PART VI
OPERATION OF AIRCRAFT

105. Classification of operations.- For the purposes of these rules, flight operations shall be divided into the following classes, namely:-

(1) **Commercial Air Transport Operation:** an aviation operation by an operator in which an aircraft/ helicopter is used for Scheduled Air Services or Non-scheduled Air Services involving –

(a) the carriage of passengers or cargo in the aircraft/ helicopter in return for payment or the promise of payment to the operator of the aircraft/ helicopter in respect of that flight; and

(b) the carriage of persons other than persons employed by the operator as aircraft/ helicopter crew members, where payment or promise of payment is made to the operator or the owner of the aircraft/ helicopter in respect of that flight, except that if the purpose of the flight is flight instruction and the payment or promise of payment is made in respect of that instruction, the flight shall be regarded as General Aviation Operation;

(2) **Aerial work operation:** a specialized aviation operation in which an aircraft is flown or operated by the operator or owner of that aircraft to provide a service for any of the following purposes:-

(a) agriculture operation;

(b) construction works;

(c) photography;

(d) surveying;

(e) observation and patrol by Government Departments;

(f) aerial ambulance and rescue;

(g) flight calibration navigation aids; or

(h) any other operation of a character substantially similar to any of the operations specified in clauses (a) to (g) or as decided by the Chairman.;

(3) **General Aviation Operation** : any type of aviation operation other than Commercial Air Transport Operations and Aerial Work Operations, such as:-

(a) transportation for personal or corporate use where payment or promise of payment to the operator or owner of the aircraft/ helicopter in respect of that flight is not involved;

(b) flight instructions or training where payment or promise of payment is made to the operator or owner of the aircraft/helicopter in respect of that flight;

(c) on-demand carriage of persons and/or goods on payment or promise of payment by a commercial operator not as a scheduled or non-scheduled air carrier;

(d) any other operation of a character substantially similar to any of the operations specified in clauses (a) to (c) or as decided by the Chairman.

106. Classification of aircrafts.- In accordance with the type of operations in which it is being employed at any time, operations of aircraft and helicopter shall be classified as follows:-

(1) Commercial Air Transport Aircraft: - when an aircraft is being employed in commercial air transport operations;

(2) Commercial Air Transport Helicopter: - when a helicopter is being employed in commercial air transport operations;

(3) Aerial Work Aircraft: - when an aircraft is being employed in aerial work operations;

(4) General Aviation Aircraft: - when an aircraft is being employed in general aviation operations.

(5) General Aviation Helicopter: - when an helicopter is being employed in general aviation operations.

107. Authorization of aircraft to be used

(1) An aircraft shall not be used in any class of operations unless the particular type of aircraft is authorized and approved for such use by the chairman.

(2) An aircraft shall not be used in any class of operations unless it is fitted with or carries such equipment, including emergency equipment, as the chairman approves or directs.

(3) Where the chairman directs that an instrument or item of equipment be fitted or carried on an aircraft, the instrument or item of equipment shall be fitted, carried or used in accordance with the directions issued by the chairman.

(4) Single-engine aeroplane shall not be operated for carriage of passengers in Commercial Air Transport Operations, other than as provided under rule 105(2) in Aerial

Work Operations and under rule 105(3) in General Aviation Operations.

(5) Only multi-engine aeroplanes of over 5700kg. maximum certificated take-off mass certified in accordance with Design Standards and Code of Performance issued or approved by the Chairman, shall be operated for carriage of passengers and/or cargo in Commercial Air Transport Operations.

(6) Helicopter certified only in accordance with the Design Standards and Code of Performance issued or approved by the Chairman, shall be operated for carriage of passengers and/or cargo in Commercial Air Transport Operations.

(7) An aircraft shall be operated in compliance with the Code of Performance issued or approved by the Chairman, the terms of its certificate of Airworthiness and operating limitations contained in its Flight Manual.

108. Deleted.

109. General Aviation–Aircraft.- An aircraft shall not be used in general aviation operations except under the authority of, and in accordance with a licence or certificate issued by the Chairman for general aviation operations and in compliance with the provisions of these rules and such conditions as the Chairman may impose from time to time.

(1) **General:**

(a) The pilot-in-command shall comply with the relevant laws, regulations and procedures of the States in which the aeroplane is operated.

(b) The Pilot-in-command shall be responsible for the safety of all crew members, passengers and cargo on board when the doors are closed. The pilot-in-command shall also be responsible for the operation and safety of the aeroplane form the moment the aeroplane is ready to move for the purpose of taking off until the moment is finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down.

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

(d) The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the aeroplane resulting in serious injury or death of any person or substantial damage to the aeroplane or property.

(2) **Flight Preparation and in-flight procedures:-**

(a) Adequacy of operation facilities.- The pilot-in-command shall not commence a flight unless it has been ascertained by every reasonable means available that the ground and/or water areas and facilities available and directly required for such flight and for the safe operation of the aeroplane are adequate, including communication facilities and navigation aids.

(b) Aerodrome operation minima.- Except with the specific approval of the Chairman, Pilot-in-command shall not operate to or from an aerodrome using operation minima lower than those, established for that aerodrome.

(c) Briefing.- The pilot-in-command shall ensure that crew members and passengers are made familiar, by means of an oral briefing or by other means, with the location and the use of:

(i) Seat belts; and, as appropriate,
(ii) Emergency exits;
(iii) Life jackets;
(iv) Oxygen dispensing equipment; and
(v) Other emergency equipment provided for individual use, including passenger emergency briefing cards.

(d) The pilot-in-command shall ensure that all persons on board are aware of the location and general manner of use of the principal emergency equipment carried for collective use.

(e) Aeroplane airworthiness and safety precautions.- A flight shall not be commenced until the pilot-in-command is satisfied that:

(i) the aeroplane is airworthy, duly registered and that appropriate certificates with respect thereto are aboard the aero plane;

(ii) the instruments and equipment installed in the aeroplane are appropriate, taking into account the expected flight conditions;

(iii) any necessary maintenance has been performed in accordance with para-(6) of this rules;

(iv) the mass of the aeroplane and center of gravity location are such that the flight can be conducted safety, taking into account the flight condition expected;

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

(vi) the aeroplane operation limitations, contained in the flight manual, or its equivalent, will not be exceeded.

(f) Weather reports and forecasts.- Before commencing a flight the pilot-in-command shall be familiar with all available meteorological information appropriate to the intended flight. Preparation for a flight away from the vicinity of the place of departure, and for every flight under the instrument flight rules, shall include:

(i) a study of available current weather reports and forecasts; and
(ii) the planning of an alternative course of action to provide for the eventuality that the flight cannot be completed as planned, because of weather conditions.

(g) Limitations imposed by weather conditions.-

(i) Flight in accordance with the visual flight rules.- A flight, except one of purely local character in visual meteorological conditions, to be conducted in accordance with the visual flight rules shall not be commenced unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under the visual flight rules, will, at the appropriate time, be such as to render compliance with these rules possible.

(ii) Flight in accordance with the instrument flight rules.-

(A) When a destination alternate aerodrome is required.- A flight to be conducted in accordance with the instrument flight rules shall not be commenced unless the available information indicated that conditions, at the aerodrome of intended landing and at least one destination alternate would, at the estimated time of arrival, be at or above the aerodrome operating minima.

(B) When no destination alternate aerodrome is required.- A flight to be conducted in accordance with the instrument flight rules to an aerodrome when no alternate aerodrome is required shall not be commenced unless:

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

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

(a) a cloud base of at least 300m (1000 ft) above the minimum associated with the instrument approach procedure; and

(b) visibility of at least 5.5 km or of 4 km more than the minimum associated with the procedure.

(h) Aerodrome operating minima.-

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

(ii) An instrument approach shall not be continued beyond the outer marker fix in case of precision approach, or below 300 m (1000ft) above the aerodrome in case of non precision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(iii) If, after passing the outer marker fix in case of precision approach, or after descending below 300 m (1000 ft) above the aerodrome in case of non-precision approach, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H. In any case, an aeroplane shall not continue its approach-to-land beyond a point at which the limits or the aerodrome operating minima would be infringed.

(i) Flight in icing conditions.- A flight to be operated in known or expected icing conditions shall not be commenced unless the aeroplane is certificated and equipped to cope with such conditions.

(j) Destination alternate aerodromes.- For a flight to be conducted in accordance with the instrument flight rules, at least one destination alternate aerodrome shall be selected and specified in the flight plan, unless:

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

(ii) the aerodrome of intended landing is isolated and there is no suitable destination alternate aerodrome.

(k) Fuel and oil supply.- A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the aeroplane carries sufficient fuel and oil to ensure that it can safely complete the flight, and, as applicable, the following special provisions are complied with:

(i) Flight in accordance with the instrument flight rules. At least sufficient fuel and oil shall be carried to allow the aero plane:

(A) When, in accordance with the exception contained in clause (m) a destination alternate aerodrome is not required, to fly to the aerodrome to

which the flight is planned and thereafter for a period of 45 minutes; or

(B) When a destination alternate aerodrome is required, to fly to the aerodrome to which the flight is planned, thence to an alternate aerodrome, and thereafter for a period of 45 minutes.

(l) Oxygen supply.- The pilot-in-command shall ensure that breathing oxygen is available to crew members and passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crewmembers or harmfully affect passengers.

(m) Use of oxygen.- All flight crew members, when engaged in performing duties essential to the safe operation of an aeroplane in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in para (f).

(n) In-flight emergency instruction.- In an emergency during flight, the pilot-in-command shall ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances.

(o) Fitness of flight crew members.- The pilot-in-command shall ensuring that a flight:

(i) will not be commenced if any flight crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue, the effects of alcohol or drugs; and

(ii) will not be continued beyond the nearest suitable aerodrome when flight crew members capacity to perform functions is significantly reduced by impairment of faculties from causes such as fatigue, sickness, lack of oxygen.

(p) Flight crew members at duty stations.-

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

(ii) En route.- All flight crew members required to be on flight deck duty shall remain at their stations except when their absence is necessary for the performance of duties in connection with the operation of the aero plane, or for physiological needs.

(iii) Seat belts.- All flight crewmembers shall keep their seat belts fastened when at their stations

(q) Instrument flight procedures.-

(i) One or more instrument approach procedures designed in accordance with the classification of instrument approach and landing operations shall be approved by the Chairman and promulgated to serve each instrument runway or aerodrome utilized for instrument flight operations.

(ii) All aeroplanes operated in accordance with instrument flight rules shall comply with the instrument flight procedures approved by the Chairman.

(r) Instruction- general.- An aeroplane shall not be taxied on the movement area of an aerodrome unless the person at the controls-

(i) has been duly authorized by the owner or the lessee(in the case where it is leased), or a designated agent;

(ii) is fully competent to taxi the aero plane;

(iii) is qualified to use the radio telephone if radio communications are required; and

(iv) has received instruction from a competent person in respect of aerodrome layout, and where appropriate, information on routes, signs, marking, lights, ATC signals and instruction, phraseology and procedures, and is able to conform to the operational standards required for safe aeroplane movement at the aerodrome.

(3) **Aeroplane performance Operating Limitations.-**

(a) An aeroplane shall be operated-

(i) in compliance with the terms of its airworthiness certificate or equivalent approved document;

(ii) within the operation limitations prescribed by the Chairman; and

(iii) unless otherwise authorized by the Chairman within the mass limitations imposed by compliance with the applicable noise certification standards.

(b) Placards, listings, instrument markings, or combinations thereof, containing those operating limitations prescribed by the Chairman for visual presentation, shall be displayed in the aero plane.

(4) **Aeroplane Instruments and Equipment.-**

(a) All aero planes on all flights.-

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

(ii) Instruments.- An aeroplane shall be equipped with instruments which will enable the flight crew to control the flight path of the aero plane, carry out any required procedural manoeuvre, and observe the operating limitations of the aeroplane in the expected operating condition.

(iii) Equipment.- All aeroplanes on all flights shall be equipped with-

(A) an accessible first-aid kit;

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

(1) the pilot's compartment; and

(2) each passenger compartment that is separate from the pilot's compartment and not readily accessible to the pilot or co-pilot;

(C) (1) a seat or berth for each person over an age as determined by the Chairman.

(2) a seat belt for each seat and restraining belts for each berth;

(D) the following manuals, charts and information:

(1) the flight manual or other documents or information concerning any operating limitation prescribed for the aeroplane by the Chairman required for the application of rule109(1);

(2) current and suitable charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight may be diverted;

(3) procedures, as prescribed in part–XI of this Rules, for pilots-in-command of intercepted aircraft; and

(4) visual signals for use by intercepting and intercepted aircraft, as contained in part-XI of this Rules.

(E) spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

(iv) Marking of break-in points.- In areas of the fuselage suitable for break-in by rescue crews in an emergency shall be marked on an aero plane. Such areas shall be marked as per ICAO SARP's.

(b) All aeroplanes operated as VFR flights.- All aero planes when operated as VFR flights shall be equipped with-

(i) a magnetic compass;

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

(iii) a sensitive pressure altimeter;

(iv) an airspeed indicator; and

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

(c) All aero planes on flights over water.- All seaplanes for all flights shall be equipped with-

(i) one life jacket, or equivalent individual floatation device, for each person on board, stowed in a position readily accessible from the seat or berth;

(ii) equipment for making the sound signals prescribed in the International Regulations for preventing Collisions at Sea, where applicable;

(iii) one anchor;

(iv) one sea anchor (drogue) when necessary to assist in maneuvering.

(d) Landplanes.- All single-engine landplanes when flying en route over water beyond gliding distance from the shore should carry one life jacket or equivalent individual floatation device for each person an board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.

(e) All aero planes on extended flights over water.- All aero planes when operated on extended flights over water shall be equipped with-

(i) when the aeroplane may be over water at a distance of more than 93 Km (50 NM) away from land suitable for making an emergency landing: One life jacket or equivalent individual floatation device for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided;

(ii) when over water away from land suitable for making an emergency landing at a distance of more than 185 Km (100 NM), in the case of single-engine aero planes, and more than 370 km (200NM), in the case of multi-engine aeroplanes capable of continuing flight with one engine inoperative:

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

(B) equipment for making the pyrotechnical distress signals described in part-II of these rules.

(f) All aero planes on flights over designated land areas.- Aero planes when operated across land areas which have been designated by the state concerned as areas in which search and rescue would be especially difficult shall be equipped with such signaling devices and life-saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

(g) All aero planes on high altitude flights.- All aero planes intended to be operated at high altitudes shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in sub-rule (2)(l).

(h) Aero planes for which the individual certificate of airworthiness is first issued on or after 1 January 1990.- Pressurized aero planes intended to be operated at flight

altitudes at which the atmospheric pressure is less than 376 hpa shall be equipped with a device to provide positive warning to the flight crew of any dangerous loss of pressurization.

(i) Aero planes for which the individual certificate of airworthiness is first issued before 1 January 1990.- Pressurized aero planes intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hpa should be equipped with a device to provide positive warning to the flight crew of any dangerous loss of pressurization.

(j) All aero planes operated in accordance with the instrument flight rules.- All aero planes when operated in accordance with the instrument flight rules or when the aeroplane cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with-

(i) a magnetic compass;

(ii) an accurate timepiece indication the time in hours, minutes and seconds;

(iii) a sensitive pressure altimeter;

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

(v) a turn and slip indicator;

(vi) an attitude indicator (artificial horizon);

(vii) a heading indicator (directional gyroscope);

(viii) means of indicating whether the supply of power to the gyroscopic instruments is adequate;

(ix) a means of indicating in the flight crew compartment the outside air temperature;

(x) a rate-or-climb and descent indicator; and

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

(k) All aero planes when operated at night.- All aero planes, when operated at night, shall be equipped with-

(i) all the equipment specified in para-(j).

(ii) the lights required by part-II of this Rules for aircraft in flight or operating on the movement area of an aerodrome;

(iii) a landing light;

(iv) illumination for all flight instruments and equipment that are essential for the safe operation of the aero plane;

(v) lights in all passenger compartments; and

(vi) an electric torch for each crew member station.

(l) All aero planes complying with the noise certification Standards in Part-XVI of these rules: An aeroplane shall carry a document attesting noise certification.

(m) Aero planes required to be equipped with ground proximity warning systems (GPWS).-

(i) All turbine-engine aeroplanes of a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than nine passengers, for which the individual certificate of airworthiness is first issued on or after 1, January 2004, shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(ii) All turbine- engine aeroplanes of a maximum certificated take–off mass in excess of 5700 kg or authorized to carry more than nine passengers, shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(iii) All turbine – engine aeroplanes of a maximum certificated take-off mass of 5 700 kg or less and authorized to carry more than five but not more than nine passengers should be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(iv) All piston–engine aeroplanes of a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than nine passengers should be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(v) A ground proximity warning system shall provide automatically a timely and distinctive warning to the flight crew when the aeroplane is in potentially hazardous proximity to the earth s surface.

