F) flight controls.
- (G) other Systems.

(v) En Route.

- (A) powerplant operation.
- (B) fuel management.
- (C) performance management.
- (D) high altitude performance.
- (E) other systems operation.

(vi) Descent.

- (A) powerplant operation.
- (B) other systems operation.
- (C) performance management.

(vii) Approach.

- (A) landing data.
- (B) landing gear operation.
- (C) flap/slat/spoiler operation.
- (D) approach Monitoring.

(viii) Landings.

- (A) powerplant operation.
- (B) aircraft configuration.
- (C) system operation.
- (D) emergency evacuation.

(ix) Procedures During Any Ground or Airborne Phase.

- (A) cockpit equipment.
- (B) flap slats/gear.
- (C) powerplant.
- (D) pressurization.

- (E) pneumatic.
- (F) air conditioning.
- (G) fuel and oil.
- (H) electrical.
- (I) hydraulic.
- (J) flight controls.
- (K) anti-icing and deicing.
- (L) other checklist procedures.

(3) A national air operator shall ensure that flight navigator training includes at least the following:

- (a) Initial flight training for flight navigators must include flight training and a flight check that is adequate to ensure the crew member's proficiency in the performance of his or her assigned duties.
- (b) The flight training and check specified in paragraph (1) must be performed—
 - (i) In-flight or in an appropriate flight simulation training device; or
 - (ii) In commercial air transport operations, if performed under the supervision of a qualified flight navigator.

(4) A national air operator shall ensure that initial flight training for pilots and flight engineers consists of at least the following programmed hours of instruction based on the aircraft to be used, unless a reduction is determined appropriate by the DCA:

- (a) For one trainee in either an aircraft or flight simulation training devices —
 - (i) Piston-engined aircraft —PIC: 14 hours; CP: 14 hours; and FE: 12 hours.
 - (ii) Turbopropeller-powered aircraft—PIC: 15 hours; CP: 15 hours;, and FE: 12 hours.
 - (iii) Turbo-jet aircraft—PIC: 20 hours; CP: 16 hours; and FE; 12 hours.
 - (iv) Other aircraft—PIC and CP: 14 hours.
- (b) For two pilots in a flight simulation training device —
 - (i) Piston-engined aircraft —PIC: 24 hours; CP: 24 hours; and FE: 20 hours.
 - (ii) Turbopropeller-powered aircraft — PIC: 24 hours; CP: 24 hours; and FE: 20 hours.
 - (iii) Turbo-jet aircraft—PIC: 28 hours; CP: 28 hours; and FE: 20 hours.
 - (iv) Other aircraft— PIC and CP: 24 hours.

Standard NO: - 2.32 INITIAL SPECIALIZED OPERATIONS TRAINING
Regulation 236 (3)

A national air operator shall provide initial specialized operations training to ensure that each pilot and Flight Operations Officer is qualified in the type of operation in which he or she serves and in any specialized or new equipment, procedures and techniques, such as:

- (a) long-range navigation.
 - (i) knowledge of specialised navigation procedures, such as MNPS, NPAC.
 - (ii) knowledge of specialised equipment, such as INS, LORAN, GPS
- (b) CAT II and CAT III approaches:
 - (i) special equipment, procedures and practice; and
 - (ii) a demonstration of competency;
- (c) low visibility take-off operations:
 - (i) runway and lighting requirements;
 - (ii) rejected take-offs at, or near, V_1 with a failure of the most critical engine;
 - (iii) taxi operations; and
 - (iv) procedures to prevent runway incursions under low visibility conditions;
- (d) extended range operations with two engine aeroplanes;
- (e) approaches using on-board radar; and
- (f) autopilot instead of co-pilot.

**Standard NO: - 2.33 CONVERSION AND DIFFERENCES TRAINING AND CHECKING
Regulation 239(8)**

A national air operator shall ensure that conversion training and checking meet the following requirements:

1. An operator's conversion course for flightcrew shall include:

(a) ground training and checking including aircraft systems, normal, abnormal and emergency procedures;

(b) emergency and safety equipment training and checking which shall be completed before aircraft training commences;

(c) aircraft/STD training and checking; and

(d) line flying under supervision and line check;

2. The conversion course for flightcrew shall be conducted in the order set out in subparagraph

(1) above.

3. Elements of Crew Resource Management for flightcrew shall be integrated into the conversion course, and conducted by suitably qualified personnel.

4. When a flightcrew member has not previously completed an operator's conversion course, the operator shall ensure that in addition to sub-paragraph (1) above, the flightcrew

member undergoes general first aid training and, if applicable, ditching procedures training using the equipment in water.

CABIN CREW

5. An operator shall ensure that conversion and differences training for cabin crew—

(a) is conducted by suitably qualified persons; and

(b) 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.

6. Fire and smoke training; An operator shall ensure that cabin crew members are given fire and smoke training as follows:

Each cabin crew member shall be given realistic and practical training in the use of all fire fighting equipment including protective clothing representative of that carried in the aeroplane. Such training shall include the following activities:

(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.

7. Operation of doors and exits; An operator shall ensure that cabin crew members are given training in the operation of aircraft doors and exits as follows:

- (a) each cabin crew member shall operate and actually open all normal and emergency exits for passenger evacuation in an aircraft or representative training device; and
- (b) the operation of all other exits, such as flight deck windows is demonstrated.

8. Evacuation slide training; An operator shall ensure that cabin crew members are given training in aircraft evacuation and slide training as follows:

- (a) each cabin crew member descends an evacuation slide from a height representative of the aeroplane main deck sill height; and
- (b) the slide is fitted to an aeroplane or a representative training device.

9. Evacuation procedures and other emergency situations. An operator shall ensure that cabin crew members are given training in evacuation procedures and other emergency situations as follows:

- (a) emergency evacuation training includes the recognition of planned or unplanned evacuations on land or water. This training shall include recognition of when exits are unusable or when evacuation equipment is unserviceable; and
- (b) 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
- (c) other in-flight emergencies.

10. Crowd control; An operator shall ensure cabin crew members are given training on the practical aspects of crowd control in various emergency situations, as applicable to the aeroplane type.

11. Pilot incapacitation; An operator shall ensure that cabin crew members are trained to render assistance where a pilot becomes incapacitated. This training shall include a demonstration of:

- (a) the pilot's seat mechanism;
- (b) fastening and unfastening the pilot's seat harness;
- (c) use of the pilot's oxygen equipment; and
- (d) use of pilots' checklists.

12. 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:

- (a) slides, and where non self-supporting slides are carried, the use of any associated ropes;
- (b) life-rafts and slide-rafts, including the equipment attached to or carried in, the raft;

- (c) lifejackets, infant lifejackets and flotation cots;
- (d) dropout oxygen system;
- (e) first-aid oxygen;
- (f) fire extinguishers;
- (g) fire axe or crow-bar;
- (h) emergency lights including torches;
- (i) communications equipment, including megaphones;
- (j) survival packs, including their contents;
- (k) pyrotechnics (actual or representative devices);
- (l) first-aid kits, their contents and emergency medical equipment; and
- (m) other cabin safety equipment or systems where applicable.

13. Passenger Briefing and Safety Demonstrations; An operator shall ensure that cabin crew members are given training in the preparation of passengers for normal and emergency situations in accordance these Regulations.

14 A national air operator shall provide aircraft differences training for flight operations officers when the operator has aircraft variances within the same type of aircraft, which includes at least the following:

- (a) Operations procedures—
 - (i) Operations under adverse weather phenomena conditions, including clear air turbulence, windshear, and thunderstorms.
 - (ii) Mass and balance computations and load control procedures.
 - (iii) Aircraft performance computations, to include takeoff mass limitations based on departure runway, arrival runway, and en route limitations, and also engine-out limitations.
 - (iv) Flight planning procedures, to include route selection, flight time, and fuel requirements analysis.
 - (v) Dispatch release preparation.
 - (vi) Crew briefings.
 - (vii) Flight monitoring procedures.
 - (viii) Flight crew response to various emergency situations, including the assistance the aircraft flight operations officer can provide in each situation.
 - (ix) MEL and CDL procedures.
 - (x) Manual performance of required procedures in case of the loss of automated capabilities.
 - (xi) Training in appropriate geographic areas.

(xii) ATC and instrument procedures, to include ground hold and central flow control procedures.

(xiii) Radio/telephone procedures.

(b) Emergency procedures—

(i) Actions taken to aid the flight crew.

(ii) AOC holder and BCAD notification

15. An operator shall ensure that all appropriate Regulatory requirements are included in the training of cabin crew members.

Standard NO: - 2.34 AIRCRAFT AND INSTRUMENT PROFICIENCY CHECKS
Regulation 240(5)

The Aircraft and Instrument Proficiency Check for a Pilot shall contain the following:

(a) satisfactory completion of a pilot in command proficiency check following completion of an approved air operator training programme for the particular type aircraft, satisfies the requirement for an aircraft type rating practical test if—

(i) that proficiency check includes all manoeuvres and procedures required for a type rating practical test; and

(ii) proficiency checks are conducted by a check airman.

(b) aircraft and instrument proficiency checks for pilot in command and copilot shall include the following operations and procedures listed in Table A. As noted, check airmen may waive certain events on the flight test based on an assessment of the pilot's demonstrated level of performance.