(vi) A ground proximity warning system shall provide, as a minimum, warnings of at least the following circumstances-

(A) excessive descent rate;
(B) excessive altitude loss after take – off or go-around; and (C) unsafe terrain clearance.

(n) Flight data recorders-types.-

(i) A type 1 flight data recorder shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power and operation.

(ii) A type II flight data recorder shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power and configuration of lift and drag devices.

(iii) The use of engraving metal foil flight data recorders, flight data recorders using frequency modulation (FM) and photographic film flight data recorders shall be discontinued.

(iv) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2005, which utilize data link communications and are required to carry a cockpit voice recorder (CVR), shall record on a flight recorder, all data link communications to and from the aero plane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(v) All aeroplanes which utilize data link communications and are required to carry a CVR, shall record on a flight recorder, all data link communications to and from the aero plane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(vi) Sufficient information to derive the content of the data link communications message, and whenever practical, the time the message was displayed to or generated by the crew shall be recorded.

(vii) A type 1A flight data recorder shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power, configuration and operation. The parameters that satisfy the requirements for a Type 1A flight data recorder are listed in the paragraphs below. The parameters without an asterisk (*) are mandatory parameters which shall be recorded. In addition, the parameters designated by an asterisk (*) shall be recorded if an information data source for the parameter is used by aeroplane systems or the flight crew to operate the aeroplane.

(viii) The following parameters satisfy the requirements for flight path and speed:

(A) Pressure altitude;
(B) Indicated airspeed or calibrated airspeed;
(C) Air-ground status and each landing gear air-ground sensor when practicable;
(D) Total or outside air temperature;

(E) Heading (primary flight crew reference) ;
(F) Normal acceleration;
(G) Lateral acceleration;
(H) Longitudinal acceleration (body axis);
(I) time or relative time count;
(J) Navigation data* : drift angle, wind speed, wind direction, latitude/longitude;
(K) Groundspeed*;
(L) Radio altitude*.

(ix) The following parameters satisfy the requirements for attitude:

(A) Pitch attitude;
(B) Roll attitude;
(C) Yaw or sideslip angle*;
(D) Angle of attack*.

(x) The following parameters satisfy the requirements for engine power:

(A) Engine thrust/power: propulsive thrust /power on each engine, cockpit thrust/power level position;

(B) Thrust reverse status*;
(C) Engine thrust command*;
(D) Engine thrust target*;
(E) Engine bleed valve position*;
(F) Additional engine parameters*: EPR, N1, indicated vibration level, N2 , EGT, TLA, fuel flow, fuel cut-off lever position, N3.

(xi) The following parameters satisfy the requirements for configuration:

(A) Pitch trim surface position;
(B) Flaps trailing edge flap position, cockpit control selection;
(C) Slats8: leading edge flap (slat) position, cockpit control selection;
(D) Landing gear*: landing gear, gear selector position;
(E) Yaw trim surface position*;
(F) Roll trim surface position*;
(G) Cockpit trim control input position pitch*;
(H) Cockpit trim control input position roll*;
(I) Cockpit trim control input position yaw*;
(J) Ground spoiler and speed brake*: ground spoiler position, ground spoiler selection, speed brake position, speed brake selection;
(K) De-icing and /or anti-icing systems selection*;
(L) Hydraulic pressure (each system)*;
(M) Fuel quantity*;
(N) DC electrical bus status*;
(O) APU bleed valve position*;

(P) Computed center of gravity*.

(xii) The following parameters satisfy the requirements for operation:

(A) Warnings;
(B) Primary flight control surface and primary flight control pilot input: pitch axis, roll axis, yaw axis;
(C) Marker beacon passage;
(D) Each navigation receiver frequency selection;
(E) Manual radio transmission keying and CVR/FDR synchronization reference;
(F) Autopilot/auto throttle/AFCS mode and engagement status*;
(G) Selected barometric setting*: pilot, first officer;
(H) Selected altitude (all pilot selectable modes of operation)*;
(I) Selected mach (all pilot selectable modes of operation)*;
(J) Selected vertical speed (all pilot selectable modes of operation)*;
(K) Selected flight path (all pilot selectable modes of operation)*: course/DSTRK, path angle;
(L) Selected decision height*;
(M) EFIS display format* pilot, first officer;
(N) Multifunction; engine / alerts display format*;
(O) GPWS/ TAWS/ GCAS status*: Selection of terrain display mode including pop-up display status, terrain alerts, both cautions and warnings, and advisories, on/off switch position;
(P) Low pressure warning*: hydraulic pressure, pneumatic pressure;
(Q) Computer failure*;
(R) Loss of cabin pressure*;
(S) TCAS/ACAS (traffic alert and collision avoidance system/ airborne collision avoidance system)*;
(T) Icc detection;
(U) Engine warning each engine vibration*;
(V) Engine warning each engine over temperature*;
(W) Engine warning each engine oil pressure low*;
(X) Engine warning each engine over speed*;
(Y) Wind shear warning*;
(Z) Operational stall protection, stick shaker and pusher activation*;
(AA) All cockpit flight control input forces*: control wheel, control column, rudder pedal cockpit input forces;
(BB) Vertical deviation*: ILS glide path MLS elevation, GNSS approach path;
(CC) Horizontal deviation*: ILS localizer, MLS azimuth, GNSS approach path;
(DD) DME 1 and2 distances*;
(EE) Primary navigation system reference*: GNSS, INS, VOR/DME, MLS, Loran C, ILS;
(FF) Brakes*: left and right brake pressure, left and right brake pedal position;

(GG) Date*;
(HH) Even marker*;
(II) Head up display in use*;
(JJ) Para visual display on*.

(o) Flight data recorders – duration.- Types I and II flight data recorders shall be capable of retaining the information recorded during at least the last 25 hours of their operation.

(i) Flight data recorders– aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 1989.- All aeroplanes of a maximum certificated take off mass of over 27000 kg shall be equipped with a Type I flight data recorder.

(q) Flight data recorders-aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2005.- All aero planes of maximum certificated take-off mass of over 5700 kg shall be equipped with a type IA flight data recorder.

(p) Cockpit voice recorders- aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 1987.- All aeroplanes of a maximum certificated take-off mass of over 27000 kg shall be equipped with a cockpit voice recorder, the objective of which is the recording of the aural environment on the flight deck during flight time.

(q) Cockpit voice recorders- duration.-

(i) A cockpit voice recorder shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

(ii) A cockpit voice recorder, installed in aero planes of a maximum certificated take-off mass of over 5700 kg for which the individual certificate of airworthiness is first issued after 1 January 2003, shall be capable of retaining the information recorded during at least the last two hours of its operation.

(r) Flight recorders- construction and installation.- Flight recorders shall be constructed, located and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered and transcribed. Flighty recorders shall meet the prescribed crashworthiness and fire protection specifications.

(s) Flight recorders – operation.-

(i) Flight recorders shall not be switched off during flight time.

(ii) To preserve flight recorder records, flight recorders shall be de-activated

upon completion of flight time following an accident or incident. The flight recorders shall not be re-activated before their disposition as determined in accordance with part-XIII of this Rules.

(iii) Flight recorder records.- The pilot-in-command shall ensure, to the extent possible, in the event the aeroplane becomes involved in an accident or incident, the preservation of all related flight recorder records, and if necessary the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with part-XIII of this Rules.

(t) Flight recorders- continued serviceability.- Operational checks and evaluations of recordings from the flight data and cockpit voice recorder systems shall be conducted to ensure the continued serviceability of the recorders.

(u) Mach number indicator.- All aero planes with speed limitations expressed in terms of Mach number shall be equipped with a Mach number indicator.

(v) Emergency locator transmitter (ELT).-

(i) All aero planes for which the individual certificate of airworthiness is first issued after 1 January 2002, operated on extended flights over water as described in para (e) shall be equipped with one automatic ELT.

(ii) All aero planes operated on extended flights over water as described in para-(e) and when operated on flights over designated land areas as described in para-(f) shall be equipped with one automatic ELT.

(w) Unless exempted by the Chairman, all aeroplanes shall be equipped with a pressure-altitude reporting transponder which operates in accordance with the relevant provisions of part-X of these Rules.

(x) All turbine-engine aero planes of a maximum certificated take-off mass in excess of 15000 kg, or authorized to carry more than 30 passengers, for which the individual airworthiness certificate is first issued after 1 January 2007, shall be equipped with an airborne collision avoidance system (ACAS II) or such other equipment as approved by ICAO .

(5) **Aeroplane Communication and Navigation Equipment.-**

(a) Communication equipment.-

(i) An aeroplane to be operated in accordance with the instrument flight rules or at night shall be provided with radio communication equipment. Such equipment shall be capable of conducting two-way communication with aeronautical stations.

(ii) When compliance with para-(a) requires that more than one communication equipment unit be provided, each shall be independent of the other or others to the extent that a failure in any one will not result in failure of any other.

(iii) Unless exempted by the Chairman, an aeroplane to be operated in accordance with the visual flight rules, but as a controlled flight, shall be provided with radio communication equipment capable of conducting two-way communication, at any time during flight, with aeronautical stations.

(iv) Unless exempted by the Chairman, an aeroplane to be operated as per the provisions of (4)(d) or (4)(e) shall be provided with radio communication equipment capable of conducting two-way communication at any time during flight with aeronautical stations.

(v) The radio communication equipment required in accordance with (5)(a)(i) to (iv) shall provide for communication on the aeronautical emergency frequency 121.5 MHZ.

(b) Navigation equipment.-

(i) An aeroplane shall be provided with navigation equipment which will enable it to proceed:

(A) in accordance with the flight plan; and
(B) In accordance with the requirements of air traffic services;

except when, if not so precluded by the appropriate authority navigation for flights under the visual flight rules is accomplished by visual reference to landmarks at least every 110 km (60 NM).

(ii) For flights in defined portions of airspace or on routes where an RNP type has been prescribed, an aeroplane shall, in addition to the requirements specified in para-(b):-

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

(B) be authorized by the Chairman for operations in such airspace.

(iii) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, an aeroplane shall be provided with navigation equipment which:

(A) continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track; and

(B) has been authorized by the state of Registry for MNPS operations concerned.

(iv) For flights in defined portions of airspace where, based on Regional Air navigation Agreement, a reduced vertical separation minimum (RVSM) of 300 m (1000 ft) is applied between FL 290 and FL 410 inclusive, an aero plane:

(A) shall be provided with equipment which is capable of:

(1) indicating to the flight crew the flight level being flown;
(2) automatically maintaining a selected flight level;
(3) providing an alert to the flight crew when a deviation occurs from the selected flight level. The threshold for the alert shall not exceed +/- 90 m (300 ft); and
(4) automatically reporting pressure-altitude; and

(B) shall be authorized by the Chairman for operation in the airspace concerned.

(v) Prior to granting the RVSM approval required in accordance with para-(iv), the state shall be satisfied that:

(A) the vertical navigation performance capability of the aeroplane satisfies the requirements specified in ANO.

(B) the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmers; and

(C) the operator has instituted appropriate flight crew procedures for operations in RVSM airspace.

(vi) An operator shall not operate flights in RVSM airspace unless-

(A) the aircraft is RVSM approved and
(B) Crews are certified to operate in RVSM airspace.

(vii) The aeroplane shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight , the remaining equipment will enable the aeroplane to navigation accordance with para-(b) and where applicable para-(b)(ii), (b)(iii) & (b)(iv).

(viii) On flights in which it is intended to land in instrument meteorological conditions, an aeroplane shall be provided with radio equipment capable of receiving signals providing guidance to point from which a visual landing can be effected. This equipment shall be capable of providing such guidance for each

aerodrome at which it is intended to land in instrument meteorological conditions and for any designated alternate aerodromes.

(6) **Aeroplane Maintenance.-**

(a) Responsibilities.-

(i) The owner of an aero plane, or in the case where it is leased, the lessee, shall ensure that-

(A) the aeroplane is maintained in an airworthy condition;
(B) the operational and emergency equipment necessary for the intended flight is serviceable;
(C) the Certificate of Airworthiness of the aeroplane remains valid; and
(D) the maintenance of the aeroplane is performed in accordance with a maintenance programme acceptable to the Chairman.

(ii) The aeroplane shall not be operated unless it is maintained and released to service under a system acceptable to the Chairman.

(iii) When the maintenance release is not issued by an approved maintenance organization in accordance with part-VIII of these Rules, the person signing the maintenance release shall be licensed in accordance with Part-I of these Rules.

(b) Maintenance records.-

(i) The owner shall ensure that the following records are kept for the periods mentioned in (b)(ii):

(A) the total time in service (hours, calendar time and cycles, as appropriate) of the aeroplane and all life limited components;

(B) the current status of compliance with all mandatory continuing airworthiness information;

(C) appropriate details of modifications and repairs;

(D) the time in service (hours, calendar time and cycles, as appropriate) since last overhaul of the aeroplane or its components subject to a mandatory overhaul life;

(E) the current status of the aero planes compliance with the maintenance programme; and

(F) the detailed maintenance records to show that all requirements for signing a maintenance release have been met.

(ii) The records referred to in para-(i)(A) to (F) shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in 6.4 (f) for a minimum period of one year after the signing of the maintenance release.

(iii) The lessee of an aeroplane shall comply with the requirements of para-(i) and (ii) as applicable, while the aeroplane is leased.

(c) Continuing airworthiness information.- The owner of an aeroplane over 5700 kg maximum, certificated take-off mass, or in the case where it is leased, the lessee, shall, as prescribed by the Chairman, ensure that the information resulting from maintenance and operational experience with respect to continuing airworthiness, is transmitted as required by part-VIII of this Rules.

(d) Modifications and repairs.- All modifications and repairs shall comply with airworthiness requirements acceptable to the state of Registry. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness requirements are retained.

(e) Maintenance release.-

(i) A maintenance release shall be completed and signed, as prescribed by the Chairman to certify that the maintenance work performed has been completed satisfactorily.

(ii) A maintenance release shall contain a certification including:

(A) basic details of the maintenance carried out;
(B) date such maintenance was completed;
(C) when applicable, the identity of the approved maintenance organization; and
(D) the identity of the person or persons signing the release.

(7) **Aeroplane Flight crew.-**

(a) The pilot-in-command shall ensure that the licenses of each flight crew member have been issued or rendered valid by the Chairman and are properly rated and of current validity, and shall be satisfied that flight crew members have maintained competence.

(b) The Pilot-in-command of an aeroplane equipped with an airborne collision avoidance system (ACAS II) or such other equipment as approved by ICAO, shall ensure that each flight crew member has been appropriately trained to competency in the use of ACAS II or such other equipment as approved by ICAO, and the avoidance of collisions.

(c) Composition of the flight crew.- The number and composition of the flight crew shall not be less than that specified in the flight manual or other documents associated with the certificate of airworthiness.

110. Aerial Work Operations.- An aircraft shall not be used in aerial work operations except under the authority of, and in accordance with a licence or certificate issued by the Chairman for aerial work operations and in compliance with the provisions of these rules and such conditions as the Chairman may impose from time to time.

111. Non-scheduled Air Services Operations.- (1) An aircraft shall not be used in non-scheduled air services operations except under the authority of, and in accordance with a licence issued by the Chairman for air transport operations and in compliance with the provisions of these rules and such conditions as the Chairman may impose from time to time.

(2) Unless authorized by the Chairman, the holder of a non-scheduled air services operations licence shall not engage in air transport operations over a route or section of a route on which the holder of a scheduled air services licence is operating.

Explanation: Non-scheduled air services operations also include Charter Operations using a chartered aircraft including a foreign registered aircraft under a contractual arrangements between a duly certificated or licensed air carrier and an entity hiring or leasing its aircraft.

112. Operational Certification and Supervision.- (1) An operator shall not engage in commercial air transport operations unless in possession of a valid air operator certificate issued by Chairman.

(2) The air operator certificate shall authorize the operator to conduct commercial air transport operations in accordance with specified authorizations, conditions and limitations.

(3) Civil Aviation Authority, Bangladesh shall recognize as valid an air operator certificate issued by a Contracting State, provided that the requirements under which the certificate was issued are at least equal to the applicable Standards specified by Chairman.

(4) The issue of an air operator certificate by Chairman shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified.

(5) The continued validity of an air operator certificate shall depend upon the operator maintaining the requirements of sub rule (4) of rules under the supervision of the State of the Operator.

(6) The air operator certificate shall contain at least the following:

(a) operator's identification (name, location);

(b) date of issue and period of validity;

(c) description of the types of operations authorized;

(d) the type(s) of aircraft authorized for use; and

(e) authorized areas of operation or routes.

(7) Certification for operation of aircraft is to be obtained through the established system of Civil Aviation Authority, Bangladesh. All operators shall be subjected to continued surveillance by Chairman to ensure that the required standards of operations established in this rules are maintained.

113. Approval of contract regarding operations.- The holder of a Commercial Air Transport Operations, Aerial Work Operations or General Aviation Operations licence may, subject to the approval of the Chairman, enter into a contract or arrangement with other persons under whom the holder may operate the service for which the licence was issued.

114. General condition of flight.- Subject to the provisions of rule 115, a Bangladesh aircraft shall not commence a flight unless;

(a) it has a nationality mark and a registration mark pointed on, or affixed to it in accordance with part VII of these rules;

(b) there is in force in respect of it a certificate of airworthiness issued under rule 186;

(c) there is in force in respect of it a maintenance release issued by virtue of clause (a) of sub-rule (7) of rule 201 covering the period of the flight and the flight is not in contravention of any condition set out or referred to in the maintenance release or an approve alternative document;

(d) any maintenance, other than approved maintenance carried out by the pilot-in-command, required to be carried out before the commencement of the flight, or required to be carried out before the expiration of the flight,or required to be complied with any requirement or condition imposed under these rules with respect to the aircraft, has been certified in accordance with system of certification under rule 192 or in a manner acceptable to the chairman under sub-rule (3) of rule 199 have been completed; and

(e) it compiles with these rules in respect of the number and description of and holding of license and ratings by, the operating crew.

115. Permission for certain flights

(1) The chairman may, on the application of a person, give permission to fly an aircraft in Bangladesh on a particular flight for the purpose of –

(a) delivering the aircraft to a person under a contract of sale or with a view to sale;

(b) carrying out a demonstration, experiment or test in respect of the aircraft;

(c) bringing the aircraft to a place where a demonstration experiment or test with respect to the aircraft is to take place;

(d) bringing the aircraft to a place at which maintenance on the aircraft may be carried out;

(e) assisting in searching for, bringing aid to or rescuing persons in danger on a particular occasion; or

(f) assisting in dealing with a state of emergency.

(2) While giving permission for a flight a flight under sub-rule (1), the chairman may direct that the requirements of rules 114 and 120 do not apply in relation to such flight.

(3) While giving permission for a flight under sub-rule (1) the chairman may give such directions with respect to the flight as he thinks necessary for the purpose of ensuring the safety of air navigation.

116. Compliance with laws, regulations and procedures.- (1) An operator shall ensure that all employees when abroad know that they must comply with the laws, regulations and procedures of those States in which operations are conducted.

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

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

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

(5) Operators shall ensure that pilot-in-command have available on board the aeroplane

all the essential information concerning the search and rescue services in the area over which the aeroplane will be flown.

(6) Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for aeronautical radiotelephony communications as specified in the Part-I of these rule.

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

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

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

(10) An aircraft, which possess the nationality of a Contracting State, shall not fly within, or depart from, Bangladesh unless it complies with the provisions of these rules, which are expressly applicable to such aircraft, and with the requirements of the Convention in respect of:

(a) its nationality and registration mark;

(b) its certificate of airworthiness;

(c) the number and description of, and the holding of licenses and ratings by the operating crew;

(d) the documents to be carried;

(e) the flight and manoeuver of aircraft; and

(f) the provision of radio systems.

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

(12) If an emergency situation which endangers the safety of the aeroplane or persons becomes known first to the flight operations officer/flight dispatcher, action by that person in accordance with sub-rule (4)(d) and (4)(e) of rule 127 shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.

117. Operation of State aircrafts. A State aircraft, other than a Bangladesh military aircraft shall not fly over or land in Bangladesh except on the express invitation of the Government, but any aircraft so flying or landing on such invitation or with such permission shall be exempted from the provision of these rules to such extent as is specified in the invitation or permission.

118. Operation of pilot less aircraft.-An aircraft capable of being flown without a pilot shall not be flown without a pilot within Bangladesh except with the authorisation in writing of the of the chairman and in accordance with such conditions as he may specify in the instrument of authorization**.**

119. Flight Crew Operating Manuals.- Subject to the provisions of rule 211, the Chairman for the purpose of ensuring the safety of air navigation may direct the owner or operator of an aircraft registered in Bangladesh to make any alteration in the Flight Crew Operating Manual or equivalent document for that aircraft.

120. Documents carried in aircraft.- (1) Subject to this rule and rule 115, an aircraft registered in Bangladesh shall, when flying, carry:

(a) its certificate of registration;

(b) its certificate of airworthiness;

(c) the appropriate licenses for each member of the crew;

(d) its journey log book;

(e) if it is equipped with radio apparatus, the aircraft radio station license;

(f) if it carries passengers, a list of their names and places of embarkation and destination;

(g) if it carries cargo, a manifest and detailed declarations of the cargo; and

(h) such other documents as specified by the Chairman.

(2) An aircraft operating wholly within Bangladesh is not required, when flying to carry the documents specified in paragraphs (a), (f) and (g) of sub-rule (1).

121. Aerodrome operating minima.- (1) Chairman shall require that the operator establish aerodrome operating minima for each aerodrome to be used in operations, and shall approve the method of determination of such minima. Such minima shall not be lower than any that may be established for such aerodromes by the State in which the aerodrome is located, except when specifically approved by that State.

(2) Chairman shall require that in establishing the aerodrome operating minima, which will apply to any particular operation, full account shall be taken of:

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

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

(c) the dimensions and characteristics of the runways which may be selected for use;

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

(e) the equipment available on the aeroplane for the purpose of navigation and/or control of the flight path during the approach to landing and the missed approach;

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

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

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

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

(4) For instrument approach and landing operations, aerodrome operating minima below 800 m visibility should not be authorized unless RVR information is provided.

(5) A flight shall not be continued towards the aerodrome of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing can be effected at that aerodrome or at least one destination alternate aerodrome, in compliance with the operating minima established in accordance with sub-rule (1) of this rule.

(6) An instrument approach shall not be continued beyond the outer marker fix in case of precision approach, or below 300 m (1,000 ft) above the aerodrome in case of non-precision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(7) If, after passing the outer marker fix in case of precision approach, or after descending below 300m (1,000 ft) above the aerodrome in case of non-precision approach, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H. In case, an aeroplane shall not continue its approach-to-land at any aerodrome beyond a point at which the limits of the operating minima specified for that aerodrome would be infringed.

Note: Where RVR is used, the controlling RVR is the touchdown RVR.

122. Carriage of firearms.- No person including a flight crew member, shall, except with the permission of the Chairman, carry in aircraft any firearm in personal possession. This shall not include the firearm deposited to the pilot-in-command for safe custody for the duration of the flight.

123. Operating Instructions.- (1) An operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole.

(2) Chairman shall establish a safety programme in order to achieve an acceptable level of safety in the operation of aircraft and will ascertain the acceptable level of safety to be achieved by an operator.

(3) An operator shall implement a safety management system acceptable to the Chairman that, as a minimum:

(a) identifies safety hazards;

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

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

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

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

(5) An operator of an aeroplane of a certificated take-off mass in excess of 20000 kg should establish and maintain a flight data analysis programme as part of its accident prevention and flight safety programme.

(6) An operator of an aeroplane of a maximum certificated take-off mass in excess of 27000 kg shall establish and maintain a flight data analysis programme as part of its accident prevention and flight safety programme. An operator may contract the operation of a flight data analysis programme to another party while retaining overall responsibility for the maintenance of such a programme.

(7) A flight data analysis programme shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

(8) An operator shall establish a flight safety documents system, for the use and guidance of operational personnel.

(9) An operator shall establish minimum flight altitude for those routes flown but they shall not be less than those established by the State responsible for those rules, as part of its safety management systems.

(10) An operator shall specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established by the State flown over or the responsible State, and shall include this method in the operations manual. The minimum flight altitudes determined in accordance with the above method shall not be lower than specified in Part II.

(11) The method for establishing the minimum flight altitudes should be approved by the Chairman. The Chairman should approve such method only after careful consideration of the probable effects of the following factors on the safety of the operation in question:

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

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

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

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

(e) possible inaccuracies in aeronautical charts; and

(f) airspace restrictions.

(12) One or more instrument approach procedures designed in accordance with the classification of instrument approach and landing operations shall be approved and promulgated by the chairman in which the aerodrome is located to serve each instrument runway or aerodrome utilized for instrument flight operations.

(13) All aeroplanes operated in accordance with instrument flight rules shall comply with the instrument flight procedures approved by the State in which the aerodrome is located.

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

(15) The operator should issue operating instructions and provide information on aeroplane climb performance with all engines operating to enable the pilot-in-command to determine the climb gradient that can be achieved during the departure phase for the existing

take-off conditions and intended take-off technique. This information should be included in the operations manual.

(16) (a) Aeroplane operating procedures for noise abatement should comply with the provisions of rules mentioned in part XVI.

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

(17) Operational instructions involving a change in the ATS flight plan shall, when practicable, be coordinated with the appropriate ATS unit before transmission to the aeroplane. When this is not possible pilot shall obtain and appropriate clearance from a ATS unit, if applicable, before making a change in flight plan.

(18) An aeroplane shall not be operated under the IFR or at night by a single pilot unless approved by the Chairman.

(19) An aeroplane shall not be operated under the IFR or at night by a single pilot unless:

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

(b) the aeroplane is propeller-driven;

(c) the maximum approved passenger seating configuration is not more than nine;

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

(e) the aeroplane is equipped as described in sub-rule (23) of rule 130; and

(f) the pilot-in-command has satisfied requirements of experience, training, checking and recency described in sub-rule 3(k), 3(l) & 3(m) or rule 126.

(20) Unless the operation has been specifically approved by the Chairman, an aeroplane with two turbine power-units shall not, except as provided in sub-rule (21) of this rule, be operated on a route where the flight time at single engine cruise speed to an adequate en-route alternate aerodrome exceeds a threshold time established for such operations by the Chairman.

(21) In approving the operation, the Chairman shall ensure that-

(a) the airworthiness certification of the aeroplane type;

(b) the reliability of the propulsion system; and

(c) the operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programme:

provide the overall level of safety intended by the provisions of Part-VI and Part-VIII of these rules. In making this assessment, account shall be taken of the route to be flown, the anticipated operating conditions and the location of adequate en-route alternate aerodromes.

(22) A flight to be conducted in accordance with sub-rule (18) of this rule shall not be commenced unless, during the possible period of arrival, the required en-route alternate aerodrome(s) will be available and the available information indicates that conditions at those aerodromes will be at or above the aerodrome operating minima approved for the operation.

(23) An aeroplane type with two turbine power-units which was authorized by the Chairman prior to 25 March 1986, and operating on a route where the flight time at single-engine cruise speed to an adequate en-route alternate aerodrome exceeded the threshold time established for such operations in accordance with sub-rule (18) of this rule should give consideration to permitting such an operation to continue on that route after that date.

(24) Take of landing: All flight crew members required to be on flight deck duty shall be at their stations.

(25) En route: All flight crew members required to be on flight deck duty shall remain at their stations except when their absence is necessary for the performance of duties in connection with the operation of the aeroplane or for physiological needs.

(26) For each flight of an aeroplane above 15000m (49000 ft), the operator shall maintain records so that the total cosmic radiation dose received by each crew member over a period of 12 consecutive months can be determined.

(27) Hazardous flight conditions encountered, other than those associated with meteorological conditions, shall be reported to the appropriate aeronautical station as soon as possible. The reports so rendered shall give such details as may be pertinent to the safety of other aircraft.

(28) The operator shall ensure that all baggage carried onto an aeroplane and taken into the passenger cabin is adequately and securely stowed.

(29) (a) Operators shall ensure that, in accordance with procedures acceptable to the Chairman:

(i) each aeroplane they operate is maintained in an airworthy condition;

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

(iii) the Certificate of Airworthiness of each aeroplane they operate remains valid.

(b) An operator shall not operate an aeroplane unless it is maintained and released to service by an organization approved in accordance with the Rule-190 or under an equivalent system. In case an equivalent system, the person signing the maintenance release shall be licensed in accordance with Part-I of these rules.

(c) An operator shall employ a person or group of persons to ensure that all maintenance is carried out in accordance with the maintenance control manual.

(d) The operator shall ensure that the maintenance of its aeroplane is performed in accordance with the maintenance programme.

(30) (a) The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance programme, approved by the State of Registry, containing the information required by the sub-rule (31) of this rule. The design and application of the operator's maintenance programme shall observe Human Factors principles.

(b) The operator shall ensure that the maintenance control manual is amended as necessary to keep the information contained therein up to date.

(c) Copies of all amendments to the operator’s maintenance control manual shall be furnished promptly to all organizations or persons to whom the manual has been issued.

(d) The operator shall provide the State of the Operator and the State of Registry with a copy of the operator’s maintenance control manual, together with all amendments and/or revisions to it and shall incorporate in it such mandatory material as the State of the Operator or the State of Registry may require.

(e) Maintenance programme: The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance programme, approved by the State of Registry, containing the information required by sub-rule (31) of this rule. The design and application of the operator’s maintenance programme shall observe Human Factors principles.

(f) Copies of all amendments to the maintenance programme shall be furnished promptly to all organizations or persons to whom the maintenance programme has been issued.

(31) (a) A maintenance programme for each aeroplane as required by the sub-rule (30) of this rule shall contain the following information-

(i) maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilization of the aeroplane;

(ii) when applicable, a continuing structural integrity programme;

(iii) procedures for changing or deviating from (i) and (ii) above; and

(iv) when applicable, condition monitoring and reliability programme descriptions for aircraft systems, components and power plants.

(b) Maintenance tasks and intervals that have been specified as mandatory in approval of the type design shall be identified as such.

(c) The maintenance programme should be based on maintenance programme information made available by the State of design or by the organization responsible for the type design, and any additional applicable experience.

(32) Maintenance records.- (a) An operator shall ensure that the following records are kept for the periods mentioned in sub-rule (b) of this rule-

(i) the total time in service (hours, calendar time and cycles, as appropriate) of the aeroplane and all life limited components;

(ii) the current status of compliance with all mandatory continuing airworthiness information;

(iii) appropriate details of modifications and repairs;

(iv) the time in service (hours, calendar time and cycles, as appropriate) since the last overhaul of the aeroplane or its components subject to a mandatory overhaul life;

(v) the current status of the aeroplane's compliance with the maintenance programme; and

(vi) the detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(b) The records in sub-rule (a)(i) to (v) of this rule shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in sub-rule (a)(vi) of this rule for a minimum period of one year after the signing of the maintenance release.

(c) In the event of a temporary change of operator, the records shall be made available to the new operator. In the event of any permanent change of operator, the records shall be transferred to the new operator.

(33) Continuing airworthiness information.- (a) The operator of an aeroplane over 5 700 kg maximum certificated take-off mass shall monitor and assess maintenance and operational experience with respect to continuing airworthiness and provide the information as

prescribed by Chairman and/or by the State of Registry and report through the system specified in Part VIII of these rules.

(b)The operator of an aeroplane over 5 700 kg maximum certificated take-off mass shall obtain and assess continuing airworthiness information and recommendations available from the organization responsible for the type design and shall implement resulting actions considered necessary in accordance with a procedure acceptable to Civil Aviation Authority, Bangladesh and/or by the State of Registry.

(34) Modifications and repairs.- All modifications and repairs shall comply with airworthiness requirements acceptable to Civil Aviation Authority, Bangladesh and/or by the State of Registry. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness requirements are retained.

(35) Approved maintenance organization.- (a) The issue of a maintenance organization approval by any contracting State shall be dependent upon the applicant demonstrating compliance with the requirements of sub-rule (35) to (41)(b) of this rule for such organizations.

(b) The approval document shall contain at least the following-

(i) organization's name and location;

(ii) date of issue and period of validity;

(iii) terms of approval.

(c) The continued validity of the approval shall depend upon the organization remaining in compliance with the requirements of sub-rule (35) to (41)(b) of this rule for an approved maintenance organization.