Table A

TYPE OF OPERATION OR PROCEDURE	PIC or Co-Pilot	Notes
Ground Operations		
Preflight inspection	PIC and Co-Pilot	
Taxiing	PIC and Co-Pilot	Both pilots may take simultaneous credit.
Powerplant checks	PIC and Co-Pilot	Both pilots may take simultaneous credit.
Takeoffs		
Normal	PIC and Co-Pilot	
Instrument	PIC and Co-Pilot	
Crosswind	PIC and Co-Pilot	
With powerplant failure	PIC and Co-Pilot	
Rejected takeoff	PIC and Co-Pilot	Both pilots may take simultaneous credit. May be waived.
Instrument Procedures		
Area departure	PIC and Co-Pilot	May be waived.
Area arrival	PIC and Co-Pilot	May be waived.
Holding	PIC and Co-Pilot	May be waived.
Normal ILS approach	PIC and Co-Pilot	
Engine-out ILS	PIC and Co-Pilot	
Coupled ILS approach	PIC and Co-Pilot	PIC and Co-Pilot Both pilots may take simultaneous credit
Nonprecision approach	PIC and Co-Pilot	
Second nonprecision approach	PIC and Co-Pilot	
Missed approach from an ILS	PIC and Co-Pilot	
Second missed approach	PIC only	
Circling approach	PIC and Co-Pilot	Pilot Only when authorized in the AOC holder's Operations Manual. May be waived.

Inflight Maneuvers		
Steep turns	PIC only	May be waived.
Specific flight characteristics	PIC and Co-Pilot	
Approaches to stalls	PIC and Co-Pilot	May be waived.
Powerplant failure	PIC and Co-Pilot	
2 engine inoperative approach (3 and 4 engine aircraft)	PIC and Co-Pilot	
Normal landing	PIC and Co-Pilot	
Landing from an ILS	PIC and Co-Pilot	
Crosswind landing	PIC and Co-Pilot	
Landing with engine-out	PIC and Co-Pilot	
Landing from circling approach	PIC and Co-Pilot	Only if authorized in Operations Manual. May be waived.
Normal And Non-Normal Procedures		
Rejected landing	PIC and Co-Pilot	
2 engine inoperative landing (3 and 4 engine aircraft)	PIC only	
Other Events	PIC or Co-Pilot	Check airman's discretion.

(c) the oral and flight test phases of a proficiency check should not be conducted simultaneously.

(d) when the check airman determines that an applicant's performance is unsatisfactory, the check airman may terminate the flight test immediately or, with the consent of the applicant, continue with the flight test until the remaining events are completed.

(e) where the check is terminated for mechanical or other reasons, and there are events which still need to be repeated, the check airman shall issue a letter of discontinuance, valid for 60 days, listing the specific areas of operation that have been successfully completed.

Standard NO: - 2.35 QUALIFICATIONS TO OPERATE IN EITHER PILOT'S SEAT
Regulation 242 (2)

The training and checking programme for a pilot to operate in either pilot seat shall take the following matters into consideration:

(a) a pilot in command whose duties also requires him to operate in the copilot seat and carry out the duties of co-pilot, or pilot in command required to conduct training or examining duties from the co-pilot seat, shall complete additional training and checking as specified in the Operations Manual, concurrent with the operator proficiency checks prescribed in these Regulations. This additional training shall include at least the following:

- (i) an engine failure during take-off;
- (ii) a one-engine inoperative approach and go-around; and
- (iii) a one-engine inoperative landing.

(b) when engine-out manoeuvres are carried out in an aircraft, the engine failure shall be simulated.

(c) when operating in the right-hand seat, the checks required for operating in the left-hand seat shall, 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 these Regulations, 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 these Regulations, which would otherwise have been the pilot in command's responsibility acting as pilot non-flying. 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.

Standard NO. 2.36 FLIGHT ENGINEER PROFICIENCY CHECKS
Regulation 248 (2)

Flight Engineer proficiency check shall include the following:

Examiners shall include during proficiency checks for flight engineers an oral or written examination of the normal, abnormal, and emergency procedures listed below:

(a) normal procedures:

- (i) interior pre-flight;
- (ii) panel set-up;
- (iii) fuel load;
- (iv) engine start procedures;
- (v) taxi and before take-off procedures;
- (vi) take-off and climb pressurization;
- (vii) cruise and fuel management;
- (viii) descent and approach;
- (ix) after landing and securing;
- (x) crew co-ordination;
- (xi) situational awareness, traffic scan, etc.;
- (xii) performance computations; and
- (xiii) anti-ice, de-ice;

(b) abnormal and emergency procedures:

- (i) troubleshooting;
- (ii) knowledge of checklist;
- (iii) ability to perform procedures;
- (iv) crew co-ordination;
- (v) minimum equipment list and configuration deviation list; and
- (vi) emergency or alternate operation of aircraft flight systems.

Standard NO: - 2.37 COMPETENCY CHECKS FOR CABIN CREW
Regulation 249 (5)

Cabin Crew competency check shall include the following:

Examiners shall include during each cabin crew competency check a demonstrated knowledge of:

(a) emergency equipment:

- (i) emergency communication and notification systems;
- (ii) aircraft exits;
- (iii) exits with slides or slide rafts (emergency operation);
- (iv) slides and slide rafts in a ditching;
- (v) exits without slides (emergency operation);
- (vi) window exits (emergency operation);
- (vii) exits with tail cones (emergency operation);
- (viii) cockpit exits (emergency operation);
- (ix) ground evacuation and ditching equipment;
- (x) first-aid equipment;
- (xi) portable oxygen systems [oxygen bottles, chemical oxygen generators, protective breathing equipment (pbe)];
- (xii) fire-fighting equipment;
- (xiii) emergency lighting systems; and
- (vx) additional emergency equipment;

(b) emergency procedures:

- (i) general types of emergencies specific to aircraft;
- (ii) emergency communication signals and procedures;
- (iii) rapid decompression;
- (iv) insidious decompression and cracked window and pressure seal leaks;
- (v) fires;
- (vi) ditching;
- (vii) ground evacuation;
- (viii) unwarranted evacuation (i.e., passenger initiated);
- (ix) illness or injury;
- (x) abnormal situations involving passengers or crewmembers;
- (xi) turbulence; and
- (xii) other unusual situations;

(c) emergency drills:

- (i) location and use of all emergency and safety equipment carried on the aircraft;
- (ii) the location and use of all types of exits;
- (iii) actual donning of a lifejacket where fitted;
- (iv) actual donning of protective breathing equipment; and
- (v) actual handling of fire extinguishers;

(d) crew resource management:

- (i) decision making skills;
- (ii) briefings and developing open communication;
- (iii) inquiry, advocacy and assertion training; and
- (iv) workload management;

(e) dangerous goods:

- (i) recognition of and transportation of dangerous goods;
- (ii) proper packaging, marking and documentation; and
- (iii) instructions regarding compatibility, loading, storage and handling characteristics;

(f) security:

- (i) hijacking; and
- (ii) disruptive passengers;

(g) elements of training which require individual practical participation should be combined with practical checks;

(h) the checks required by the Act or Regulations made thereunder shall be accomplished by the method appropriate to the type of training including—

- (i) practical demonstration; and/or
- (ii) computer based assessment; and/or
- (iii) in-flight checks; and
- (iv) oral or written tests.

Standard NO: - 2.38 COMPETENCY CHECKS FOR FLIGHT OPERATIONS OFFICERS

Regulation 250 (2) (b)

Flight Operations Officers competency check shall include the following:

(a) evaluators shall conduct competency checks for a Flight Operations Officer to demonstrate that the candidate's proficiency level is sufficient to ensure the successful outcome of all dispatch operations;

(b) a qualified supervisor or inspector, approved by the DCA, shall observe and evaluate competency checks for a Flight Operations Officer;

(c) each competency check for a Flight Operations Officer shall include—

(i) a evaluation of all aspects of the dispatch function;

(ii) a demonstration of the knowledge and abilities in normal and abnormal situations;
and

(iii) an observation of actual flights being dispatched;

(d) each evaluator of newly hired Flight Operations Officer shall include during initial competency checks an evaluation of all of geographic areas and types of aircraft the Flight Operations Officer will be qualified to dispatch. (Note: The supervisor may approve a competency check of representative aircraft types when, in the supervisor's judgement, a check including all types is impractical or unnecessary);

(e) evaluators may limit initial equipment and transition competency checks solely to the dispatch of the types of aeroplanes on which the Flight Operations Officer is qualifying (unless the check is to simultaneously count as a recurrent check);

(f) each evaluator of a Flight Operations Officer shall include, during recurrent and requalification competency checks, a representative sample of aircraft and routes for which the Flight Operations Officer maintains current qualification; and

(g) The DCA requires special operations competency checks before a Flight Operations Officer is qualified in ETOPS or other special operations authorized by the DCA.

Standard NO: - 2.39 SUPERVISED LINE EXPERIENCE FOR CABIN CREW
Regulation 253 (2)

Supervised line experience for Cabin Crew shall include the following:

The following areas of operation are required for supervised line experience for cabin crew:

New entrant Cabin Crew

(a) Each new entrant cabin crew member having no previous comparable operating experience should—

- (i) participate in a visit to the aircraft to be operated; and
- (ii) participate in familiarization flights as described in paragraph (c) below. Cabin crew operating on a subsequent aircraft type

(b) A cabin crew member assigned to operate on a subsequent aircraft type with the same operator should either—

- (i) participate in a familiarization flight as described in paragraph 3 below; or
- (ii) participate in an aircraft visit to the aircraft to be operated;

(c) for familiarization flights the following:

- (i) during familiarization flights, the cabin crew member should be additional to the minimum number of cabin crew required under the Act or Regulations made thereunder;
- (ii) familiarization flights should be conducted under the supervision of the senior cabin crew member;
- (iii) familiarization flights should be structured and involve the cabin crew member in the participation of safety related preflight, in-flight and post-flight duties;
- (iv) familiarization flights should be operated with the cabin crew member in the operator's uniform; and
- (v) familiarization flights should form part of the training record for each cabin crew member.