(36) Maintenance organization's procedures manual.- (a) The maintenance organization shall provide for the use and guidance of maintenance personnel concerned a procedures manual which may be issued in separate parts containing the following information-

(i) a general description of the scope of work authorized under the organization's terms of approval;

(ii) a description of the organization's procedures and quality or inspection system in accordance with sub-rule (37)(a),(b),(c) & (d) of this rule;

(iii) a general description of the organization's facilities;

(iv) names and duties of the person or persons required by sub-rule (39) (a) of this rule;

(v) a description of the procedures used to establish the competence of maintenance personnel as required by sub-rule (39)(c) of this rule;

(vi) a description of the method used for the completion and retention of the maintenance records required by sub-rule (40)(a), (b), (c) & (d) of this rule;

(vii) a description of the procedures for preparing the maintenance release and the circumstances under which the release is to be signed;

(viii) the personnel authorized to sign the maintenance release and the scope of their authorization;

(ix) a description, when applicable, of the additional procedures or complying with an operator's maintenance procedures and requirements;

(x) a description of the procedures for complying with the service information reporting requirements of Part VIII; and

(xi) a description of the procedure for receiving, assessing, amending and distributing within the maintenance organization all necessary airworthiness data from the type certificate holder or type design organization.

(b) The maintenance organization shall ensure that the procedures manual is amended as necessary to keep the information contained therein up to date.

(c) Copies of all amendments to the procedures manual shall be furnished promptly to all organizations or persons to whom the manual has been issued.

(37) Safety management.- (a) An operator shall establish a safety programme in order to achieve an acceptable level of safety in the maintenance of aircraft.

(b) Chairman will ascertain the acceptable level of safety to be achieved by an operator.

(c) As part of their safety programme, operators shall ensure, that a maintenance organization implement a safety management system acceptable to the Chairman , as a minimum:

(i) identifies safety hazards;

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

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

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

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

(38) Maintenance procedures and quality assurance system.- (a) Operators shall ensure that the maintenance organization shall establish procedures, acceptable to Chairman for granting the approval, which ensure good maintenance practices and compliance with all relevant requirements of this chapter.

(b) The maintenance organization shall ensure compliance with sub-rule (a) by either establishing an independent quality assurance system to monitor compliance with and adequacy of the procedures, or by providing a system of inspection to ensure that all maintenance is properly performed.

(39) Facilities.- (a) The facilities and working environment shall be appropriate for the task to be performed.

(b) The maintenance organization shall have the necessary technical data, equipment, tools and material to perform the work for which it is approved.

(c) Storage facilities shall be provided for parts, equipment, tools and material. Storage conditions shall be such as to provide security and prevent deterioration of and damage to stored items.

(40) Personnel.- (a) The maintenance organization shall nominate a person or group of persons whose responsibilities include ensuring that the maintenance organization is in compliance with the requirements of sub-rule (35) to (41) (b) of this rule for an approved maintenance organization.

(b) The maintenance organization shall employ the necessary personnel to plan, perform, supervise, inspect and release the work to be performed.

(c) The competence of maintenance personnel shall be established in accordance with a procedure and to a level acceptable to the State granting the approval. The person signing a maintenance release shall be qualified in accordance with Part-I.

(d) The maintenance organization shall ensure that all maintenance personnel receive initial and continuation training appropriate to their assigned tasks and responsibilities. The training programme established by the maintenance organization shall include training in knowledge and skills related to human performance, including coordination with other maintenance personnel and flight crew.

(41) Records.- (a) The maintenance organization shall retain detailed maintenance records to show that all requirements for the signing of a maintenance release have been met.

(b) The records required by sub-rule (35) to (41)(a) of this rule shall be kept for a

minimum period of one year after the signing of the maintenance release.

(42) Maintenance release.- (a) A maintenance release shall be completed and signed to certify that the maintenance work performed has been completed satisfactorily and in accordance with approved data and the procedures described in the maintenance organization's procedures manual.

(b) A maintenance release shall contain a certification including:

(i) basic details of the maintenance carried out including detailed reference of the approved data used;

(ii) the date such maintenance was completed;

(iii) when applicable, the identity of the approved maintenance organization; and

(iv) the identity of the person or persons signing the release.

(43) Operator's maintenance control manual.- The operator's maintenance control manual provided in accordance with sub-rule (30)(a) to (d) of this rule, which may be issued in separate parts, shall contain the following information:-

(a) a description of the procedures required by sub-rule (29)(a) including, when applicable-

(i) a description of the administrative arrangements between the operator and the approved maintenance organization;

(ii) a description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization;

(b) names and duties of the person or persons required by sub-rule (29)(c) of this rule;

(c) a reference to the maintenance programme required by sub-rule (30)(e) of this rule;

(d) a description of the methods used for the completion and retention of the operator's maintenance records required by sub-rule(32) of this rule;

(e) a description of the procedures for monitoring, assessing and reporting maintenance and operational experience required by sub-rule (33)(a) of this rule;

(f) a description of the procedures for complying with the service information reporting requirements of Part-VIII;

(g) a description of procedures for assessing continuing airworthiness information and implementing any resulting actions, as required by sub-rule(33)(b) of this rule;

(h) a description of the procedures for implementing action resulting from mandatory continuing airworthiness information;

(i) a description of establishing and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance programme, in order to correct any deficiency in that programme;

(j) a description of aircraft types and models to which the manual applies;

(k) a description of procedures for ensuring that unserviceabilities affecting airworthiness are recorded and rectified; and

(l) a description of the procedures for advising Civil Aviation Authority, Bangladesh and/or the State of Registry of significant in-service occurrences.

(44) Flight manual.- The flight manual shall be updated by implementing changes made mandatory by Chairman and/or the State of Registry.

124. Operations manual.- (1) An operator shall provide for the use and guidance of operations personnel concerned, an operations manual. The lay out and the contents of the operations manual shall be as specified by the Chairman. The operations manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up to date and do not contravene the conditions contained in the Air Transport Operating License or equivalent document and applicable regulations. All such amendments or revisions shall be issued to all personnel that are required to use this manual.

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

(3) Unless otherwise approved by the Chairman, an operator must prepare the operations manual in the English language.

(4) An operator may issue an operations manual in separate volumes.

(5) An operator shall provide the Chairman at least two copies of approved operations manual.

(6) An operator shall ensure that all operations personnel have easy access to a copy of each volume of the operations manual relevant to their duties.

(7) The operator shall supply crew members with a personal copy, volumes or chapters of

the operations manual relevant to their duties.

(8) An operator shall submit the intended amendments and revisions in advance of the effective date for approval of the Chairman.

(9) The approval shall be obtained before the amendment becomes effective and where immediate amendments are required in the interest of safety, they may be published and applied immediately only after any approval required has been applied for.

(10) An operator shall incorporate all amendments and revisions required by the Chairman.

(11) An operator must ensure that information taken from approved document, and any amendment of such contains no information contrary to any approved documentation, except in case of using more conservative data and procedures.

(12) An operator must ensure that the contents of the operations manual are presented in a form in which they can be used without difficulty.

(13) The operations manual must describe the content and use of the operational flight plan.

125. Flight time, flight duty periods and rest periods.- (1) The Chairman shall establish regulations specifying the limitations applicable to the flight time and flight duty periods for flight crew and cabin crew members. These regulations shall also make provision for adequate rest periods and shall be such as to ensure that fatigue occurring either in a flight or successive flights or accumulated over a period of time due to these and other tasks, does not endanger the safety of a flight.

(2) An operator shall formulate policies to limit flight time and flight duty periods and for the provision of adequate periods for all its flight crew and cabin crew members. These policies shall be in accordance with the regulations established by the Chairman and included in operations manual.

(3) An operator, other than the operator engaged in personal transportation, shall maintain current records of the individual flight time, flight duty periods and rest periods of the flight crews and cabin crews employed by him in accordance with the directives issued by the Chairman.

126. Flight Crew - training, qualification and other requirements.-

(1) General.-

(a) The number and composition of the flight crew shall not be less than that specified in the operations manual. The flight crews shall include flight crew members in addition to the minimum numbers specified in the flight manual or other documents associated with the certificate of airworthiness, when necessitated by

considerations related to the type of aeroplane used, the type of operation involved and the duration of flight between points where flight crews are changed.

(b) The flight crew shall include at least one member who holds a valid licence, issued or rendered valid authorizing operation of the type of radio transmitting equipment to be used.

(c) When a separate flight engineer's station is incorporated in the design of an aeroplane, the flight crew shall include at least one flight engineer especially assigned to that station, unless the duties associated with that station can be satisfactorily performed by another flight crew member, holding a flight engineer licence, without interference with regular duties.

(d) The flight crew shall include at least one member who holds a flight navigator licence in all operations where in the opinion of the Chairman, navigation necessary for the safe conduct of the flight cannot be adequately accomplished by the pilots from the pilot station.

(e) An operator shall, for each type of aeroplane, assign to all flight crew members the necessary functions they are to perform in an emergency or in a situation requiring emergency evacuation. Annual training in accomplishing these functions shall be contained in the operator's training programme and shall include instruction in the use of all emergency and life saving equipment required to be carried, and drills in the emergency evacuation of the aeroplane.

(2) Flight crew member training programmes.-

(a) An operator shall establish and maintain a ground and flight training programme, approved by Chairman, which ensures that all flight crew members are adequately trained to perform their assigned duties. The training programme shall:

(i) include ground and flight training facilities and properly qualified instructors as determined by Chairman;

(ii) consist of ground and flight training in the type(s) of aeroplane on which the flight crew member serves;

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

(iv) include training in knowledge and skills related to visual and instrument flight procedures for the intended area of operation, human performance including threat and error management and in the transport of dangerous goods;

(v) ensure that all flight crew members know the functions for which they are

responsible and the relation of these functions to the functions of other crew members, particularly in regard to abnormal or emergency procedures; and

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

(b) An operator shall ensure that when passengers or cargo are being carried, no emergency or abnormal situations shall be simulated.

(c) Flight training may, to the extent deem appropriate, be given in aeroplane synthetic flight trainers approved by the Chairman for that purpose.

(d) The scope of the recurrent training required in sub-rule 1(e) and sub-rule 2(a) of this rule may be varied and need not be as extensive as the initial training given in a particular type of aeroplane.

(e) The requirements for recurrent flight training in a particular type of aeroplane shall be considered fulfilled by:

(i) the use, to the extent deemed feasible, of aeroplane synthetic flight trainers approved by the Chairman for that purpose; or

(ii) the completion within the appropriate period of the proficiency check required by sub-rule 3(i) of this rule in that type of aeroplane.

(f) The checklists provided in accordance with sub rule (2) of rule 129 shall be used by flight crews prior to, during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures contained in the aircraft operating manual and the aeroplane flight manual or other documents associated with the certificate of airworthiness and otherwise in the operations manual, are followed. The design and utilization of checklists shall observe Human Factors principles.

(3) Qualifications and recency.-

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

(b) When a pilot-in-command or a co-pilot is flying several variants of the same type of aeroplane with similar characteristics in terms of operating procedures, systems and handling, the State shall decide under which conditions the requirements of sub-rule (3)(a) of this rule for each variant can be combined.

(c) An operator shall not assign a pilot to act in the capacity of cruise relief pilot

unless, within the preceding 90 days, that pilot has either:

(i) operated as a pilot-in-command, co-pilot or cruise relief pilot on the same type of aeroplane; or

(ii) carried out flying skill refresher training including normal, abnormal and emergency procedures specific to cruise flight on the same type of aeroplane or in a flight simulator approved for the purpose, and has practiced approach and landing procedures, where the approach and landing procedure practice may be performed as the pilot who is not flying the aeroplane.

(iii) when a cruise relief pilot is flying several variants of the same type of aeroplane with similar characteristics in terms of operating procedures, systems and handling, the State shall decide under which conditions the requirements of para (i) & (ii) of this sub-rule for each variant can be combined.

(d) An operator shall not utilize a pilot as pilot-in-command of an aeroplane on a route or route segment for which that pilot is not currently qualified until such pilot has complied with sub-rule 3(e) and 3(f) of this rule.

(e) Each such pilot shall demonstrate to the operator an adequate knowledge of:

(i) the route to be flown, and the aerodromes which are to be used. This shall include knowledge of:

(A) the terrain and minimum safe altitudes;

(B) the seasonal meteorological conditions;

(C) the meteorological, communication and air traffic facilities, services and procedures;

(D) the search and rescue procedures; and

(E) the navigational facilities and procedures, including any long-range navigation procedures, associated with the route along which the flight is to take place; and

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

(f) A pilot-in-command shall have made an actual approach into each aerodrome of landing on the route, accompanied by a pilot who is qualified for the aerodrome, as a member of the flight crew or as an observer on the flight deck, unless:

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

(ii) the descent from the initial approach altitude can be made by day in visual meteorological conditions; or

(iii) the operator qualifies the pilot-in-command to land at the aerodrome concerned by means of an adequate pictorial presentation; or

(iv) the aerodrome concerned is adjacent to another aerodrome at which the pilot-in-command is currently qualified to land.

(g) The operator shall maintain a record, sufficient to satisfy the Chairman, the qualification of the pilot and of the manner in which such qualification has been achieved.

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

(i) within that specified area; and

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

(i) In the event that more than 12 months elapse in which a pilot-in-command has not made such a trip on a route in close proximity and over similar terrain, within such a specified area, route or aerodrome, and has not practiced such procedures in a training device which is adequate for this purpose, prior to again serving as a pilot-in-command within that area or on that route, that pilot must re-qualify in accordance with sub-rule 3(e) and 3(f) of this rule.

(j) An operator shall ensure that piloting technique and the ability to execute emergency procedures is checked in such a way as to demonstrate the pilot's competence. Where the operation may be conducted under instrument flight rules, an operator shall ensure that the pilot's competence to comply with such rules is demonstrated to either a check pilot of the operator or to a representative of the Chairman. Such checks shall be performed twice within any period of one year. Any two such checks which are similar and which occur within a period of four

consecutive months shall not alone satisfy this requirement.

Note.- Flight simulators approved by the Chairman may be used for those parts of the checks for which they are specifically approved.

(k) When an operator schedules flight crew on several variants of the same type of aeroplane with similar characteristics in terms of operating procedures, systems and handling, Chairman shall decide under which conditions the requirements of (3)(h)(i) of this rule for each variant can be combined.

(l) The Chairman shall prescribe requirements of experience, recency and training applicable to single pilot operations intended to be carried out under the IFR or at night.

(m) The pilot-in-command should-

(i) for operations under the IFR or at night, have accumulated at least 50 hours flight time on the class of aeroplane, of which at least 10 hours shall be as pilot-in-command;

(ii) for operations under the IFR, have accumulated at least 25 hours flight time under the IFR on the class of aeroplane, which may form part of the 50 hours flight time as in para (i) of this rule;

(iii) for operations at night, have accumulated at least 15 hours flight time at night, which may form part of the 50 hours flight time as in para (i) of this rule;

(iv) for operations under the IFR, have acquired recent experience as a pilot engaged in single pilot operation under the IFR of:

(1) at least five IFR flight, including three instrument approaches carried out during the preceding 90 days on the class of aeroplane in the single pilot role; or

(2) an IFR instrument approach check carried out on such an aeroplane during the preceding 90 days;

(v) for operation at night, have made at least three take-offs and landings at night on the class of aeroplane in the single pilot role in the preceding 90 days;

(vi) have successfully completed training programmes that include, in addition to the requirements mentioned in sub-rule (2) of this rule, passenger briefing with respect to emergency evacuation, autopilot management, and the use of simplified in-flight documentation.

(n) The initial and recurrent flight training and proficiency checks indicated in sub-

rule (2)(a) and sub-rule (3)(i) of this rule shall be performed by the pilot-in-command in the single pilot role on the class of aeroplane in an environment representative of the operation.

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

127. Flight Operations Officer.- (1) A flight operations officer, when employed in conjunction with an approved method of flight supervision requiring the services of licensed flight operations officers, shall be licensed in accordance with the provisions of rule 42 of this rule.

(2) A flight operations officer should not be assigned to duty unless that officer has-

(a) made within the preceding 12 months, at least a one way qualification flight on the flight deck of an aeroplane over any area in which that individual is authorized to exercise flight supervision. The flight should include landings at as many aerodromes as practicable;

(b) demonstrated to the operator a knowledge of :

(i) the contents of the operations manual;

(ii) the radio equipment in the aeroplanes used; and

(iii) the navigation equipment in the aeroplanes used;

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

(i) the seasonal meteorological conditions and the sources of meteorological information;
(ii) the effects of metrological conditions on radio reception in the aeroplanes used;

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

(iv) the aeroplane loading instructions;

(d) demonstrated to the operator knowledge and skills related to human performance relevant to dispatch duties; and

(e) demonstrated to the operator the ability to perform the duties specified in sub-

rule (4) of this rule.

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

(4) A flight operations officer/dispatchers when employed in conjunction with a method of flight supervision in accordance with rule 294 shall:

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

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

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

(d) in the event of an emergency, initiate such procedures as may be outlined in the operations manual while avoiding taking any action that would conflict with ATC procedures; and

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

(5) A flight operations officer/flight dispatcher should not be assigned to duty after 12 consecutive months of absence from such duty, unless the provision of sub-rule (2) of this rule are met**.**

128. Deleted.

129. Requirements of Instrument, Equipment and Flight Documents under all conditions.-

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

(b) An aeroplane shall carry a certified true copy of the air operator certificate specified in rule 288 and a copy of the authorization(s), conditions and limitations relevant to the aeroplane type, issued in conjunction with the certificate. When the certificate and the associated authorizations, conditions and limitations are issued by the State of the Operator in a language other than English, an English translation shall be included.

(2) The operator shall include in the operations manual a minimum equipment list (MEL), approved by the Chairman which will enable the pilot-in-command to determine whether a flight may be commenced or continued from any intermediates stop should any instrument, equipment or systems become inoperative. In case the aeroplane is registered elsewhere the Chairman shall ensure that the MEL does not affect the aeroplane's compliance with the airworthiness requirements applicable in the State of Registry.

(3) The operator shall provide operations staff and flight crew with an aircraft-operating manual, for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include details of the aircraft systems and of the checklists to be used. The design of the manual shall observe Human Factors principles.

(4) An aeroplane shall be equipped with instruments which will enable the flight crew to control the flight path of the aeroplane, carry out any required procedural manoeuvres and observe the operating limitations of the aeroplane in the expected operating conditions.

(5) An aeroplane shall be equipped with-

(a) accessible and adequate medical supplies appropriate to the number of passengers the aeroplane is authorized to carry;

(b) medical supplies should comprise:

(i) one or more first-aid kits; and

(ii) a medical kit, for the use of medical doctors or other qualified persons in treating in-flight medical emergencies for aeroplanes authorized to carry more than 250 passengers.

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

(i) the pilot's compartment; and

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

(d) spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

(6) An aeroplane shall carry: (a) the operations manual prescribed in rule 124, or those parts of it that pertain to flight operations;

(b) the flight manual for the areoplane, or other documents containing performance data required for the application of rule 161 and any other information necessary for

the operation of the aeroplane within the terms of its certificate of airworthiness, unless these data are available in the operations manual; and

(c) current and suitable charts to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted.

(7) An aeroplane shall be equipped with flight recorders as specified or acceptable to the Chairman. Flight recorders comprise two systems, a flight data recorder (FDR) and a cockpit voice recorder (CVR). Combination recorders (FDR/CVR) can only be used to meet the flight recorder equipage requirements as specified below:

(a) A Type I FDR shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power, configuration and operation.

(b) Type II and IIA FDRs shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power and configuration of lift and drag devices.

(c) The use of engraving metal foil FDRs shall be discontinued.

(d) The use of photographic film FDRs shall be discontinued.

(e) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2005, which utilize data link communications and are required to carry a CVR, shall record on a flight recorder, all data link communications to and from the aeroplane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(f) All aeroplanes which utilize data link communications and are required to carry a CVR shall record on a flight recorder, all data link communications to and from the aeroplane. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(g) Sufficient information to derive the content of the data link communications message and, whenever practical, the time the message was displayed to or generated by the crew shall be recorded.

(h) A Type IA FDR shall record the parameters required to determine accurately the aeroplane flight path, speed, attitude, engine power, configuration and operation. The parameters that satisfy the requirements for a Type IA FDR are listed in the paragraphs below. The parameters without an asterisk (*) are mandatory parameters which shall be recorded. In addition, the parameters designated by an asterisk (*) shall be recorded if an information data source for the parameter is used by aeroplane systems or the flight crew to operate the aeroplane.

(i) The following parameters satisfy the requirements for flight path and speed:

(i) Pressure altitude;
(ii) Indicated airspeed or calibrated airspeed;
(iii) Air-ground status and each landing gear air-ground sensor when practicable;
(iv) Total or outside air temperature;
(v) Heading (primary flight crew reference);
(vi) Normal acceleration;
(vii) Lateral acceleration;
(viii) Longitudinal acceleration (body axis);
(ix) Time or relative time count;
(x) Navigation data*: drift angle, wind speed, wind direction, latitude/longitude;
(xi) Groundspeed*;
(xii) Radio altitude*;

(j) The following parameters satisfy the requirements for attitude:

(i) Pitch attitude;
(ii) Roll attitude;
(iii) Yaw or sideshlip angle*;
(iv) Angle of attack*;

(k) The following parameters satisfy the requirements for engine power:

(i) Engine thrust/power: propulsive thrust/power on each engine, cockpit thrust/power lever position;
(ii) Thrust reverse status*;
(iii) Engine thrust command*;
(iv) Engine thrust target*;
(v) Engine bleed valve position*;
(vi) Additional engine parameters*: EPR, N1, indicated vibration level, N2, EGT, TLA, fuel flow, fuel cut-off lever position, N3;

(l) The following parameters satisfy the requirements for configuration:

(i) Pitch trim surface position;
(ii) Flaps*: trailing edge flap position, cockpit control selection;
(iii) Slats*: leading edge flap (slat) position, cockpit control selection;
(iv) Landing gear*: landing gear, gear selector position;
(v) Yaw trim surface position*;
(vi) Roll trim surface position*;
(vii) Cockpit trim control input position pitch*;
(viii) Cockpit trim control input position roll*;
(ix) Cockpit trim control input position yaw*;
(x) Ground spoiler and speed brake*: Ground spoiler position, ground spoiler selection, speed brake position, speed brake selection;
(xi) De-icing and/or anti-icing systems selection*;
(xii) Hydraulic pressure (each system)*;

(xiii) Fuel quantity*;
(xiv) AC electrical bus status*;
(xv) DC electrical bus status*;
(xvi) APU bleed valve position*;
(xvii) Computed centre of gravity* ;

(m) The following parameters satisfy the requirements for operation:

(i) Warnings.
(ii) Primary flight control surface and primary flight control pilot input: pitch axis, roll axis, yaw axis
(iii) Marker beacon passage
(iv) Each navigation receiver frequency selection.
(v) Manual radio transmission keying and CVR/FDR synchronization reference.
(vi) Autopilot/autothrottle/AFCS mode and engagement status*
(vii) Selected barometric setting*: pilot, first officer.
(viii) Selected altitude (all pilot selectable modes of operations)*
(ix) Selected speed (all pilot selectable modes of operation)*
(x) Selected Mach (all pilot selectable modes of operation)*
(xi) Selected vertical speed (all pilot selectable modes of operation)*
(xii) Selected flight path (all pilot selectable modes of operation)*: course/DSTRK, path angle
(xiii) Selected decision height*
(xiv) EFIS display format*: pilot, first officer
(xv) Multi-function/engine/alerts display format*
(xvi) GPWS/TAWS/GCAS status*: selection of terrain display mode including pop-up display status, terrain alerts, both cautions and warnings, and advisories, on/off switch position
(xvii) Low pressure warning*: hydraulic pressure, pneumatic pressure
(xviii) Computer failure*
(xix) Loss of cabin pressure*
(xx) TCAS/ACAS (traffic alert and collision avoidance system/airborne collision avoidance system)*
(xxi) Ice detection*
(xxii) Engine warning each engine vibration*
(xxiii) Engine warning each engine over temperature*
(xxiv) Engine warning each engine oil over temperature*
(xxv) Engine warning each engine oil pressure low*
(xxvi) Engine warning each engine over speed*
(xxvii) Wind shear warning*
(xxviii) Operational stall protection, stick shaker and pusher activation*
(xxix) All cockpit flight control input forces*: control wheel, control column, rudder pedal cockpit input forces
(xxx) Vertical deviation*: ILS glide path, MLS elevation, GNSS approach path
(xxxi) Horizontal deviation*: ILS localizer, MLS azimuth, GNSS approach path

(xxxii) DME 1 and 2 distances*

(xxxiii) Primary navigation system reference*: GNSS, INS, VOR/DME, MLS, Loran C, ILS

(xxxiv) Brakes*: left and right brake pressure, left and right brake pedal position.

(xxxv) Date*

(xxxvi) Event marker*

(xxxvii) Head up display in use*

(xxxviii) Para visual display on*

(n) All FDRs shall be cpable of retaining the information recorded during at least the last 25 hours of their operation, except for the Type IIA FDR which shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

(o) Flight data recorders – aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 1989.-

(i) All aeroplanes of a maximum certificated take-off mass of over 27000 kg shall be equipped with a Type I FDR.

(ii) All aeroplanes of a maximum certificated take-off mass of over 5700 kg, up to and including 27 000 kg, shall be equipped with a Type II FDR.

(p) Flight data recorders – aeroplanes for which the individual certificate of airworthiness was first issued on or after 1 January 1987 but before 1 January 1989.-

(i) All turbine-engined aeroplanes of a maximum certificated take-off mass of over 5700 kg, except those in rule 129 sub rule 7 (m) (iv) shall be equipped with a FDR which shall record time, altitude, airspeed, normal acceleration and heading.

(ii) All turbine-engined aeroplanes of a maximum certificated take-off mass of over 27000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 shall be equipped with a Type II FDR.

(q) Flight data recorders – aeroplanes for which the individual certificate of airworthiness was first issued before 1 January 1987.- All turbine-engined aeroplanes of a maximum certificated take-off mass of over 5700 kg shall be equipped with a FDR which shall record time, altitude, airspeed, normal acceleration and heading.

(r) Flight data recorders – aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2005.- All aeroplanes of a maximum certificated take-off mass of over 5700 kg shall be equipped with a Type IA FDR.

(s) Cockpit voice recorders – aeroplanes for which the individual certificate of airworthiness is first issued on or after 1 January 1987.- All aeroplanes of a maximum certificated take-off mass of over 5700 kg shall be equipped with a CVR, the

objective of which is the recording of the aural environment of the flight deck during flight time.

(t) Cockpit voice recorders – aeroplanes for which the individual certificate of airworthiness was first issued before 1 January 1987.- All turbine-engined aeroplanes of a maximum certificated take-off mass of over 27000 kg that are of types of which the prototype was certificated by the appropriate national authority after 30 September 1969 shall be equipped with a CVR, the objective of which is the recording of the aural environment on hte flight deck during flight time.

(u) Cockpit voice recorders – duration.-

(i) A CVR shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

(ii) A CVR, installed in aeroplanes of a maximum certificated take-off mass of over 5700 kg for which the individual certificate of airworthiness is first issued after 1 January 2003, shalll be capable of retaining the information recorded during at least the last two hours of its operation.

(v) Flight recorders – construction and installation.- Flight recorders shall be constructed, located and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered and transcribed. Flight recorders shall meet the prescribed crashworthiness and fire protection specifications.

(w) Flight recorders – operation.-

(i) Flight recorders shall not be switched off during flight time.

(ii) To preserve flight recorder records, flight recorders shall be de-activated upon completion of flight time following an accident or incident. The flight recorders shall not be re-activated before their disposition as determined in accordance with Annex 13.

(x) Flight recorders – continued serviceability.- Operational checks and evaluations of recordings from the FDR and CVR systems shall be conducted to ensure the continued serviceability of the recorders.

(8) (a) Aeroplanes shall be equipped with a ground proximity warning system and airborne collision avoidance system as specified by the Chairman.

(b) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system.

(c) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(d) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5700 kg or authorized to carry more than nine passengers, for which the individual certificate of airworthiness is first issued on or after 1 January 2004, shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(e) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers, shall be equipped with a ground proximity warning system which has a forward looking terrain avoidance function.

(f) All piston-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than nine passengers shall be equipped with a ground proximity warning system which provides the warnings in (h) (i) and iii), warning of unsafe terrain clearance and a forward looking terrain avoidance function.

(g) A ground proximity warning system shall provide automatically a timely and distinctive warning to the flight crew when the aeroplane is in potentially hazardous proximity to the earth's surface.

(h) A ground proximity warning system shall provide, unless otherwise specified herein, warnings of the following circumstances:

(i) excessive descent rate;
(ii) excessive terrain closure rate;
(iii) excessive altitude loss after take-off or go-around;
(iv) unsafe terrain clearance while not in landing configuration:
(1) gear not locked down;
(2) flaps not in a landing position; and
(v) excessive descent below the instrument glide path.

(9) All aeroplanes shall be equipped with a pressure-altitude reporting transponder, which operates in accordance with the relevant provision of Part X of this rule.

(10) All flight crew members required to be on flight deck duty shall communicate through boom or throat microphones below the transition level/altitude.

(11) Aeroplanes shall be equipped with forward looking wind shear warning system as specified by the Chairman.

130. Requirements of Instrument, Equipment and Flight Documents under certain

conditions.- (1) All aeroplanes when operated as VFR flights shall be equipped with:

(a) a magnetic compass;
(b) an accurate timepiece indicating the time in hours, minutes and seconds;
(c) a sensitive pressure altimeter;
(d) an airspeed indicator; and
(e) such additional instruments or equipment as may be prescribe by the appropriate authority.

(2) VFR flights which are operated as controlled flights shall be equipped in accordance with sub-rule (15), (16) and (17) of this rule.

(3) All seaplanes for all flights shall be equipped with:

(a) one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided;

(b) equipment for making the sound signals prescribed in the International Regulations for Preventing Collisions at Sea, where applicable; and

(c) one sea anchor (drogue).

Note: "Seaplanes" includes amphibians operated as seaplanes.

(4) Landplanes shall carry the equipment prescribed in sub-rule (5) of this rule:

(a) when flying over water and at a distance of more than 93 km (50 NM) away form the shore, in the case of landplanes operated in accordance with rule 161;

(b) when flying en-route over water beyond gliding distance from the shore, in the case of all other landplanes; and

(c) when taking off or landing at an aerodrome where, in the opinion of the State of the Operator, the take-off or approach path is so disposed over water that in the event of a mishap there would be a likelihood of a ditching.

(5) The equipment referred to in sub-rule (4) of this rule shall comprise one life jacket or equivalent individual flotation device for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provided.

Note: "Landplanes" includes amphibians operated as landplanes.

(6) In addition to the equipment prescribed in sub-rule (3) or sub-rule (4) and (5) of this rule, whichever is applicable, the following equipment shall be installed at all aeroplanes when used over routes on which the aeroplane may be over water and at more than a distance corresponding to 120 minutes at cruising speed or 740 km (400 NM), whichever is the lesser,

away from land suitable for making an emergency landing in the case of aircraft operated in accordance with rule 161, and 30 minutes or 185 km(100 NM), whichever is the lesser, for all other aeroplanes:

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

(b) equipment for making the pyrotechnical distress signals described in Part II of these rules.

(7) Each life jacket and equivalent individual flotation device, when carried in accordance with sub-rule (3)(a), (4) and (5) of this rule shall be equipped with a means of electric illumination for the purpose of facilitating the location of person, except where the equipment of sub-rule 4(c) of this rule is met by the provision of individual flotation devices other than life jackets.

(8) Aeroplanes, when operated across land areas, which have been designated by the State, concerned as areas in which search and rescue would be especially difficult, shall be equipped with such signalling devices and life-saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

(9) An aeroplane intended to be operated al flight altitudes at which the atmospheric pressure is less than 700 hpa in personnel compartments shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in rule 146.

(10) An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hPa but which is provided with means of maintaining pressures greater than 700 hPa in personnel compartments shall be provided with oxygen storage and dispensing apparatus cable of storing and dispensing the oxygen supplies required in rule 146.

(11) Pressurized aeroplanes newly introduced into service on or after 1 July 1962 and intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa shall be equipped with a device to provide positive warning to the pilot of any dangerous loss of pressurization.

(12) Pressurized aeroplanes introduced into service before 1 July 1962 and intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa should be equipped with a device to provide positive warning to the pilot of any dangerous loss of pressurization.

(13) An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa, cannot descend safely within four minutes to a

flight altitude at which the atmospheric pressure is equal to 620 hPa and for which the individual certificate of airworthiness is first issued on or after 9 November 1998, shall be provided with automatically displayable oxygen equipment to satisfy the requirements of rule 146. The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew seats by at least 10 per cent.

(14) An aeroplane intended to be operated at flight altitudes at which the atmospheric pressure is less than 376 hPa, or which, if operated at flight altitudes at which the atmospheric pressure is more than 376 hPa cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hPa, and for which the individual certificate of airworthiness was first issued before 9 November 1988, should be provided with automatically deployable oxygen equipment to satisfy the requirements of rule 146. The total number of oxygen dispensing units should exceed the number of passenger and cabin crew sets by at least 10 per cent.

(15) All aeroplanes when operated in accordance with the instrument flight rules, or when the aeroplane cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:

(a) a magnetic compass;
(b) an accurate timepiece indicating the time in hours, minutes and seconds;
(c) two sensitive pressure altimeters with counter drum pointer or equivalent presentation;
(d) an airspeed indicating system with means of preventing malfunctioning due to either condensation or icing;
(e) a turn and slip indicator;
(f) an attitude indicator (artificial horizon);
(g) a heading indicator (directional gyroscope);
(h) a means of indicating whether the power supply to the gyroscopic instrument is adequate;
(i) a means of indicating in the flight crew compartment the outside air temperature;
(j) a rate-of-climb and descent indicator; and
(k) such additional instruments or equipment as may be prescribed by the appropriate authority.