(d) Aircraft visits:

The purpose of aircraft visits is to familiarize each cabin crew member with the aircraft environment and its equipment. Accordingly, aircraft visits should be conducted by suitably qualified persons and in accordance with a syllabus described in the Operations Manual, Part D.

The aircraft visit should provide an overview of the aircraft's exterior, interior and systems including the following:

- (i) interphone and public address systems;
- (ii) evacuation alarm systems;
- (iii) emergency lighting;
- (iv) smoke detection systems;
- (v) safety/emergency equipment;
- (vi) flight deck;

- (vii) cabin crew stations;
- (viii) toilet compartments;
- (ix) galleys, galley security and water shut-off;
- (x) cargo areas if accessible from the passenger compartment during flight;
- (xi) circuit breaker panels located in the passenger compartment;
- (xii) crew rest areas; and
- (xiii) exit location and its environment.

Standard NO: - 2.40 RECURRENT TRAINING FOR FLIGHTCREW
Regulation 260 (16)

1. A national air operator shall ensure that flight crew member recurrent ground training includes at least the following:

(a) General Subjects:

- (i) flight locating procedures;
- (ii) principles and method for determining mass and balance and runway limitations;
- (iii) meteorology to ensure practical knowledge of weather phenomena including the principles of frontal system, icing, fog, thunderstorms, windshear and high altitude weather situations;
- (iv) ATC systems and phraseology;
- (v) navigation and use of navigational aids;
- (vi) normal and emergency communication procedures;
- (vii) visual cues before descent to MDA;
- (viii) accident, incident and occurrence review; and
- (ix) other instructions necessary to ensure the pilot's competence;

(b) Aircraft Systems And Limitations:

- (i) normal, abnormal and emergency procedures;
- (ii) aircraft performance characteristics;
- (iii) engines and or propellers;
- (iv) major aircraft components;
- (v) major aircraft systems (i.e., flight controls, electric, hydraulic and other systems as appropriate); and
- (vi) ground icing and de-icing procedures and requirements;

(c) Emergency Equipment And Drills;

(d) Every Twelve Months:

- (i) location and use of all emergency and safety equipment carried on the aircraft;
- (ii) the location and use of all types of exits;
- (iii) actual donning of a lifejacket where fitted;
- (iv) actual donning of protective breathing equipment; and
- (v) actual handling of fire extinguishers;

(e) Every Three Years:

- (i) operation of all types of exits;
- (ii) demonstration of the method used to operate a slide, where fitted;

- (iii) fire-fighting using equipment representative of that carried in the aircraft on an actual or simulated fire;

Note: with halon extinguishers, an alternative method acceptable to the DCA may be used.

- (iv) effects of smoke in an enclosed area and actual use of all relevant equipment in a simulated smoke-filled environment;
- (v) actual handling of pyrotechnics, real or simulated, where fitted;
- (vi) demonstration in the use of the life-raft(s), where fitted;
- (vii) an emergency evacuation drill;
- (viii) a “dry” ditching drill; and
- (ix) a rapid decompression drill, if applicable;

(f) Crew Resource Management:

- (i) decision making skills;
- (ii) briefings and developing open communication;
- (iii) inquiry, advocacy and assertion training;
- (iv) workload management; and
- (v) situational awareness;

(g) Dangerous Goods:

- (i) recognition of and transportation of dangerous goods;
- (ii) proper packaging, marking and documentation; and
- (iii) instructions regarding compatibility, loading, storage and handling characteristics;

(h) Security:

- (i) hijacking; and
- (ii) disruptive passengers;

2. A national air operator shall verify knowledge of the recurrent ground training by an oral or written examination;

3 A national air operator shall ensure that pilot recurrent flight training include at least the following:

Note: Flight Training may be conducted in an Appropriate Aircraft or Adequate Training Simulator (Simulator shall have Landing Capability).

(i) preparation:

- (A) visual inspection (use of pictorial display authorized);
- and
- (B) pre-taxi procedures;

(ii) ground operation:

- (A) performance limitations;
- (B) cockpit management;
- (C) securing cargo;
- (D) pushback;
- (E) powerback taxi;
- (F) starting;
- (G) taxi; and
- (H) pre-take-off checks;

(iii) take-off:

- (A) normal;
- (B) crosswind;
- (C) rejected;
- (D) power failure after V1;
- (E) power plant failure during second segment; and
- (F) lower than standard minimum;

(iv) climb:

- (A) normal; and
- (B) one-engine inoperative during climb to en route altitude;

(v) en route:

- (A) steep turns;
- (B) approaches to stalls (take-off, en route, and landing configurations);
- (C) in-flight power plant shutdown;
- (D) in-flight power plant restart; and
- (E) high-speed handling characteristics;

(vi) descent:

- (A) normal; and
- (B) maximum rate;

(vii) approaches:

- (A) visual flight rules procedures;
- (B) visual approach with 50% loss of power of available power-plants
- (C) visual approach with slat or flap malfunction;

- (D) instrument flight rules precision approaches
(instrument landing system normal and instrument landing system with one-engine inoperative);
- (E) instrument flight rules non-precision approaches
(nondirectional beacon normal and vhf omni range normal); and
- (F) non-precision approach with one engine inoperative (localizer back course, SDF or LDA, GPS, TACAN and circling approach procedures);

Note: Simulator shall be qualified for training and checking on the circling manoeuvre.

- (G) missed approach from precision approach;
- (H) missed approach from non-precision approach; and
- (I) missed approach with power plant failure.

(viii) landings:

- (A) abnormal with a pitch mis-trim (small aircraft only);
- (B) abnormal from precision instrument approach;
- (C) abnormal from precision instrument approach with most critical engine inoperative;
- (D) abnormal with 50% loss of power of available power-plants;
- (E) abnormal with flap or slat malfunction;
- (F) rejected landings;
- (G) crosswind;
- (H) short or soft field (small aircraft only); and
- (I) glassy or rough water (seaplanes only);

(ix) after landing:

- (A) parking;
- (B) emergency evacuation; and
- (C) docking, mooring and ramping (seaplanes only);

(x) other flight procedures during any airborne phase:

- (A) holding;
- (B) ice accumulation on airframe;
- (C) air hazard avoidance; and
- (D) windshear and microburst;

(xi) normal, abnormal and alternate systems procedures during any phase:

- (A) pneumatic or pressurization;

- (B) air conditioning;
- (C) fuel and oil;
- (D) electrical;
- (E) hydraulic;
- (F) flight controls;
- (G) anti-icing and de-icing systems;
- (H) flight management guidance systems or automatic or other approach and landing aids;
- (I) stall warning devices, stall avoidance devices, and stability augmentation systems;
- (J) airborne weather radar;
- (K) flight instrument system malfunction;
- (L) communications equipment;
- (M) navigation systems;
- (N) auto-pilot;
- (O) approach and landing aids; and
- (P) flight instrument system malfunction;

(xii) emergency systems procedures during any phase:

- (A) aircraft fires;
- (B) smoke control;
- (C) power plant malfunctions;
- (D) fuel jettison;
- (E) electrical, hydraulic, pneumatic systems;
- (F) flight control system malfunction; and
- (G) landing gear and flap system malfunction;

(4) A national air operator may combine training with the national air operator's proficiency check.

(5) A national air operator shall ensure that the aeroplane or flight simulator training programme is established such that all major failures of aeroplane systems and associated procedures will have been practiced in the preceding three-year period.

(6) recurrent ground and flight training curricula may be accomplished concurrently or intermixed, but completion of each of these curricula shall be recorded separately.

Standard NO: - 2.41 RECURRENT TRAINING FOR CABIN CREW
Regulation 261 (6)

The current training for cabin crew shall meet the following requirements:

(a) a national air operator shall ensure that, every twelve months, each cabin crew receive recurrent training in at least the following:

(i) Emergency Equipment:

- (A) emergency communication and notification systems;
- (B) aircraft exits;
- (C) exits with slides or slide rafts (emergency operation);
- (D) slides and slide rafts in a ditching;
- (E) exits without slides (emergency operation);
- (F) window exits (emergency operation);
- (G) exits with tailcones (emergency operation);
- (H) cockpit exits (emergency operation);
- (I) ground evacuation and ditching equipment;
- (J) first aid equipment;
- (K) portable oxygen systems (oxygen bottles, chemical oxygen generators, protective breathing equipment (PBE));
- (L) firefighting equipment;
- (M) emergency lighting systems; and
- (N) additional emergency equipment;

(ii) Emergency Procedures:

- (A) general types of emergencies specific to aircraft;
- (B) emergency communication signals and procedures;
- (C) rapid decompression;
- (D) insidious decompression and cracked window and pressure seal leaks;
- (E) fires;
- (F) ditching;
- (G) ground evacuation;
- (H) unwarranted evacuation (i.e., passenger initiated);
- (I) illness or injury;
- (J) abnormal situations involving passengers or crew members;
- (K) turbulence; and

- (L) other unusual situations;
- (iii) Emergency Drills;
- (iv) Every Twelve Months:
 - (A) location and use of all emergency and safety equipment carried on the aircraft;
 - (B) the location and use of all types of exits;
 - (C) actual donning of a lifejacket where fitted;
 - (D) actual donning of protective breathing equipment; and
 - (E) actual handling of fire extinguishers;

- (iv) Every Three Years:
 - (A) operation of all types of exits;
 - (B) demonstration of the method used to operate a slide, where fitted; and
 - (C) fire-fighting using equipment representative of that carried in the aircraft on an actual or simulated fire;

Note: With Halon extinguishers, an alternative method acceptable to the DCA may be used.