(16) All aeroplanes of a maximum certificated take-off mass of over 5700 kg newly introduced into service after 1 January 1975 shall be fitted with an emergency power supply, independent of the main electrical generating system, for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude indicating instrument (artificial horizon), clearly visible to the pilot-in-command. The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indication shall be given on the instrument panel that the attitude indicator(s) is being operated by emergency power.

(17) Those instruments that are used by any one pilot shall be so arranged as to permit the pilot to see their indications readily from his or her station, with the minimum practicable

deviation from the position and line of vision normally assumed when looking forward along the flight path.

(18) All aeroplanes, when operated at night shall be equipped with:

(a) all equipment specified in sub-rule (15), (16) and (17) of this rule;
(b) the lights required, as mentioned in Part II, for aircraft in flight or operating on the movement area of an aerodrome;
(c) two landing lights;
(d) illumination for all instruments and equipment that are essential for the safe operation of the aeroplane that are used by the flight crew;
(e) lights in all passenger compartments; and
(f) an electric torch for each crew member station.

(19) Pressurized aeroplanes when carrying passengers should be equipped with operative weather radar whenever such aeroplanes are being operated in areas where thunderstorms or other potentially hazardous weather conditions, regarded as detectable with airborne weather radar, may be expected to exercise along the route either at night or under instrument meteorological conditions.

(20) Operator(s) shall maintain, for all flights above 15000m (49000Ft), records so that the total cosmic radiation dose received by each crew member over a period of 12 consecutive months can be determined.

(21) An aeroplane shall carry a document attesting noise certification. When the document, or a suitable statement attesting noise certification as contained in another document approved by the Chairman, is issued in a language other than English, it shall include an English translation.

(22) All aeroplanes with speed limitations expressed in terms of Mach number, shall be equipped with a Mach number indicator.

(23) For approval in accordance with sub-rule (14) of rule 123, all aeroplanes operated by a single pilot under the IFR or at night shall be equipped with:

(a) a serviceable autopilot that has at least altitude hold and heading select modes;
(b) a headset with a boom microphone or equivalent; and
(c) means of displaying charts that enables them to be readable in all ambient light conditions.

131. Proving tests of new type of aircraft.- (1) An aircraft of a new type shall not be used to carry passengers on a scheduled commercial air transport service until it has undergone proving tests in accordance with the instructions issued by the Chairman.

(2) In the case of major changes to an aircraft previously in operation on scheduled

commercial air transport services or previously proved for such operations, or the use of such an aircraft in an operation different to that in which it was previously used; the Chairman may require the aircraft to undergo such proving tests as he considers necessary in the circumstances.

(3) No person other than those essential to the test, shall be carried in the aircraft during the tests required under sub-rules (1) and (2) of this rule, but mail or cargo may be carried with the permission of the Chairman.

132. Operator to ensure employees and crew familiar with local laws and regulations. An operator of an aircraft registered in Bangladesh engaged in air navigation outside Bangladesh shall ensure that -

(a) the operating crew of his aircraft when abroad know that they must comply with the laws, regulations and procedures in force in the countries in which his aircraft is operated;

(b) the pilots of the aircraft are familiar with the regulations and procedures for the time being in force in the area in which the aircraft is operated and, in particular, with such of those regulations and procedures as relate to the operation of the aircraft; and

(c) members of the flight crew, other than pilots, are familiar with such of the regulation and procedures of the countries in which the aircraft is operated as relate to the performance of their respective duties in the operating of the aircraft.

133. Pilot-in-Command. (1) For each flight, the operator shall designate one pilot to act as pilot-in-command.

(2) The pilot-in-command shall be responsible for the safety of all crew members, passengers and cargo on board when the doors are closed. The pilot-in-command shall also be responsible for the operation and safety of the aeroplane from the moment the aeroplane is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down.

(3) The pilot-in-command shall ensure that the checklists specified in sub-rule (4) of this rule are complied with in detail.

(4) The checklists provided in accordance with rule 129 (3) shall be used by flight crews prior to, during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures contained in the aircraft operating manual and the aeroplane flight manual or other documents associated with the certificate of airworthiness and otherwise in the operations manual, are followed. The design and utilization of checklists shall observe Human Factors principles.

(5) The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the aeroplane, resulting in serious injury or death of any person or substantial damage to the aeroplane or property.

(6) The pilot-in-command shall be responsible for reporting all known or suspected

defects in the aeroplane, to the operator, at the termination of the flight.

(7) The pilot-in-command shall be responsible for the journey log book or the general declaration containing the information listed in rule 167.

(8) The Pilot-in-command shall have the authority to disembark any person, or any part of the cargo, which in his opinion may represent a potential hazard to the safety of the aircraft or its occupants.

(9) The Pilot-in-command shall have the right to refuse a person to be carried in the aeroplane who appears under the influence of alcohol or drugs to the extend that the safety of the aircraft or its occupants is likely to be endangered.

(10) The Pilot-in-command shall have the right to refuse transportation of inadmissible passengers, deportees or persons in custody if their carriage poses any risk to the safety of the aeroplane or its occupants.

(11) The Pilot-in-command shall have final authority as to the disposition of the aircraft while he is in command and for the maintenance of discipline by all persons on board.

(12) (a) Before an aircraft is taxied on the manoeuvring area of an aerodrome for the purpose of take-off, the pilot-in-command shall check that the radio apparatus fitted to the aircraft and to be used in flight is functioning correctly.

(b) If the check indicates any malfunctioning of any portion of the radio apparatus, the aircraft shall not be flown until the apparatus has been certified by a person licensed or approved for the purpose as beginning proper working order.

(13) (a) Immediately before taking-off on any flight, the pilot-in-command of an aircraft shall -

(i) test the flight controls on the ground and make such other tests as are necessary to ensure that those controls are functioning correctly;
(ii) ensure that locking and safety devices are removed and that hatches, doors and tank caps are secured;
(iii) ensure that all external surfaces of the aircraft are completely free from frost and ice;
(iv) test all flight instruments, and in particular, all gyroscopic flight instruments to ensure that they are functioning correctly;
(v) ensure that all gyroscopic flight instruments are correctly set and uncaged; and
(vi) perform such checks and tests as are required by the flight manual for, or the operations manual of the aircraft.

(b) If an inspection, check or test made under sub-rule (12)(a) of this rule, indicates any departure from the permissible limits or any malfunctioning in any particular (not being a departure or malfunctioning that is permissible unserviceability), the pilot-in-command shall not commence the take-off or, if he has commenced the take-off, shall abandon the take-off or take such other action as he considers appropriate to ensure the safety of the aircraft and of persons on board the aircraft.

134. Control of an aircraft.- (1) One pilot shall be at the control of an aircraft from the time at which the engine is started prior to a flight until the engine is stopped at the termination of a flight.

(2) When in accordance with these rules, two or more pilots are required to be on board an aircraft, two pilots shall remain at the controls at all times when the aircraft is taking off, landing and during turbulent conditions in flight.

(3) The control seat of an aircraft equipped with fully or partially functioning dual control shall not be occupied in flight except by a person:

(a) who holds an appropriate pilot license in respect of the type of aircraft and the class of operations in which the aircraft is flown; or
(b) who is authorized by the Chairman.

(4) In authorizing a person to occupy a control seat in pursuance of sub-rule (3) of this rule, the Chairman may grant the authority subject to such conditions, as he considers necessary in the interests of safety.

(5) A person shall not manipulate the controls of an aircraft in flight unless he is:

(a) The pilot assigned for duty in the aircraft; or

(b) The aircraft holder of a student pilot's licence assigned for instruction in the aircraft.

135. Deleted.

136. Flight security.- (1) Security of the flight crew compartment.-

(a) In all aeroplanes which are equipped with a flight crew compartment door, this door shall be capable of being locked, and means shall be provided by which cabin crew can discreetly notify the flight crew in the event of suspicious activity or security breaches in the cabin.

(b) All passenger-carrying aeroplanes of a maximum certificated take-off mass in excess of 45,500 kg or with a passenger seating capacity greater than 60 shall be equipped with an approved flight crew compartment door that is designed to resist penetration by small arms fire and grenade shrapnel, and to resist forcible intrusions by unauthorized persons. This door shall be capable of being locked and unlocked form either pilot's station.
(c) In all aeroplanes, which are equipped with a flight crew compartment door in accordance with sub-rule (1)(b) of this rule:

(i) this door shall be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorized persons; and

(ii) means shall be provided for monitoring from either pilot's station the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.

(d) All passenger-carrying aeroplanes should be equipped with an approved flight crew compartment door, where practicable, that is designed to resist penetration by

small arms fire and grenade shrapnel and to resist forcible intrusions by unauthorized persons. This door should be capable of being locked and unlocked from either pilot's station.

(e) In all aeroplanes, which are equipped with a flight crew compartment door in accordance with sub-rule (1)(d) of this rule:

(i) the door should be closed and locked from the time all external doors are closed following embarkation until any such door is opened for disembarkation, except when necessary to permit access and egress by authorized persons; and

(ii) Means should be provided for monitoring from either pilot's station the entire door area outside the flight crew compartment to identify persons requesting entry and to detect suspicious behaviour or potential threat.

(2) Aeroplane search procedure checklist.- An operator shall ensure that there is on board a checklist of the procedures to be followed in searching for a bomb in case of suspected sabotage and for inspecting aeroplanes for concealed weapons, explosives or other dangerous devices when a well-founded suspicion exists that the aeroplane may be the object of an act of unlawful interference. The checklist shall be supported by guidance on the appropriate course of action to be taken should a-bomb or suspicious object be found and information on the least-risk bomb location specific to the aeroplane.

(3) Security Training programmes.-

(a) An operator shall establish and maintain an approved security training programme which ensures crew members act in the most appropriate manner to minimize the consequences of acts of unlawful interference. As a minimum, this programme shall include the following elements:

(i) determination of the seriousness of any occurrences;
(ii) crew communication and coordination;
(iii) appropriate self-defense responses;
(iv) use of non-lethal protective devices assigned to crew members whose use is authorized by the State of the Operator;
(v) understanding of behaviour of terrorists so as to facilitate the ability of crew members to cope with hijacker behaviour and passenger responses;
(vi) live situational training exercises regarding various threat conditions;
(vii) flight check procedures to protect the aeroplane; and
(viii) aeroplane search procedures and guidance on least-risk bomb locations where practicable.

(b) An operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on an aeroplane so that they contribute to the prevention of acts of sabotage

or other forms of unlawful interference.

(4) Reporting acts of unlawful inference: Following an act of unlawful interference, the pilot-in-command shall submit, without delay, a report of such an act to the designated local authority.

(5) Miscellaneous.- (a) Specialized means of attenuating and directing the blast should be provided for use at the least-risk bomb location.

(b) Where an operator accepts the carriage of weapons removed from passengers, the aeroplane should have provision for stowing such weapons in a place so that they are inaccessible to any person during flight time.

137. Operator's responsibility.- An operator shall ensure that all operations personnel are properly instructed in their particular duties and responsibilities and the relationship of such duties to the operation as a whole.

138. Taxying of Aircraft.- An aeroplane shall not be taxied on the movement area of an aerodrome unless the person at the controls:

(a) has been duly authorized by the operator or a designated agent;
(b) is fully competent to taxi the aeroplane;
(c) is qualified to use the radio telephone; and
(d) has received instruction from a competent person in respect of aerodrome layout, routes, signs, marking, lights, air traffic control (ATC) signals and instructions, phraseology and procedures, and is able to conform to the operational standards required for safe aeroplane movement at the aerodrome.

139. Engine running.- A person shall not start the engine of an aircraft or permit the engine of an aircraft to run while any person is in the aircraft unless an appropriately licensed pilot or an approved person occupies the control seat.

140. Deleted.

141. Marking of break-in point.- (1) If areas of the fuselage suitable for break-in by rescue crews in emergency are marked on an aircraft such areas shall be marked as specified by the Chairman. The colour of the markings shall be red or yellow, ant if necessary they shall be outlined in white to contrast with the background.

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

142. Fuel supply, Fuel records and refuelling.- (1) A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the aeroplane carries sufficient fuel and oil to ensure that it can safely complete the flight. In addition, a reserve shall be carried to provide for contingencies.

(2) The fuel and oil carried in order to comply with sub-rule (1) of this rule shall, in the case of propeller-driven aeroplanes, be at least the amount sufficient to allow the aeroplane:

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

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

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

(1) 45 minutes plus 15 percent of the flight time planned to be spent at the cruising level(s), or
(2) two hours,

whichever is less.

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

(i) in terms of sub-rule (8)(a) of rule 145, to fly to the aerodrome to which the flight is planned and thereafter for a period of 45 minutes; or

(ii) in terms of sub-rule (8)(b) of rule 145, to fly to the aerodrome to which the flight is planned and thereafter for:

(1) 45 minutes plus 15 percent of the flight time planned to be spent at the cruising level(s), or
(2) two hours,

whichever is less.

(3) The fuel and oil carried in order to comply with the sub-rule (1) of this rule shall, in the case of turbo-jet aeroplanes, be at least the amount sufficient to allow the aeroplane:

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

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

(A) to fly to the alternate aerodrome specified in the operational and ATS flight plans; and then
(B) to fly for 30 minutes at holding speed at 450m (1500 ft) above the alternate aerodrome under standard temperature conditions, and approach and land; and

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

(ii) to fly to the alternate aerodrome via any predetermined point and thereafter for 30 minutes at 450m (1500ft) above the alternate aerodrome, due provision having been made for an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the Chairman; provided that fuel shall not be less than the amount of fuel required to fly to the aerodrome to which the flight is planned and thereafter for two hours at normal cruise consumption.

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

(i) in terms of sub-rule (8)(a) of rule 145, to fly to the aerodrome to which the flight is planned and additionally:

(A) to fly 30 minutes at holding speed at 450 m (1500 ft) above the aerodrome to which the flight is planned under standard temperature conditions; and

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

(ii) in terms of sub-rule (8)(b) of rule 145, to fly to the aerodrome to which the flight is planned and thereafter for a period of two hours at normal cruise consumption.

(4) In computing the fuel and oil required in sub-rule (1) of this rule at least the following shall be considered:

(a) meteorological conditions forecast;
(b) expected air traffic control routings and traffic delays;
(c) for IFR flight, one instrument approach at the destination aerodrome, including a missed approach;
(d) the procedures prescribed in the operations manual for loss of pressurization, where applicable, or failure of one power init while en-route; and
(e) any other conditions that may delay the landing of the aeroplane or increase fuel and/or oil consumption.

(5) An operator shall maintain fuel and oil records to enable the Chairman to ascertain that, for each flight, the requirements of sub-rule (1) and (2) of rule 142 have been complied with.

(6) Fuel and oil records shall be retained by the operator for a period of three months.

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

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

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

143. Aeroplane communication and navigation equipment.- (1) Communication equipment:

(a) An aeroplane shall be provided with radio communication equipment capable of-

(i) conducting two-way communication for aerodrome control purposes;
(ii) receiving metrological information at any time during flight; and
(iii) conducting two-way communication at any time during flight with at least one aeronautical station and with such other aeronautical stations and on such frequencies as may be prescribed by the chairman.

(b) The radio communication equipment required in accordance with sub-rule 1(a) of this rule shall provide for communications on the aeronautical emergency frequency 121.5 MHz.

(c) For flights in defined portions of airspace or on routes where an RCP type has been prescribed, an aeroplane shall, in addition to the requirements specified in rule-143.

(i) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP type(s); and
(ii) be authorized by the state of the operator for operations in such airspace

(2) Navigation equipment: (a) An aeroplane shall be provided with navigation equipment which will enable it to proceed:

(i) in accordance with its operational flight plan; and
(ii) in accordance with the requirements of air traffic services;

except when, if not so precluded by the Chairman, navigation for flights under the visual

flight rules is accomplished by visual reference to landmark.

(b) For flights in defined portions of airspace or on routes where an RNP type has been prescribed, an airplane shall, in addition to the requirements specified in sub-rule 2(a) of this rule:

(i) be provided with navigation equipment which will enable it to operate in accordance with the prescribed RNP type (s); and
(ii) be authorized by the Chairman for operations in such airspace.

(c) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, minimum navigation performance specifications (MNPS) are prescribed, an aeroplane shall be provided with navigation equipment which:

(i) continuously provides indications to the flight crew of adherence to or departure from track to the required degree of accuracy at any point along that track; and
(ii) has been authorized by the Chairman for MNPS operations concerned.

(d) For flights in defined portions of airspace where, based on Regional Air Navigation Agreement, a reduced vertical separation minimum (RVSM) of 300m (1,000 ft) is applied between FL 290 and FL 410 inclusive, an aeroplane:

(i) shall be provided with equipment which is capable of:

(A) indicating to the flight crew the flight level being flown;
(B) automatically maintaining a selected flight level;
(C) providing an alert to the flight crew when a deviation occurs from the selected flight level. The threshold for the alert shall not exceed ± 90m (300 ft); and
(D) automatically reporting pressure-altitude; and

(ii) shall be authorized by the Chairman for operation in the airspace concerned.

(e) Prior to granting the RVSM approval required in accordance with sub-rule 2(d)(ii) of this rule, the Chairman shall be satisfied that:

(i) the vertical navigation performance capability of the aeroplane satisfies the requirements specified by the Chairman;
(ii) the operator has instituted appropriate procedures in respect of continued airworthiness (maintenance and repair) practices and programmes; and
(iii) the operator has instituted appropriate flight crew procedures for operations in RVSM airspace.

(f) The Chairman, in consultation with the State of Registry if appropriate, shall ensure that, in respect of those aeroplanes mentioned in sub-rule (2)(d) of this rule,

adequate provisions exist for:

(i) receiving the reports of height-keeping performance issued by the monitoring agencies established in accordance with the procedure made for this purpose; and
(ii) taking immediate corrective action for individual aircraft, or aircraft type groups, identified in such reports as not complying with the height-keeping requirements for operation in airspace where RVSM is applied.

(g) Chairman, shall establish provisions and procedures which ensure that appropriate action will be taken in respect of aircraft and operators found to be operating in RVSM airspace without a valid RVSM approval.

(h) The aeroplane shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the aeroplane to navigate in accordance with sub-rule (2)(a) and where applicable sub-rule (2)(b), (2)(c) and (2)(d) of this rule.

(i) On flights in which it is intended to land in instrument meteorological conditions, an aeroplane shall be provided with radio equipment capable of receiving signals providing guidance to a point from which a visual landing can be effected. This equipment shall be capable of providing such guidance for each aerodrome at which it is intended to land in instrument meteorological conditions and for any designated alternate aerodromes.

(3) Installation: The equipment installation shall be such that the failure of any single unit required for either communications or navigation purposes or both will not result in the failure of another unit required for communications or navigation purposes.

(4) Electronic navigation data management: (a) An operator shall not employ electronic navigation data products that have been processed for application in air and on the ground unless the Chairman has approved the operator's procedures for ensuring that the process applied and the products delivered have met acceptable standards of integrity and that the products are compatible with the intended function of the equipment that will use them. The Chairman shall ensure that the operator continues to monitor both process and products.

(b) An operator shall implement procedures that ensure the timely distribution and insertion of current and unaltered electronic navigation data to all aircraft that require it.

144. Operation of flights under different weather conditions.- (1) A flight to be conducted in accordance with the visual flight rules shall not be commenced unless current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions along the route or that part of the route to be flown under the visual flight rules will, at appropriate time, be such as to render compliance with these rules possible.

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

(3) All aeroplanes shall be equipped with suitable de-icing and/or anti-icing devices when operated in circumstances in which icing conditions are reported to exist or are expected to be encountered.

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

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

145. Alternate Aerodrome.- (1) A take-off alternate aerodrome shall be selected and specified in the operational flight plan if the weather conditions at the aerodrome of departure are at or below the applicable aerodrome operating minima or it would not be possible to return to the aerodrome of departure for other reasons.

(2) The take-off alternate aerodrome shall be located within the following distance from the aerodrome of departure:

(a) aeroplanes having two power-units. Not more than a distance equivalent to a flight time of one hour at the single-engine cruise speed; and

(b) not more than a distance equivalent to a flight time of two hours at the one-engine inoperative cruise speed if the aeroplane is having three or more power-units.

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

(4) En-route alternate aerodrome, required by sub-rule (19) of rule 123 for extended range operations by aeroplanes with two turbine power-units, shall be selected and specified in the operational and air traffic services (ATS) flight plans.

(5) For a flight to be conducted in accordance with the instrument flight rules, at least one destination alternate aerodrome shall be selected and specified in the operational and ATS flight plans, unless:

(a) the duration of the flight and the meteorological conditions prevailing are such

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

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

146. Oxygen supply and use of oxygen.- (1) A flight to be operated at flight altitudes at which the atmospheric pressure in personnel compartments will be less than 700 hpa shall not be commenced unless sufficient stored breathing oxygen is carried to supply:

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

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

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

(3) All flight crew members, when engaged in performing duties essential to the safe operation of an aeroplane in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in sub-rule (1) and (2) of this rule.

(4) All flight crew members of pressurized aeroplanes operating above an altitude where the atmospheric pressure is less than 376 hPa shall have available at the flight duty station a quick-donning type of oxygen mask, which will readily supply oxygen upon demand.

147. Emergency locator transmitter (ELT).- (1) Except as provided for in sub-rule (2) of this rule all aeroplanes operated on long-range over-water flights as described in sub-rule (6) & (7) of rule 130 shall be equipped with at least two ELT(s).

(2) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2002, operated on long-range over-water flights as described in sub-rule (6) & (7) of rule 130, shall be equipped with at least two ELTs, one of which shall be automatic.

(3) (a) All aeroplanes operated on long range over water flights as described in sub-rule

(6) and (7) of rule 130 shall be equipped with at least two ELT's, one of which shall be automatic.

(b) Aeroplanes on flights over designated land areas as described in sub-rule (8) rule 130 shall be equipped with at least one automatic ELT.

(4) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2002, on flights over designated land areas as described in sub-rule (8) of rule 130, shall be equipped with at least one automatic ELT.

(5) All aeroplanes should carry an automatic ELT.

(6) ELT equipment carried to satisfy the requirements of this rule shall operate in accordance with the relevant provisions of the Convention.

(7) Except as provided for in sub-rule (8) of rule 147, all aeroplanes authorized to carry more than 19 passengers shall be equipped with at least one automatic ELT or two ELTs of any type.

(8) All aeroplanes authorized to carry more than 19 passengers for which the individual certificate of airworthiness is first issued after 1 July 2008 shall be equipped with at least two ELTs, one of which shall be automatic.

(9) Except as provided for in sub-rule (11) of this rule, all aeroplanes authorized to carry 19 passengers or less shall be equipped with at least one ELT of any type.

(10) Except as proviced for in sub-rule (11) of this rule, all aeroplanes authorized to carry 19 passengers or less shall be equipped with at least one ELT of any type.

(11) All aeroplanes authorized to carry 19 passengers or less for which the individual certificate or airworthiness is first issued after 1 July 2008 shall be equipped with at least one automatic ELT.

(12) ELT equipment carried to satisfy the requirements of sub-rules (7), (8), (9), (10) & (11) of this rule shall operate in accordance with the relevant provisions of the Convention.

(13) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 15 000 kg or authorized to carry more than 30 passengers shall be equipped with an airborne collision avoidance system (ACAS II).

(14) All turbine-engined aeroplanes of a maximum certificated take-off mass in excess of 5 700 kg or authorized to carry more than 19 passengers shall be equipped with an airborne collision avoidance system (ACAS II).

(15) An airborne collision avoidance system shall operate in accordance with the relevant provisions of the Convention.

(16) All aeroplanes for which the individual certificate of airworthiness is first issued after 1 January 2009 shall be equipped with a data source that provides pressure altitude information with a resolution of 7.62 m (25 ft), or better.

(17) After 1 January 2012 all aero planes shall be equipped with a data source that provides pressure-altitude information with a resolution of 7.62 m (25 ft), or better.

147A. Flight Preparation.- (1) A flight shall not be commenced until fight preparation forms have been completed certifying that the pilot-in-command is satisfied that:

(a) the aeroplane is airworthy;
(b) the instruments and equipment prescribed in rule 129 & 130, for the particular type of operation to be undertaken, are installed and are sufficient for the flight;
(c) a maintenance release as prescribed in rule 201 has been issued in respect of the aeroplane;
(d) the mass of the aeroplane and center of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
(e) any load carried is properly distributed and safely secured;
(f) a check has been completed indicating that the operating limitations of specified in rule 161 can be complied with for the flight to be undertaken; and
(g) the requirements specified in the sub-rule (3) of this rule relating to operational flight planning have been complied with.

(2) Completed flight preparation forms shall be kept by an operator for a period of three months.

(3) An operational flight plan shall be completed for every intended flight. The operational flight plan shall be approved and signed by the pilot-in-command and, where applicable, signed by the flight operations officer/flight dispatcher, and a copy shall be filed with the operator or a designated agent, or, if these procedures are not possible, it shall be left with the aerodrome authority or on record in a suitable place at the point of departure.

(4) Before beginning a flight, the pilot-in-command shall study all available information appropriate to the intended operation and in cases of flights away form the vicinity of an aerodrome and all IFR flights shall make a careful study of:

(a) current weather reports and forecasts for the route to be followed and at aerodromes to be used;
(b) the airways facilities available on the route to be followed and the condition of those facilities;
(c) the conditions of aerodromes to be used and their suitability for the aircraft to be used; and
(d) the air traffic rules and procedures pertaining to the particular flight, and he shall plan the flight in relation to the information obtained.

148. Testing of radio apparatus.- (1) Before an aircraft is taxied on the manoeuvring

area of an aerodrome for the purpose of take-off, the pilot – in- command shall check that the radio apparatus fitted to the aircraft and to be used in flight is functioning correctly.

(2) If the check indicates any malfunctioning of any portion of the radio apparatus, the aircraft shall not be flown until the apparatus has been certified by a person licensed or approved for the purpose as beginning proper working order.

149. Listening watch.- (1) When an aircraft is equipped with radio apparatus for use during flight, a listening watch shall be maintained at all times when the aircraft commences moving on the manoeuvering area prior to a flight and lasting until the aircraft is brought to a stop at the termination of the flight.

(2) When an aircraft is under the control of an air traffic control unit which issues instructions and information directly to aircraft by a voice communication channel, the pilot-in-command and any other pilot for the time being operating the controls of the aircraft shall personally maintain a listening watch on the appropriate radio frequency.

150. Safety precautions before flight.- (1) Immediately before taking-off on any flight, the pilot-in-command of an aircraft shall -

(a) test the flight controls on the ground and make such other tests as are necessary to ensure that those controls are functioning correctly;

(b) ensure that locking and safety devices are removed and that hatches, doors and tank caps are secured;

(c) ensure that all external surfaces of the aircraft are completely free from frost and ice;

(d) test all flight instruments, and in particular, all gyroscopic flight instruments to ensure that they are functioning correctly;

(e) ensure that all gyroscopic flight instruments are correctly set and uncaged; and

(f) perform such checks and tests as are required by the flight manual for, or the operations manual of the aircraft.

(2) If an inspection, check or test made under sub-rule (1) indicates any departure from the permissible limits or any malfunctioning in any particular (not being a departure or malfunctioning that is permissible unserviceability), the pilot-in-command shall not commence the take-off or, if he has commenced the take-off, shall abandon the take-off or take such other action as he considers appropriate to ensure the safety of the aircraft and of persons on board the aircraft.

151. Pilot to report meteorological conditions.- (1) The pilot-in command shall report, if requested by a meteorological unit, the meteorological conditions observed en-route.

(2) When meteorological condition hazardous to flight is encountered en-route, the pilot-in-command shall report the condition to the appropriate air traffic services unit as soon as possible, giving such details as appear to the safety of the aircraft.

152. Reporting of accidents, incidents, defects and occurrences: (1) Following occurrence of any of the under mentioned events, a written report shall be submitted to the Chairman within a specified period as mentioned

(a) accident or serious incidents or incident under rule 235 -

(i) the Pilot-in-command, the owner, the operator and the hirer, if any, of an aeroplane shall submit a report to the Authority of any accident or serious incident or incident under rule 235 that has endangered or may have endangered safe operation of a flight.

(ii) notification shall be made immediately after being aware of the occurrence of the accident or incident followed by a written to the Chairman, within 72 (seventy-two) hours of the event, unless exceptional circumstances prevent this;

(b) technical defects and exceeding technical limitations: the Pilot-in-command shall ensure that all technical defects and exceeding technical limitations occurring under rule 205, while he was responsible for the flight, are recorded in the Aircraft Maintenance Log on Termination of the sector flight.

(c) air traffic incidents.- the Pilot-in-command shall submit an air traffic incident report in accordance with ICAO PANS RAC whenever an aircraft in flight has been endangered by-

(i) a near collision or airmiss as under rule 94 with any other flying device,

(ii) faulty air traffic procedures or lack of compliance with applicable procedures by air traffic services (ATS) or by the flight crew, or

(iii) defects in any aerodromes or failure of ATS facilities which have come to his notice.

(d) bird hazards and strikes.- the pilot-in-command shall -

(i) immediately inform the appropriate ground station whenever a potential bird-hazard is observed.

(ii) submit a written bird-strike report after landing whenever an aeroplane for which he is responsible suffers a bird strike;

(e) in-flight emergencies with dangerous goods on board - if an in-flight emergency occurs and the situation permits, the Pilot-in-command shall inform the appropriate Air Traffic Services unit of any dangerous goods on board;

(f) unlawful interference - if an act of unlawful interference under rule 285 occurs on board an aeroplane, the Pilot-in-command shall submit a report, as soon as practicable, to the local authority and the Chairman;

(g) irregularities of ground and navigational facilities and hazardous meteorological conditions - the pilot-in-command shall notify the appropriate ground station, as soon as practicable, whenever a potentially hazardous condition as mentioned below is encountered during flight:-

(i) an irregularity in a ground or navigational facility;

(ii) a meteorological phenomenon (as referred in rule 151);

(iii) a volcanic ash cloud; or

(iv) a high radiation level.

(2) Where no period is specified, the report shall be submitted as soon as possible but not exceeding 10 (ten) days from the occurrence.

(3) Where a defect in the aircraft is reported under sub-rule (1), the operator of the aircraft shall take such action in relation to that defect as is required under these Rules.

153. Prohibition of carriage of passengers.- (1) An aircraft that carries a passenger shall not be engaged in any of the following types of flying:-

(a) practice for the issue of any pilot licence;

(b) practice for the purpose of obtaining an endorsement of the aircraft type in a pilot licence;

(c) low flying practice; or

(d) testing an aircraft or its component, power plant or equipment.

(2) An aircraft while engaged in flying of the type specified in sub-rule (1) may carry engineering and maintenance personnel who are required as part of their duties to be present in the aircraft during the flight for the purpose of the maintenance, inspection or adjustment of the aircraft or its aircraft components.

Explanation.- For the purpose of sub-rule (1), "passenger" does not include an approved person or a person engaged in instructing personnel or testing the aircraft in flight.

154. Carriage on wings, landing gear, etc.- A person shall not be carried on the wings or landing gear of any aircraft or in any other part of the aircraft which is not designed for the accommodation of the crew or passenger.

155. Seat, seat belts and safety harness.- (1) An aeroplane shall be equipped with:

(a) a seat or berth for each person over an age to be determined by the Chairman;
(b) a seat belt for each seat and restraining belts for each berth; and
(c) a safety harness for each flight crew seat. The safety harness for each pilot seat shall incorporate a device, which will automatically restrain the occupant's torso in the event of rapid deceleration. The safety harness for each pilot seat should incorporate a device to prevent a suddenly incapacitated pilot from interfering with the flight controls. Safety harness includes shoulder straps and a seat belt, which may be used independently.

(2) All flight crew members shall keep their seat belts fastened when at their stations.

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

(4) The seats of the cabin crew shall be in accordance with rule 157(3) and each cabin crew member shall occupy a seat as specified in the sub-rule (2) and (4) of rule 157.

(5) Each passenger shall keep their seat belts fastened when so directed or indicated in the flight.

(6) Subject to sub-rule (7) of this rule, the operator shall detail a member of the crew to ensure that a seat belt or safety harness is worn by each occupant of the aircraft during the times specified in this rule and to ensure that each belt or harness is adjusted to fit the wearer without slack.

(7) The Chairman may, for the purpose of ensuring the safety of air navigation, give directions requiring the owner or operator of an aircraft to install in the aircraft an approved communications system to enable the pilot-in-command to notify passengers when a seat belt or safety harness is to be worn.

156. Provision of emergency equipment: (1) The Chairman may give directions with respect to the provision in aircraft registered in Bangladesh of such emergency systems and equipment, and such life-saving equipment, as he considers necessary to safeguard the aircraft and persons on board the aircraft.