- (D) 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;
- (F) demonstration in the use of the life-raft(s), where fitted;
- (G) an emergency evacuation drill;
- (H) a “dry” ditching drill, if applicable;
- (I) a rapid decompression drill, if applicable;
- (v) Crew Resource Management:
 - (A) decision-making skills;
 - (B) briefings and developing open communication;
 - (C) inquiry, advocacy and assertion training; and
 - (D) workload management;
- (vi) Dangerous Goods:
 - (A) recognition of and transportation of dangerous goods;
 - (B) proper packaging, marking and documentation; and
 - (C) instructions regarding compatibility, loading, storage and handling characteristics.

- (vii) Security:
 - (A) hijacking;

(B) disruptive passengers.

(b) a national air operator may administer each of the recurrent training curricula concurrently or intermixed, but shall record completion of each of these curricula separately.

(c) a national air operator should ensure that a formalised course of recurrent training is provided for cabin crew in order to ensure continued proficiency with all equipment relevant to the aircraft types that they operate.

Standard NO:- 2.42 FLIGHT INSTRUCTOR TRAINING
Regulation 264 (2)

1. No person may use a person, nor may any person serve as flight instructor unless within the preceding twenty-four calendar months, that person satisfactorily conducts instruction under the observation of an inspector from the DCA, a national air operator's check airman, or an examiner employed by the national air operator.
2. A national air operator may accomplish the observation check for a flight instructor, in part or in full, in an aircraft, a flight simulator, or a flight training device.
3. A national air operator shall ensure that initial ground training for flight instructors includes the following:
 - (a) flight instructor duties, functions and responsibilities;
 - (b) applicable regulations and the national air operator's policies and procedures;
 - (c) appropriate methods, procedures and techniques for conducting the required checks;
 - (d) proper evaluation of student performance including the detection of—
 - (i) improper and insufficient training, and
 - (ii) personal characteristics of an applicant that could adversely affect safety;
 - (e) appropriate corrective action in the case of unsatisfactory checks;
 - (f) approved methods, procedures, and limitations for performing the required normal, abnormal and emergency procedures in the aircraft;
 - (g) except for holders of a flight instructor licence—
 - (i) the fundamental principles of the teaching-learning process;
 - (ii) teaching methods and procedures; and
 - (iii) the instructor-student relationship;
4. A national air operator shall ensure that the transition ground training for flight instructors includes the approved methods, procedures, and limitations for performing the required normal, abnormal and emergency procedures applicable to the aircraft to which the flight instructor is in transition.
5. A national air operator shall ensure that the initial and transition flight training for Flight Instructors includes the following:
 - (a) the safety measures for emergency situations that are likely to develop during instruction.
 - (b) the potential results of improper, untimely, or non-execution of safety measures during instruction.
 - (c) for pilot flight instructor:
 - (i) inflight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal and emergency procedures to ensure competence as an instructor; and
 - (ii) the safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction.

(d) for Flight Instructors assigned to Flight Engineer instruction, in-flight training to ensure competence to perform assigned duties.

6. A national air operator may accomplish the flight training requirements for Flight Instructors in full or in part in flight, in a flight simulator, or in a flight training device, as appropriate.

7. A national air operator shall ensure that the initial and transition flight training for Simulator Flight Instructors includes the following:

(a) training and practice in the required normal, abnormal and emergency procedures to ensure competence to conduct the flight instruction required by this part. This training and practice shall be accomplished in full or in part in a flight simulator or in a flight training device.

(b) training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the flight instruction required by this Part.

Standard NO: - 2.43 CHECK AIRMAN TRAINING
Regulation 266 (2)

1. A national air operator may not use a person, nor may any person serve as a check airman (aircraft) or check airman (flight simulation training device) in a training programme unless, with respect to the aircraft type involved, that person has satisfactorily completed the appropriate training phases for the aircraft, including recurrent training and differences training, that are required to serve as PIC or flight engineer, as applicable.
2. A national air operator shall ensure that initial ground training for check airman includes:
 - (a) check airman duties, functions, and responsibilities;
 - (b) applicable regulations and the national air operator's policies and procedures;
 - (c) appropriate methods, procedures, and techniques for conducting the required checks;
 - (d) proper evaluation of student performance including the detection of—
 - (i) improper and insufficient training, and
 - (ii) personal characteristics of an applicant that could adversely affect safety;
 - (e) appropriate corrective action in the case of unsatisfactory checks; and
 - (f) approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the aeroplane.
2. Transition ground training for all check airmen shall include the approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures applicable to the aeroplane to which the check airman is in transition.
3. A national air operator shall ensure that the initial and transition flight training for check airmen (aeroplane) includes—
 - (a) training and practice in conducting flight evaluations (from the left and right pilot seats for pilot check airmen) in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight checks;
 - (b) the potential results of improper, untimely, or non-execution of safety measures during an evaluation; and
 - (c) the safety measures (to be taken from either pilot seat for pilot check airmen) for emergency situations that are likely to develop during an evaluation.
4. A national air operator shall ensure that flight engineer check airmen training provides competence to perform assigned duties including:
 - (a) the safety measures for emergency situations that are likely to develop during a check.
 - (b) the potential results of improper, untimely, or non-execution of safety measures during a check.
4. A national air operator shall ensure that the initial and transition flight training for Simulator check airmen includes—

(a) training and practice in conducting flight checks in the required normal, abnormal, and emergency procedures to ensure competence to conduct the evaluations checks required by this part (this training and practice shall be accomplished in a flight simulator or in a flight training device); and

(b) training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the evaluations required by this Part.

5. A national air operator may accomplish flight training for check airmen in full or in part in an aircraft, in a flight simulator, or in a flight training device, as appropriate.

**STANDARD NO: - 2.44 - EXAMPLE FLIGHT AND DUTY TIME SCHEME—
AEROPLANE OPERATIONS REST PERIODS, DUTY, AND FLIGHT TIME:
COMMERCIAL AIR TRANSPORT— AEROPLANE
Regulation 290**

Applicability

1. The scheme shall apply in relation to any duty carried out at the behest of the national air operator by both flightcrew and cabin crew.

Responsibilities

2. (1) A national air operator shall have a scheme for the regulation of flight times of crews. The scheme shall be approved by the DCA and included in the national air operator's Operations Manual. The Operations Manual shall be readily available to every person employed by the national air operator as a member of an aircraft crew.

(2) A crew member shall not fly, and an operator shall not require him to fly, if either has reason to believe that such crew member is suffering or likely to suffer while flying, from such fatigue as may endanger the safety of the aeroplane or of its occupants.

(3) A flightcrew member shall inform the operator of all flying undertaken so that the cumulative flight and duty times can be assessed against the limitations contained in this section.

(4) The national air operator will publish crew rosters showing planned duty sufficiently in advance so that operating crews can plan adequate pre-duty rest.

(5) The national air operator and crew member are jointly responsible for the proper control of flight and duty times. A crew member has the responsibility to make optimum use of the opportunities and rest facilities provided. He is responsible for planning and using his rest periods properly in order to minimize the risk of incurring fatigue.

(6) A crew member shall not act as operating crew if he knows or suspects that his physical or mental condition renders him unfit to operate.

Definitions

3. For the purpose of this clause—

“calendar day” means the period of elapsed time using Co-ordinated Universal Time or local time that begins at midnight and ends twenty-four hours later at the next midnight;

“days off” means the periods available for leisure and relaxation free from all duties. A rest period may be included as part of a day off;

“dispatch crew” means a fully qualified and current flightcrew or cabin crew authorised to carry out pre-flight duties as defined by the national air operator;

“duty” means any continuous period during which a crew member is required to carry out any task associated with the business of the national air operator;

“flightcrew” means those members of the crew of an aircraft who act as pilot or pilot engineer;

“flight time” means the total time from the moment an aircraft first moves under its own power for the purpose of taking off until the moment it finally comes to rest at the end of the flight;

“fight duty period” means any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by the national air operator to report for a flight and finishes at the end of the flight time on the final sector. This term is used interchangeably with flying duty period and flight duty time;

“minimum rest period” means a period during which a flightcrew member is free from all duties, is not interrupted by the national air operator or private operator, and is provided with an opportunity to obtain not less than eight consecutive hours of sleep in suitable accommodation, time to travel to and from that accommodation and time for personal hygiene and meals;

“positioning” means the practice of transferring crews from place to place as passengers in surface or air transport on behalf of the national air operator. Positioning time counts as duty time;

“reporting time” means the time at which a crew member is required by the national air operator to report for any duty;

“rest period” means a period of time before starting a flight duty period that is designed to give crew members adequate opportunity to rest before a flight;

“rostered duty” means a planned duty period, or series of planned duty periods, with stipulated start and finish times, notified by the national air operator to crews in advance;

“scheduled duty” means the allocation of specific flight or flights or other duties to a crew member within the pre-notified series of planned duty periods;

“sector” means the time between an aircraft first moving under its own power until it next comes to rest at the designated parking position after landing;

“split duty” means a flight duty period which consists of two or more sectors separated by less than the prescribed minimum rest period;

“standby” means a flightcrew member who has been designated by a national air operator to remain at a specified location in order to be available to report for flight duty on notice of one hour or less;

“reserve duty” means a period during which the national air operator places restraints on a crew member who would otherwise be off duty;

“suitable accommodation” means a furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature; and

“travelling” means all time spent by a crew member transiting between the place of rest and the place of reporting for duty. Travelling time does not count as duty time.

Monitoring System

4. (1) A national air operator shall establish a system that monitors the flight time, flight duty time and rest periods of each of its flightcrew members and shall include in its company operations manual the details of that system.

(2) Where a person becomes aware that an assignment by a national air operator to act as a flightcrew member on a flight would result in the maximum flight time or the maximum flight

duty time specified in these Regulations being exceeded, the person shall so notify the national air operator.

5. A crew member shall not act as a member of the operating crew if he knows, or suspects, that his physical or mental condition renders him unfit to operate. A crew member shall not fly if he knows that he is or is likely to be, in breach of this section.

Calculation of a flight duty period

The maximum flight duty period, in hours and fractions of hours, will be in accordance with paragraph 17. The times extracted may be extended at the discretion of the pilot in command under the terms of paragraphs 18 and 19 and 30 as applicable.

Additional Limits on flying early starts

7. A flightcrew member should normally not be rostered to operate more than three consecutive days where duties start or finish in any part of the period 0001 to 0559 local time. There will be no more than four such duties in seven consecutive days.

8. However, when a crew member is in suitable accommodation provided by the company which is less than sixty minutes travelling time of the reporting point, then 0559 may be changed to 0459 local time.

9. Should any duties be scheduled to be carried out within any part of the period 0200 to 0459 local time, for a maximum of three consecutive nights, then a crew member will finish the duty preceding this series by 2100 hours local time before covering the block of consecutive night duties. However, if the preceding duty period extends beyond 2100 hours local time but not later than 2259 hours due to an unforeseen delay the crew member is expected to operate the scheduled flight.

Mixed duties

10. When a crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task on behalf of the national air operator, then the time spent on that task shall be part of the subsequent flight duty period.

Mixed simulator and aircraft flying

11. When a crew member flies in the simulator, either on a check or training, or as an Instructor or check airman, and when within the same duty period he operates as a flightcrew member in commercial air transport operations, all the flight time and flight duty time spent in the simulator is counted in full towards the subsequent flight duty period and for helicopters towards the daily flying hour maxima. Simulator flying does not count as a sector, but the flight duty period allowable is calculated from one hour prior to the scheduled simulator start time.

Positioning and combinations of flying and other duty

12. All time spent on positioning as required by the operator shall count as duty but does not count as a sector when calculating the maximum allowable flight duty period.

In such circumstances the flight duty period commences at the time at which the crew member reports for the positioning journey.

13. Positioning, any form of ground duty and standby duty at an airport which immediately preceded flight duty, shall be included in the flight duty period and be subject to maximum

allowable flight duty period limits specified. Positioning and ground duties immediately following a flight duty shall not be part of the flight duty period, but shall count in computing the length of the subsequent rest period. The time spent between reporting for a flight and the completion of post flight tasks determines the length of the subsequent rest period.

14. If, after the positioning journey, a crew member spends less than the minimum rest period at a suitable accommodation provided by the national air operator, and then carries out the flight duty period, the positioning will be counted as a sector if a split duty is claimed when calculating the allowable flight duty period. If it is not, a split duty flight duty period will not be used.

Reserve Duty

15. When at home or in suitable accommodation provided by the national air operator, crew members may be on reserve duty for twenty-four hours but the time of start, end and nature of the reserve duty will be defined to crew members so that they can plan their rest.

16. When a crew member is required to be on standby at the airport or a designated reporting place, the flight duty period commences at the reported time.

Maximum flight duty period—aeroplanes

17. The maximum flight duty periods for aeroplane crews is shown in the tables below—

TWO (2) PILOT CREW - AEROPLANE

Local Time at Start	Sectors									
	1	2	3	4	5	6	7	8	9	10 or more
0600-1259	14	14	14	13	12	11	10	10	9	9
1300-1759	14	14	13¼	12½	11¾	11	10	10	9	9
1800-2159	14	13¼	12½	11¾	11	10	10	10	9	9
2200-0559	12	11½	10¾	10	10	10	10	10	9	9

TWO (2) PILOTS AND ONE (1) FLIGHT ENGINEER - AEROPLANE

Local Time at Start	Sectors							
	1	2	3	4	5	6	7	8 or more
0600-1259	14	14	14	13½	12½	11	10	10
1300-2159	14	14	13½	12¾	12½	11	10	10
2200-0559	12	12	11½	11	11	11	10	9

SINGLE (1) PILOT CREW - AEROPLANE

Local Time at Start	Sectors				
	Up to 4	5	6	7	8 or more
0600-1259	10	9¼	8½	8	8
1300-1759	11	10¼	9½	8¾	8
1800-2159	10	9¼	8½	8	8
2200-0559	9	8¼	8	8	8

Extension of maximum rostered flight duty period by augmented crew— aeroplanes

18. When an augmented crew is used to extend the maximum flight duty period the additional crew member or members shall hold qualifications which meet the requirements of the operational duty he will perform. The qualifications shall be specified by the operator and approved by the DCA.

19. Where a flightcrew is augmented by the addition of at least one flightcrew member, the division of duty and rest is balanced between the flightcrew members and, when a flight relief facility is provided, flight duty time may be extended if—

(a) where a flight relief facility—seat is provided, the flight duty time may be extended to sixteen consecutive hours, in which case the maximum flight deck duty time for any flightcrew member shall be twelve hours;

(b) where a flight relief facility—bunk is provided, the flight duty time may be extended to twenty consecutive hours, in which case the maximum flight deck duty time for any flightcrew member shall be fourteen hours;

(c) the subsequent minimum rest period shall be at least equal to the length of the preceding flight duty time; and

(d) a maximum of three sectors may be completed.

20. Where a flightcrew is augmented by the addition of at least one flightcrew member, the total flight time accumulated during the flight shall be logged by all flightcrew members for the purposes of calculating the maximum flight times.

Extensions of flight duty period by split duty

21. When a flight duty period consists of two or more sectors—of which one can be a positioning journey counted as a sector—but separated by less than a minimum rest period, then the flight duty period will extend by the amounts indicated below.

<i>Consecutive Hours Rest</i>	<i>Maximum Extension of the FDP</i>
Less than 3	NIL
3–10	A period equal to half the consecutive hours rest taken.

22. The rest period shall not include the time allowed for immediate post and preflight duties. When the rest period is less than six hours it will suffice if a quiet and comfortable place, not open to the public, is available. If rest is to be taken in the aircraft on the ground, the crew shall have adequate control of the temperature and ventilation.

Passengers shall not be on board. If the rest period is more than six consecutive hours, then suitable accommodation shall be provided.

Delayed reporting time

23. When a crew member is informed of a delay before leaving his place of rest the flight duty period shall start at the new reporting time, or three hours after the original reporting time, whichever is the earlier. This paragraph shall not apply if the crew member is given ten hours or more notice of a new reporting time.

Rest periods

24. The national air operator shall endeavour to notify the crew member of a flight duty period assignment in good time so that sufficient pre-flight rest can be obtained. When away from base, opportunities and facilities for adequate pre-flight rest will be provided by the national air operator.

25. The minimum rest period which shall be provided prior to a flight duty period shall be—

(a) at least as long as the preceding duty period, or

(b) eleven hours
whichever is greater.

Note: The minimum rest period of eleven hours includes travel time to and from the rest facility, hotel check-in and check-out time and time for personal hygiene and meals allowing eight consecutive hours of sleep opportunity in suitable accommodation. If any of the variables is longer than expected, or there is any further delay in the crews being afforded the required eight hours sleep opportunity, the minimum rest shall be increased accordingly.

26. If the preceding duty period exceeded sixteen hours, the minimum rest shall be no less than sixteen hours plus two hours for every hour or part of an hour that the previous duty period exceeded sixteen hours.

27. Following a sequence of reduced rest and extended flight duty period the subsequent rest period shall not be reduced.

28. At least thirty-six consecutive hours rest each seven days or one period of at least three consecutive days within each seventeen consecutive days shall be provided. These rest periods may be taken on layovers in suitable accommodation.

29. Following any three consecutive twenty-four hours periods in which there have been three periods of twelve hours or more of flight duty, the flightcrew member shall have twenty-four hour of uninterrupted rest.

30. Following any two consecutive twenty-four hour periods during which there have been two (2) fifteen hours of flight duty the flightcrew shall have thirty hours uninterrupted rest.

31. A crew member who has difficulty in achieving adequate pre-flight rest shall inform the Head of Flight Operations and will be given the opportunity to seek medical assistance.

Pilot in command discretion to extend a flight duty period in unforeseen circumstances

32. The pilot in command may, at his discretion, and after taking note of the circumstances of other members of the crew, extend a flight duty period in unforeseen circumstances, beyond that permitted in paragraph 17, provided he is satisfied that the flight can be made safely. The extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of two hours is the maximum permitted, except in cases of emergency.

Note: In respect of an extension to a flight duty, an emergency is a situation which in the judgement of the pilot in command presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.

33. Whenever a pilot in command extends a flight duty period, he shall report it to the national air operator on a Discretion Report Form acceptable to the DCA. If the extension is greater than one hours, or when exercised after any reduced rest period, then the operator shall submit the

pilot in command's written report together with the operator's comments to the DCA within fourteen days of the return of the aircraft to base.

Pilot in command discretion to reduce a rest period

34. A pilot in command may, at his discretion, and after taking note of the circumstances of other members of the crew, reduce the rest period. The rest period will not be less than ten hours. The exercise of such discretion will be exceptional and shall not be used to reduced successive rest periods. If the preceding flight duty period was extended, the rest period may be reduced, provided that subsequent allowable flight duty period is also reduced by the same amount.

Reporting exercise of discretion

35. When a pilot in command extends a flight duty period or reduces a rest period it shall be reported to the Chief Pilot on a Captains Voyage Report Form outlining the duty and rest periods.

Days off

36. Wherever possible, days off should be taken in the home environment. A planned rest period may be included as part of the day off.

37. Crew Members shall be granted an average of two days off per week, not counting periods of leave. A minimum of six days off in any consecutive four weeks is permissible, provided the shortfall is made good in the preceding or following four weeks.

Absolute limits on flying hours

38. A person shall not act as a member of the flightcrew of an aircraft if at the beginning of the flight the aggregate of all previous flight times—

(1) During the period of seven consecutive days expiring at the end of the day on which the flight begins exceeds thirty-five hours.

(2) During the period of twenty-eight consecutive days expiring at the end of the day on which the flight begins exceeds one hundred hours; or

(3) During the period of twelve months expiring at the end of the previous month exceeds one thousand hours.

Rules relating to cabin crew

39. The maximum flight duty periods for cabin crew may be one hour longer than those for flightcrew.

40. The maximum flight duty hours for cabin crew shall not exceed—

(1) sixty hours in one week but may be increased to sixty-five hours when a rostered duty covering a series of duty periods, once commenced, is subject to unforeseen delays.

(2) One hundred and five hours in any two consecutive weeks

(3) Two hundred and ten hours in any four consecutive weeks.

Air taxi or sole use charter, including pleasure flying and air ambulancesupplement

41. The content of this supplement is designed for use by companies conducting the business of Air Taxi or Sole Use Charter. In the context of this document this type of operation is being

carried out when the operator utilises an aircraft which contains nineteen or fewer passenger seats. The maximum duty periods at paragraph 17 will apply as the case may be.

Records to be maintained

42. The monitoring system shall include records for the duty and rest periods of all flying staff as follows:

(a) For each crew member: the beginning, end and duration of each duty and flight duty period, and the function performed during the period; duration of each rest period prior to a flight duty period; dates of days off; weekly totals of duty.

(b) For each flightcrew member: daily and weekly flying hours.

43. Records shall be preserved for at least twelve calendar months. Additionally, copies of all pilot in commands' discretion reports of extended flight duty periods and reduced rest periods will be retained for a period of at least 6 months after the event.

**Standard NO:2.45 EXAMPLE FLIGHT AND DUTY TIME SCHEME—HELICOPTER
OPERATIONS
REST PERIODS, DUTY, AND FLIGHT TIME: HELICOPTERS**

Applicability

1. (1) The content of this section is designed for use by those companies holding an Air Operator Certificate, which operate helicopters only. This section is not applicable to those organizations that have a mixed fleet of fixed and rotary wing aircraft.

(2) The scheme has been compiled on the assumption that—

(a) Operations are confined within an area where local time varies by not more than one hour

(b) Use of in-flight relief to obtain an extension to the allowable flight duty period is not exercised

(3) The main body of the scheme is complemented by additions that allow for commercial pleasure flying and air ambulance work. In the context of this annex the following applies:

(a) commercial pleasure flying:

When the helicopter takes off from and lands at the same aerodrome or approved pleasure flying site, without making an intermediate landing, but does not take into account any positioning flight to or from that aerodrome or pleasure flying site.

(b) air ambulance:

When the sole reason for the flight is to carry an ill or injured person to a recognized medical facility, or the carriage of a human organ necessary for the conduct of a transport operation.

(4) It is accepted that a few operations have helicopters based on oil rigs and provide emergency cover. The application of limits placed on allowable flight duty periods in such circumstances is detailed and complex, and not of interest to the wider audience.

Therefore, although what is understood by these terms is detailed below, the construction of such schemes will be arranged between the operator and the DCA.

(a) Offshore based and Remote Site Operations—

Those operations in support of the oil/gas industry, where the helicopter and crew are based on a rig or at a remote operating site.

(b) Emergency Flights—

A flight undertaken for the sole purpose of assisting in the resolution of an emergency, which is, or under slightly different circumstances could be, a threat to human life.

Responsibilities

2. (1) The national air operator shall have a scheme for the regulation of flight times of crews. The scheme shall be approved by the DCA and included in the national air operator's Operations Manual. The Operations Manual shall be readily available to every person employed by the national air operator as a member of an aircraft crew.

(2) A crew member shall not fly, and an operator shall not require him to fly, if either has reason to believe that he is suffering or likely to suffer while flying, from such fatigue as may endanger the safety of the aircraft or of its occupants.

(3) Every flightcrew member is required to inform the operator of all flying undertaken so that the cumulative flight and duty times can be assessed against the limitations contained in this section.

(4) The national air operator will publish crew rosters/planned duty sufficiently in advance so that operating crews can plan adequate pre-duty rest.

(5) The national air operator and crew members are jointly responsible for the proper control of flight and duty times. Crew members have the responsibility to make optimum use of the opportunities and rest facilities provided. They are responsible for planning and using their rest periods properly in order to minimize the risk of incurring fatigue.

(6) Crew members shall not act as operating crew if they know or suspect that their physical or mental condition renders them unfit to operate.

Definitions

3. For the purpose of this section—

“calendar day” means the period of elapsed time using Co-ordinated Universal Time or local time that begins at midnight and ends twenty-four hours later at the next midnight;

“days off” means periods available for leisure and relaxation free from all duties. A rest period may be included as part of a day off;

“dispatch crew” means a fully qualified and current flightcrew or cabin crew authorized to carry out pre-flight duties as defined by the national air operator;

“duty” means any continuous period during which a crew member is required to carry out any task associated with the business of the national air operator;

“flightcrew” means those members of the crew of an aircraft who act as pilot or pilot engineer;

“flight time (helicopter)” means the total time from the moment a helicopter first moves under its own power for the purpose of taking off until the rotors are next stopped;

“flight duty period” means any time during which a person operates in an aircraft as a member of its crew. It starts when the crew member is required by the national air operator to report for a flight and finishes at the end of the flight time on the final sector. This term is used interchangeably with flight duty period and flight duty time;

“minimum rest period” means a period during which a flightcrew member is free from all duties, is not interrupted by the national air operator or private operator, and is provided with an opportunity to obtain not less than eight consecutive hours of sleep in suitable accommodation, time to travel to and from that accommodation and time for personal hygiene and meals;

“positioning” means the practice of transferring crews from place to place as passengers in surface or air transport on behalf of the national air operator. Positioning time counts as duty time;

“reporting time” means the time at which a crew member is required by the national air operator to report for any duty;

“rest period” means a period of time before starting a flight duty period that is designed to give crew members adequate opportunity to rest before a flight;

“rostered duty” means a duty period, or series of duty periods, with stipulated start and finish times, notified by the national air operator to crews in advance;

“scheduled duty” means the allocation of specific flight or flights or other duties to a crew member within the pre-notified rostered series of duty periods;

“sector” means the time between an aircraft first moving under its own power until it next comes to rest after landing, on the designated parking position;

“split duty” means a flight duty period which consists of two or more sectors separated by less than a minimum rest period;

“standby” means a flightcrew member who has been designated by a national air operator to remain at a specified location in order to be available to report for flight duty on notice of one hour or less;

“reserve duty” means a period during which the national air operator places restraints on a crew member who would otherwise be off duty;

“suitable accommodation” means a furnished bedroom which is subject to minimum noise, is well ventilated, and has the facility to control the levels of light and temperature; and

“travelling” means all time spent by a crew member transiting between the place of rest and the place of reporting for duty. Travelling time does not count as duty time.

Monitoring system

4. (1) Every air operator shall establish a system that monitors the flight time, flight duty time and rest periods of each of its flightcrew members and shall include in its company operations manual the details of that system.

(2) Where a person becomes aware that an assignment by a national air operator to act as a flightcrew member on a flight would result in the maximum flight time or the maximum flight duty time specified in these Regulations being exceeded, the person shall so notify the national air operator.

5. Crew members shall not act as operating crew if they know, or suspect, that their physical or mental condition renders them unfit to operate. Crew members shall not fly if they know that they are or are likely to be, in breach of this section.

Calculation of a flight duty period

6. The maximum flight duty period, in hours and fractions of hours, will be in accordance with paragraph 20. The times extracted may be extended at the pilot in command discretion under the terms of paragraphs 21 and 30 as applicable.

Additional limits on flying—early starts

7. A flightcrew member should normally not be rostered to operate more than three consecutive days where duties start or finish in any part of the period 0001 to 0559 local time. There will be no more than four such duties in seven consecutive days.

8. However, when a crew member is in suitable accommodation provided by the company which is less than sixty minutes travelling time of the reporting point, then 0559 may be changed to 0459 local time.

9. Should any duties be scheduled to be carried out within any part of the period 0200 to 0459 local time, for a maximum of three consecutive nights, then crew members will finish the duty preceding this series by 2100 hours local time before covering the block of consecutive night duties. However, if the preceding duty period extends beyond 2100 hours local time but not later than 2259 hours due to an unforeseen delay the crew member is expected to operate the scheduled flight.

Mixed duties

10. When the crew member is required to report for duty in advance of the stipulated report time for a scheduled flight, to carry out a task at the behest of the national air operator, then the time spent on that task shall be part of the subsequent flight duty period.

Mixed simulator and aircraft flying

11. When a crew member flies in the simulator, either on a check or training, or as an Instructor, and when within the same duty period flies as a flightcrew member on a commercial air transport flight, all the time spent in the simulator is counted in full towards the subsequent flight duty period and the daily flying hour maxima. Simulator flying does not count as a sector, but the flight duty period allowable is calculated from one (1) hour prior to the scheduled simulator start time.

Mixed single pilot/two pilot operations

12. In one duty period, a pilot may fly as single flightcrew up to the point where the total flying and duty hours reach the single flightcrew flight duty period limit. During this time the pilot may fly either in command, or as a co-pilot on a two flightcrew helicopter. The pilot may then continue beyond the single flightcrew flight duty period limit in a two flightcrew operation up to the two flightcrew flight duty period and flying hour maxima, but may only fly as co-pilot.

Positioning and combinations of flying and other DUTY

13. All time spent on positioning as required by the operator shall count as duty but does not count as a sector when calculating the maximum allowable flight duty period. In these circumstances the flight duty period commences at the time at which the crew member reports for the positioning journey.

14. Positioning, any form of ground duty and standby duty at an airport which immediately preceded flight duty, shall be included in the flight duty period and be subject to maximum allowable flight duty period limits specified. Positioning and ground duties immediately following a flight duty shall not be part of the flight duty period, but shall count in computing the length of the subsequent rest period. The time spent between reporting for a flight and the completion of post flight tasks determines the length of the subsequent rest period.

15. If, after the positioning journey, the crew member spends less than a minimum rest period at suitable accommodation provided by the national air operator, and then carries out the flight duty period, the positioning will be counted as a sector if a split duty is claimed when calculating the allowable flight duty period.

Reserve duty—helicopters

16. When at home or in suitable accommodation provided by the national air operator, crew members may be rostered on reserve duty. The time of start, end and the nature of the reserve duty will be defined and notified to crew members. The time a reserve duty starts determines the allowable flight duty period. When the actual flight duty period starts in a more limiting time band, the flight duty period limit will apply. When a crew member is called out from a reserve period 2200 to 0800 hours local time and a crew member is given 2 hours or less notice of report time, then the allowable flight duty period starts at the report time at the designated reporting place.

17. When a crew member is called out from reserve, the reserve duty will cease at the notified start of the flight duty period, when the crew member reports at the designated reporting point.

18. The following limits will apply in respect of reserve or standby and subsequent flight duty period:

<i>Duty</i>	<i>Maximum Duration</i>
Standby or Reserve duty	12 hours
Standby or Reserve followed by an FDP	As in cases A and B below

Case A—

If a crew member is called out from standby or reserve to conduct a flight duty period before completing six hours standby or reserve duty, then the total duty period allowed is the sum of the time spent on standby and the flight duty period from paragraph 20.

Case B—

If a crew member is called out from standby or reserve to conduct a flight duty period after completing more than six hours standby or reserve duty, then the total duty allowed is the sum of all the time spent on standby or reserve and the flight duty period, reduced by the amount of standby worked in excess of six hours.

19. When a crew member is required to be on standby at the airport or a helicopter operating site, the flight duty period commences at the reported time.

Maximum flight duty period helicopters

20.

Local Time of Start	Single Pilot		Two Pilots	
	Max. Length of flight duty period (Hours)	Max. Flying Time (Hours)	Max. Length of flight duty period (Hours)	Max. Flying Time (Hours)
0600-0759	10	7	14	8
0800-1359	11	7	14	8
1400-2159	10	6	14	8
2200-0559	8	5	12	7

Extension of flight duty period by split duty—helicopters

21. (1) When a flight duty period consists of two or more sectors—of which one can be a positioning journey counted as a sector—but separated by less than a minimum rest period, then the flight duty period can be extended by the amounts indicated below—

<i>Consecutive Hours Rest</i>	<i>Maximum extension of the FDP</i>
Less than 2	Nil
2 – 10	A period equal to half the consecutive hours rest taken.

Note: Consecutive hours of rest between two and three hours will only be used once in any single flight duty period.

(2) The rest period shall not include the time allowed for immediate post and preflight duties. When the rest period is 6 hours or less it will suffice if a quiet and comfortable place, not open to the public, is available. Rest cannot be taken in the helicopter. If the rest period is more than 6 consecutive hours, then suitable accommodation will be provided.

Delayed Reporting Time

22. When crew members are informed of a delay before leaving their place of rest the flight duty period shall start at the new reporting time, or three hours after the original reporting time, whichever is the earlier. This paragraph shall not apply if crew members are given ten hours or more notice of a new reporting time.

Rest periods—helicopters

23. (1) Crew members will be notified in good time of flight duty period so that sufficient and uninterrupted pre-flight rest can be obtained. The Company will provide suitable accommodation to crews when away from base to allow opportunities and facilities for adequate pre-flight rest. When flights are carried out at such short notice that it is impracticable for the Company to arrange suitable accommodation, then this responsibility devolves to the aircraft pilot in command.

(2) the minimum rest period which shall be taken before undertaking a flight duty period shall be—

- (a) at least as long as the preceding duty period; or
- (b) eleven hours,

whichever is the greater.

Note: The minimum rest period of eleven hours includes travel time to and from the rest facility, hotel check in and out time and time for personal hygiene and meals allowing eight consecutive hours of sleep opportunity in suitable accommodation. If any of the variables are longer than expected, or there is further delay in the crews being afforded the required eight hours sleep opportunity, the minimum rest shall be increased accordingly.

24. If the preceding duty exceeded sixteen hours, not less than sixteen hours plus two hours for every hour or part of an hour that the previous duty exceeded sixteen hours.

25. Following a sequence of reduced rest and extended flight duty period the subsequent rest period cannot be reduced.

26. At least twenty-four consecutive hours rest each seven days or forty-eight consecutive hours of rest each fourteen days shall be provided. These rest periods may be taken on layovers in suitable accommodation.

27. Following any three consecutive twenty-four hours periods in which there have been three (3) twelve hours or more of flight duty, the flightcrew member shall have twenty-four hour of uninterrupted rest.

28. Following any two consecutive twenty-four hour periods during which there have been two (2) fifteen hours of flight duty the flightcrew shall have thirty hours uninterrupted rest.

29. Crew members who have difficulty in achieving adequate pre-flight rest shall inform the Director, Flight Operations, and then will be given the opportunity to seek medical assistance.

Pilot in command discretion to extend a flight duty period in unforeseen circumstances

30. The pilot in command may, at his discretion, and after taking note of the circumstances of other members of the crew, extend a flight duty period in unforeseen circumstances, beyond that permitted in paragraph 19, provided he is satisfied that the flight can be made safely. The

extension shall be calculated according to what actually happens, not on what was planned to happen. An extension of two hours is the maximum permitted, except in cases of emergency.

Note: In respect of an extension to a flight duty, an emergency is a situation which in the judgement of the pilot in command presents a serious risk to the health or safety of crew and passengers, or endangers the lives of others.

Pilot in command discretion to reduce a rest period

31. A pilot in command may, at his discretion, and after taking note of the circumstances of other members of the crew, reduce the rest period. The rest period will not be less than ten hours. The exercise of such discretion will be exceptional and shall not be used to reduced successive rest periods. If the preceding flight duty period was extended, the rest period may be reduced, provided that subsequent allowable flight duty period is also reduced by the same amount.

32. Whenever a pilot in command extends a flight duty period, it shall be reported to the national air operator on a Discretion Report Form acceptable to the DCA. If the extension is greater than two hours or when exercised after any reduced rest period, then the operator shall submit the pilot in command's written report together with the operator's comments to DCA within fourteen days of the aircraft's return to base.

Mixed single/two pilot operations—helicopters

33. In a flight duty period a pilot may fly as a single flightcrew up to the point where the total flight duty hours reaches the single flightcrew limit. During this time the pilot may fly either in command or as a co-pilot on a two flightcrew aircraft. The pilot may then continue beyond the single flightcrew flight duty period limit in a two flightcrew operation up to the two flightcrew flight duty period and flying hours maxima, but may only fly as a co-pilot.

Repetitive short sectors—helicopters

34. (1) Crews flying repetitive short sectors, for example pleasure flying, offshore sector shuttles, at a average rate of 10 or more landings per hours, shall have a break of at least 30 minutes away from the helicopter within any continuous period of 3 hours.

(2) When carrying out the more demanding roles of helicopter flying, for example, winching and external load carrying, crews shall have a break of thirty minutes away from the helicopter within any continuous period of 3 hours.

Additional Limits on Flying Early Starts—Helicopters

34. A crew member should not normally operate more than 3 consecutive days where duties start or finish in any part of the period 0001 to 0559 local time. There will be no more than 4 such duties in 7 consecutive days.

Days off—helicopters

35. Wherever possible, days off should be taken in the home environment. A planned rest period may be included as part of the day off. Crew Members shall be granted an average of two days off per week, not counting periods of leave. A minimum of six days off in any consecutive 4 weeks is permissible, provided the shortfall is made good in the preceding or following 4 weeks.

Absolute limits on flying hours

36. A person shall not act as a member of the flightcrew of an aircraft if at the beginning of the flight the aggregate of all previous flight times—

(a) during the period of 7 consecutive days expiring at the end of the day on which the flight begins exceeds thirty-five hours.

(b) during the period of twenty-eight consecutive days expiring at the end of the day on which the flight begins exceeds one hundred hours; or (c) during the period of 12 months expiring at the end of the previous month exceeds one thousand hours.

Rules relating to cabin crew if carried

37. The maximum flight duty periods for cabin crew may be one hour longer than those for flightcrew.

38. The maximum flight duty hours for cabin crew shall not exceed—

(a) sixty hours in 1 week but may be increased to sixty-five hours when a rostered duty covering a series of duty periods, once commenced, is subject to unforeseen delays;

(b) one hundred and five hours in any 2 consecutive weeks; and

(c) two hundred and ten hours in any 4 consecutive weeks.

Records to be maintained

39. The monitoring system shall include records for the duty and rest periods of all flying staff as follows:

(a) for each crew member: the beginning, end and duration of each duty and flight duty period, and the function performed during the period; duration of each rest period prior to a flight duty period; dates of days off; weekly totals of duty; and

(b) for each flightcrew member: daily and weekly flying hours.

40. Records shall be preserved for at least twelve calendar months. Additionally, copies of all pilot in commands' discretion reports of extended flight duty periods and reduced rest periods will be retained for a period of at least 6 months after the event.

Standard NO:-2.46 SUBSTITUTION OF SIMULATOR EXPERIENCE

Regulation 270 A national air operator shall ensure that where simulator experience is substituted under Regulation 270, it meets the following minimum standards:

- (a) each aeroplane simulator and other training device that is used in a training course shall—
 - (i) be specifically approved for—
 - (A) the certificate holder;
 - (B) the type aeroplane and, if applicable, the particular variation within type, for which the training or check is being conducted; and
 - (C) the particular maneuver, procedure, or crew member function involved.
 - (ii) maintain the performance, functional, and other characteristics that are required for approval;
 - (iii) be modified to conform with any modification to the aeroplane being simulated that results in changes to performance, functional, or other characteristics required for approval;
 - (iv) be given a daily functional preflight check before being used;
 - (v) have a daily discrepancy log kept with each discrepancy entered in that log by the appropriate instructor or check airman at the end of each training or check flight.
- (b) a particular aeroplane simulator or other training device may be approved for use by more than one certificate holder;
- (c) an aeroplane simulator may be used instead of the aeroplane to satisfy the in-flight requirements of this part, if the simulator—
 - (i) is approved under this section and meets the appropriate simulator requirements; and
 - (ii) is used as part of an approved programme that meets the training requirements; and
- (d) an aeroplane simulator approved under this section shall be used instead of the aeroplane to satisfy the pilot flight training requirements prescribed in the certificate holder's approved low-altitude windshear flight training programme.

Training courses using aeroplane simulators and other training devices.

1. Training courses utilizing aeroplane simulators and other training devices may be included in the certificate holder's approved training programme for use as provided in this section.
2. A course of training in an aeroplane simulator may be included for use if that course—
 - (a) provides at least 4 hours of training at the pilot controls of an aeroplane simulator as well as a proper briefing before and after the training;
 - (b) provides training in at least the procedures and maneuvers set forth in the Act or Regulations made thereunder; or
 - (c) provides line-oriented training that—
 - (i) utilizes a complete flightcrew;
 - (ii) includes at least the maneuvers and procedures (abnormal and emergency) that may be expected in line operations;
 - (iii) is representative of the flight segment appropriate to the operations being conducted by the certificate holder; and

(d) is given by an instructor who meets the applicable requirements.

Note: The satisfactory completion of the course of training shall be certified by either the DCA or a qualified check airman.

3. The programmed hours of flight training set forth in this subpart do not apply if the training programme for the aeroplane type includes—

(a) a course of pilot training in an aeroplane simulator; or

(b) a course of flight engineer training in an aeroplane simulator or other training device. 4. Each certificate holder required to comply shall use an approved simulator for each aeroplane type in each of its pilot training courses that provides training in at least the procedures and maneuvers set forth in the certificate holder's approved low-altitude windshear flight training programme. The approved low-altitude windshear flight training, if applicable, shall be included in each of the pilot flight training courses.

Standard NO:2.47 FACILITIES, NOTICES TO AIRMEN, WEATHER REPORTS AND FORECASTS REQUIRED FOR FLIGHT RELEASE

Regulation 297–298

A national air operator shall ensure that where a flight is released, the notices to airmen under Regulation 297 and 298, meets the following minimum standards:

- (a) before beginning a flight, the flight operations officer shall provide the pilot in command with all available weather reports and forecasts of weather phenomena that may affect the safety of flight, including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear, for each route to be flown and each airport to be used; and
- (b) during a flight, the flight operations officer shall provide the pilot in command any additional available information of meteorological conditions (including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude wind shear), and irregularities of facilities and services that may affect the safety of the flight.

**STANDARD NO: -2.48 PROCEDURES FOR FLIGHT RELEASE IN ICING
CONDITIONS**

Regulation 299 (3)

1. A national air operator shall not authorize an aeroplane to take off and a pilot shall not take off an aeroplane any time conditions are such that frost, ice or snow may reasonably be expected to adhere to the aeroplane unless the pilot has completed all applicable training and unless one of the following requirements is met:

(a) a pre-take-off contamination check, that has been established by the certificate holder and approved by the DCA for the specific aeroplane type, has been completed within 5 minutes prior to beginning take-off. A pretake-off contamination check is a check to make sure the wings and control surfaces are free of frost, ice, or snow;

(b) the certificate holder has an approved alternative procedure and under that procedure the aeroplane is determined to be free of frost, ice, or snow; and

(c) the certificate holder has an approved deicing and anti-icing programme that complies with this chapter and the take-off complies with that programme.

2. Except for an aeroplane that has ice protection provisions for transport category aeroplane type certification, a pilot shall not fly—

(a) under Instrument Flight Rules into known or forecast light or moderate icing conditions; or

(b) under visual Flight Rules into known light or moderate icing conditions; unless the aircraft has functioning deicing or anti-icing equipment protecting each rotor blade, propeller, windshield, wing, stabilizing or control surface, and each airspeed, altimeter, rate of climb, or flight attitude instrument system.

3. A pilot shall not fly a helicopter under Instrument Flight Rules into known or forecast icing conditions or under Visual Flight Rules into known icing conditions unless it has been type certificated and appropriately equipped for operations in icing conditions.

4. Except for an aeroplane that has ice protection provisions for transport category aeroplane type certification, a pilot shall not fly an aircraft into known or forecast severe icing conditions.

5. If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing condition that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast, the restrictions in paragraphs (2), (3), and (4) of this section based on forecast conditions do not apply.

6. A person shall not dispatch or release an aircraft, continue to operate an aircraft en route, or land an aircraft when in the opinion of the pilot in command or flight operations officer, icing conditions are expected or met that might adversely affect the safety of the flight.

7. A person shall not take off an aircraft when frost, ice, or snow is adhering to the wings, control surfaces, propellers, engine inlets, or other critical surfaces of the aircraft or when the take-off would not be in compliance with paragraph (2) of this section. Takeoffs with frost under the wing in the area of the fuel tanks may be authorized by the DCA.

8. Except as provided in paragraph (3) of this section, a person shall not dispatch, release, or take off an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to

adhere to the aircraft, unless the certificate holder has an approved ground deicing/anti-icing programme in its operations specifications and unless the dispatch, release, and take-off comply with that programme. The approved ground deicing/anti-icing programme shall include at least the following items:

(a) a detailed description of—

(i) how the certificate holder determines that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground deicing and anti-icing operational procedures shall be in effect;

(ii) who is responsible for deciding that ground deicing and antiicing operational procedures shall be in effect;

(iii) the procedures for implementing ground deicing and anti-icing operational procedures;

(iv) the specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing and anti-icing operational procedures are in effect.

(v) initial and annual recurrent ground training and testing for flightcrew members and qualification for all other affected personnel (e.g., flight operations officers, ground crews, contract personnel) concerning the specific requirements of the approved programme and each person's responsibilities and duties under the approved programme, specifically covering the following areas:

(A) the use of holdover times.

(B) aircraft deicing and anti-icing procedures, including inspection and check procedures and responsibilities.

(C) communications procedures;

(D) aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics;

(E) types and characteristics of deicing and anti-icing fluids.

(F) cold weather preflight inspection procedures;

(G) techniques for recognizing contamination on the aircraft.

9. The certificate holder's holdover timetables and the procedures for the use of these tables by the certificate holder's personnel. Holdover time is the estimated time deicing or anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft. Holdover time begins when the final application of deicing or anti-icing fluid commences and expires when the deicing or antiicing fluid applied to the aircraft loses its effectiveness. The holdover times shall be supported by data acceptable to the DCA. The certificate holder's programme shall include procedures for flightcrew members to increase or decrease the determined holdover time in changing conditions. The programme shall provide that take-off after exceeding any maximum holdover time in the certificate holder's holdover timetable is permitted only when at least one of the following conditions exists:

(a) a pre-take-off contamination check, as defined in paragraph 10 determines that the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's programme, are free of frost, ice, or snow.

(b) it is otherwise determined by an alternate procedure approved by the DCA in accordance with the certificate holder's approved programme that the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's programme, are free of frost, ice, or snow; and

(c) the wings, control surfaces, and other critical surfaces are re-deiced and a new holdover time is determined.

10. Aircraft deicing and anti-icing procedures and responsibilities, pre-take-off check procedures and responsibilities, and pre-take-off contamination check procedures and responsibilities. A pre-take-off check is a check of the aircraft's wings or representative aircraft surfaces for frost, ice, or snow within the aircraft's holdover time. A pre-take-off contamination check is a check to make sure the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's programme, are free of frost, ice, and snow. It shall be conducted within five minutes prior to beginning take off. This check shall be accomplished from outside the aircraft unless the programme specifies otherwise.

11. A certificate holder may continue to operate under this section without a programme as required in paragraph (1)(c) of this section, if it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will take off unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. The check shall occur within five minutes prior to beginning take-off. This check shall be accomplished from outside the aircraft

Regulation 299 Flight Release in Icing Conditions

A national air operator shall ensure that where a flight is released in icing conditions under Regulation 299 its release meets the minimum standard as follows:

A pilot shall not take off an aircraft that has frost, ice, or snow adhering to any rotor blade, propeller, windshield, wing, stabilizing or control surface, to a power plant installation, or to an airspeed, altimeter, rate of climb, or flight attitude instrument system.