(2) In giving a direction under sub-rule (1), the Chairman shall have regard to the type of

operation in which the aircraft is to be used.

(3) (a) Operators shall at all times have available for immediate communication to rescue coordination centers, lists containing information on the emergency and survival equipment carried on board any of their aeroplanes engaged in international air navigation. The information shall include, as applicable, the number, colour and type of life rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

(b) An operator shall ensure, to the extend possible, in the event the aeroplane becomes involved in an accident or incident, the preservation of all related flight recorder records and if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with part-XIII of these rule.

(4) An operator shall ensure, to the extent possible, in the event the aeroplane becomes involved in an accident or incident, the preservation of all related flight recorder records and, if necessary, the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with part-XIII of these rules.

157. Cabin Crew – Emergency duties & Training.- (1) An operator shall establish, to the satisfaction of the Chairman, the minimum number of cabin crew required for each type of aeroplane, based on seating capacity or the number of passengers carried, in order to effect a safe and expeditious evacuation of the aeroplane, and the necessary functions to be performed in an emergency or a situation requiring evacuation. The operator shall assign these functions for each type of aeroplane.

(2) Each cabin crew member assigned to emergency evacuation duties shall occupy a seat provided in accordance with the procedure mentioned sub-rule (3) of this rule, during take-off and landing and whenever the pilot-in-command so directs.

(3) (a) All aeroplanes shall be equipped with a forward or rearward facing (within 15 degrees of the longitudinal axis of the aeroplane) seat, fitted with a safety harness for the use of each cabin crew member required to satisfy the intent of sub-rule (1) of this rule in respect of emergency evacuation. This is applicable for aeroplane for which the individual certificate of Airworthiness is first issued on or after 1st January 1981.

(b) All aeroplanes should be equipped with a forward or rearward facing (within 15 degrees of the longitudinal axis of the aeroplanes) seat, fitted with a safety harness for the use of each cabin crew member required to satisfy the intent of sub-rule (1) of this rule in respect of emergency evacuation. This is for aeroplanes for which the individual certificate of airworthiness is first issued before 1 January 1981.

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

(c) Cabin crew seats provided in accordance with sub-rule (3)(a) and (3)(b) of this rule shall be located near floor level and other emergency exists as required by the Chairman for emergency evacuation.

(4) Each cabin crew member shall be seated with seat belt or, when provided, safety harness fastened during take-off and landing and whenever the pilot-in-command so directs. This does not preclude the pilot-in-command from directing the fastening of the seat belt only, at time other than during take-off and landing.

(5) An operator shall establish and maintain a training programme, approved by the Chairman, to be completed by all persons before being assigned as a cabin crew member. Cabin crew shall complete a recurrent training programme annually. These training programmes shall ensure that each person is:

(a) competent to execute those safety duties and functions which the cabin crew member is assigned to perform in the event of an emergency or in a situation requiring emergency evacuation;

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

(c) when serving on aeroplanes operated above 3000m (10000 ft), knowledgeable as regards the effect of lack of oxygen and, in the case of pressurized aeroplane, as regards physiological phenomena accompanying a loss of pressurization;

(d) aware of other crew members' assignments and functions in the event of an emergency so far as is necessary for the fulfillment of the cabin crew member's own duties;

(e) aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin and has completed the dangerous goods training programme required by part XVIIIA of these rule; and

(f) Knowledgeable about human performance as related to passenger cabin safety duties including flight crew-cabin crew coordination.

(6) An operator shall not assign a person to act as a crew member of an aircraft, and a person shall not act as a crew member of an aircraft, unless the person is competent in the use of the emergency and life saving equipments carried in the aircraft.

(7) The operator shall ensure that each crew member of an aircraft which is used in flight over water mass is instructed in "ditching" and "abandon ship" procedures in so far as is practicable and that he is periodically tested as to his knowledge of those procedures.

(8) The operator shall detail a crew member to ensure that passengers are made familiar

with the location of emergency exits in the aircraft in which they are traveling and the location and use of emergency equipments carried in the aircraft.

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

(b) Cabin crew should be safeguarded so as to ensure reasonable probability of their retaining consciousness during any emergency descent which may necessary in the event of loss of pressurization and, in addition, they should have such means of protection as will enable them to administer first aid to passengers during stabilized flight following the emergency. Passengers should be safeguarded by such devices or operational procedures as will ensure reasonable probability of their surviving the effects of hypoxia in the event of loss of pressurization.

(10) Flight time, flight duty periods and rest periods.- The Operator shall establish the limits applicable to flight time, flight duty periods and rest periods for cabin crew approved by Chairman.

158. Information & instruction to passengers.- (1) An operator shall ensure that passengers are made familiar with the location and use of:

(a) seat belts;
(b) emergency exits;
(c) life jackets, if the carriage of life jackets is prescribed;
(d) oxygen dispensing equipment, if the provision of oxygen for the use of passengers is prescribed; and
(e) other emergency equipment provided for individual use including passenger emergency briefing cards.

(2) The operator shall inform the passengers of location and general manner of use of the principal emergency equipment carried for collective use.

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

(4) The operator shall ensure that during take-off landing and whenever, by reason of turbulence or any emergency occurring during flight, the precaution is considered necessary, all passengers on board an aeroplane shall be secured in their seats by means of the seat belts or harness provided.

(5) An aeroplane shall be equipped with:

(a) means of ensuring that the following information and instructions are conveyed to passengers:
(b) when seat belts are to be fastened;

(c) when and how oxygen equipment is to be used if the carriage of oxygen is required;
(d) restrictions on smoking;
(e) location and use of life jackets or equivalent individual flotation devices where their carriage is required; and
(f) location and method of opening emergency exits.

(6) A person shall not smoke.- (a) in any part of an aircraft in which a notice is permanently displayed indicating that smoking is prohibited at all times or without specifying a period during which smoking is prohibited;

(b) anywhere in an aircraft during take-off, landing or refuelling or during a period:
(i) in which a notice is temporarily displayed indicating that smoking is prohibited; or
(ii) which is specified in a permanently displayed notice as a period during which smoking is prohibited.

(7) The pilot-in-command shall ensure that the notice indicating that smoking is prohibited is displayed:

(a) during take-off, landing or refuelling;
(b) during such periods as are specified in the flight manual; and
(c) during a period in which he considers that smoking should be prohibited in the interests of safety.

(8) A notice required to be displayed shall be legible and shall be displayed in a conspicuous place.

(9) Not withstanding anything contained in sub-rules (6) & (7) of this rule, the Chairman may declare certain flights or all flight as non-smoking flight.

(10) The operator shall ensure that all baggage carried onto an aeroplane and taken into the passenger cabin is adequately and securely stowed.

159. Intoxicated person.- (1) A person shall not, while in a state of intoxication, enter any aircraft.

(2) A person acting as a member of the operating crew, or carried in the aircraft for the purpose of so acting, shall not, while so acting or carried, be in a state in which, by reason of having taken or used any alcoholic liquor, drug or medicinal preparation or other substance, his capacity so to act is impaired.

(3) A person shall not act as, or perform duties or functions preparatory to acting as, a member of the operating crew if he has, during the period of twelve hours immediately preceding the departure of the aircraft consumed any alcoholic liquor.

(4) A person shall not, while acting in any capacity in either Air Traffic Control or Flight

Service, be in a state in which, by reason of his having taken or used any alcoholic liquor, drug or medicinal preparation or other substance, his capacity so to act is impaired.

(5) A person shall not act in any capacity in either Air Traffic Control or Flight Service if he has, during the period of twelve hours immediately preceding the commencement of the period of duty in which he so acts, consumed any alcoholic liquor.

160. Aerodrome meteorological minima.- The Chairman may determine meteorological minima in respect of each aerodrome.

161. Aeroplane performance and operating limitations.-

(1) General:

(a) Aeroplanes shall be operated in accordance with a comprehensive and detailed code of performance established by the Chairman in compliance with the applicable requirements of this rule.

(b) Except as provided in sub-rule (4) of this rule, single-engine aeroplanes shall only be operated in conditions of weather and light, and over such routes and diversions there from, that permit a safe forced landing to be executed in the event of engine failure.

(c) Except for the aeroplanes for which Chairman has granted exemption in accordance with Article 41 of the Convention, the Chairman should ensure that the level of performance specified in sub-rule (2) of this rule should be met as far as possible.

(2) (a) The requirements contained in sub-rule (2)(b) to (2)(k) of this rule, both inclusive, are applicable to all the aeroplanes except exempted as per sub-rule (1)(c) of this rule.

(b) The level of performance defined by the appropriate parts of the comprehensive and detailed code of performance referred to in sub-rule (1)(a) of this rule for the aeroplanes designated in sub-rule (2)(a) of this rule shall be at least substantially equivalent to the overall level embodied in the requirements of this rule.

(c) An aeroplane shall be operated in compliance with the terms of its certificate of airworthiness and within the approved operating limitations contained in its flight manual.

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

(e) A flight shall not be commenced unless the performance information provided in the flight manual indicates that the requirements sub-rule (2)(f) to (2) (k) of this rule can be complied with for the flight to be undertaken.

(f) In applying the requirements of this rule, account shall be taken of all factors that significantly affect the performance of the aeroplane (such as: mass, operating procedures, the pressure-altitude appropriate to the elevation of the aerodrome, temperature, wind, runway gradient and condition of runway, i.e. presence of slush, water and/or ice, for landplanes, water surface condition for seaplanes). Such factors shall be taken into account directly a operational parameters or indirectly by means of allowances or margins, which may be provided in the scheduling of performance data or in the comprehensive and detailed code of performance in accordance with which the aeroplane is being operated.

(g) Mass limitations:

(i) The mass of the aeroplane at the start of take-off shall not exceed the mass at which sub-rule (2)(h) of this rule is complied with, nor the mass at which sub-rule (2)(i), (2)(j) and (2)(k) of this rule is complied with, allowing or expected reductions in mass as the flight proceeds, and for such fuel jettisoning as is envisaged in applying sub-rule (2)(j) and (2)(k) of this rule and, in respect of alternate aerodrome, sub-rule (2)(g) (iii) and (2)(k) of this rule.

(ii) In no case shall the mass at the start of take-off exceed the maximum take-off mass specified in the flight manual for the pressure-altitude appropriate to the elevation of the aerodrome, and, if used as a parameter to determine the maximum take-off mass, any other local atmospheric condition.

(iii) In no case shall the estimated mass for the expected time of landing at the aerodrome of intended landing and at any destination alternate aerodrome, exceed the maximum landing mass specified in the flight manual for the pressure-altitude appropriate to the elevation of those aerodromes, and if used as a parameter to determine the maximum landing mass, any other local atmospheric condition.

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

(v) The Chairman may, for the purposes ensuring safety, give directions regarding:

(A) the mass of the aircraft, together with the mass of all persons and goods

(including fuel) of board the aircraft, at that time; and
(B) the center of gravity of the aircraft at that time.

(vi) The Chairman may, for the purpose of ensuring the safety of air navigation, give directions with respect to the method of loading of persons and goods (including fuel) on aircraft.

(vii) An aircraft shall not take-off, or attempt to take-off, unless any directions with respect to the loading of the aircraft given under this rule have been complied with.

(viii) The load of an aircraft throughout a flight shall be so distributed that the center of gravity of the aircraft falls within the limitations specified in its certificate of airworthiness or its flight manual.

(h) Take-off:

(i) The aeroplane shall be able, in the event of a critical power-unit failing at any point in the take-off, either to discontinue the take-off and stop within the accelerate-stop distance available, or to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to comply with sub-rule 2(i) of this rule.

(ii) In determining the length of the runway available, account shall be taken of the loss, if any, of runway length due to alignment of the aeroplane prior to take-off.

(i) En route-one power-unit inoperative: The aeroplane shall be able, in the event of the critical power-unit becoming inoperative at any point along the route or planned diversions there from, to continue the flight to an aerodrome at which the requirements of sub-rule (2)(k) of this rule can be met, without flying below the minimum flight altitude at any point.

(j) En route-two power-units inoperative: In the case of aeroplanes having three or more power-units, on any part of a route where the location of en-route alternate aerodromes and the total duration of the flight are such that the probability of a second power-unit becoming inoperative must be allowed for if the general level of safety implied by the requirements of this rule are to be maintained, the aeroplane shall be able, in the event of any two power-units becoming inoperative, to continue the flight to an en-route alternate aerodrome and land.

(k) Landing: The aeroplane shall, at the aerodrome of intended landing and at any alternate aerodrome, after clearing all obstacles in the approach path by a safe margin, be able to land, with assurance that it can come to a stop or, for a seaplane, to a satisfactorily low speed, within the landing distance available. Allowance shall be made for expected variation in the approach and landing techniques, if such

allowance has not been made in the scheduling of performance data.

(3) Obstacle data: (a) Obstacle data shall be provided to enable the operator to develop procedures to comply with the requirements of sub-rule (2)(h) of this rule.

(b) The operator shall take account of charting accuracy when assessing compliance with the requirements of sub-rule (2)(h) of this rule.

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

(a) In approving operations by single-engine turbine-powered aeroplanes at night and/or in IMC, the Chairman shall ensure that the airworthiness certification of the aeroplane is appropriate and that the overall level of safety intended by the provisions of this Part and Part-VIII of these rules is provided by:

(i) the reliability of the turbine engine;
(ii) the operator's maintenance procedures, operating practices, flight dispatch procedures and crew training programmes; and
(iii) equipment and other requirements provided in accordance with the requirements set by Chairman.

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

162. Free balloons.- A free balloon shall not be flown except with the express permission of the Chairman and only in accordance with the terms of that permission.

163. Fixed balloons and kites.- (1) A fixed balloon or kites may be flown at a height not exceeding 91 meters (300 feet), but a fixed balloon or kite shall not be flown within a radius of 4,000 meters (13,000 feet) of an aerodrome or at a height in excess of 91 meters (300 feet) except with the express permission of the Chairman and only in accordance with the terms of that permission.

(2) A fixed balloon or kite shall not be flown other than under visual flight conditions.

164. Aeronautical mobile radio service.- (1) A land station shall not engage in the aeronautical mobile radio service without the permission of the Chairman.

(2) A person shall not employed at a land station as a radio operator in the aeronautical mobile radio service unless-

(a) he has such qualifications and experience relative to the duties to be performed as the Chairman directs; and

(b) the Chairman approves of his being so employed.

165. Carriage of Examiners or Authorized Officers and Overseas investigation costs.- (1) The Chairman may authorize Flight operations Inspector or any officer to undertake examination, inspection or check of the work of the operating crew, the operation of the aircraft or its equipment or the ground organization provided by the operator.

(2) Any officer authorized under this rule shall be provided with accommodation on the aircraft on a priority basis.

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(3) Where the Chairman or an authorized person may, upon an application made to him, finds it necessary to travel outside Bangladesh for the purpose of investigation of an application for the grant, issue or renewal of licence, certificate or approval referred to in this part, the applicant shall meet the costs involved in that travel.

166. Log books.- (1) The following log books shall be kept in respect of an aircraft registered in Bangladesh, namely-

(a) a journey log book;
(b) an aircraft log book;
(c) for an aircraft fitted with one engine, an engine log book and, if fitted with more than one engine, a separate log book for each engine;
(d) for an aircraft fitted with a variable pitch propeller, a variable pitch propeller log book and, if fitted with more than one such propeller, a separate log book for each propeller;
(e) an aircraft maintenance log book in respect of each aircraft for which a Certificate of Registration is in force.
(f) a modification record book for each aircraft, engine, propeller and radio.

(2) The journey log book, aircraft log book, engine log book, variable propeller log book and modification record book for each aircraft, engine and propeller shall be issued by the Chairman. Other log books shall be of such a type and character, and shall contain such additional information, as the Chairman may direct.

(3) Such arrangement as the Chairman approves shall be made for ensuring that copies of the entries made in any log book which is carried in the aircraft are recorded on a suitable form and kept in a safe place on the ground.

(4) Entries in the journey log book in respect of each journey shall be currently made by the crew and the pilot-in-command shall ensure that such entries are made in accordance with the requirements of this rule.

(5) Entries in the aircraft, engine and variable pitch propeller log books (other than the entries made by the constructor thereof) shall be made and signed by an appropriately licensed Aircraft Maintenance Engineer or an authorized person except that in the case of a

general aviation aircraft used for transportation for personal or corporate use, the entries may be made by the owner or the pilot of the aircraft.

(6) Entries in the radio apparatus log book shall be made and signed by a licensed Aircraft Maintenance Engineer licenced in Radio category or by an authorized person.

(7) Entries in the aircraft, engine, variable pitch propeller and radio apparatus log books shall be made within seven days from the date of issue of certificate of compliance for the maintenance.

(8) Entries in any log book shall be made in the form and manner as may be specified by the Chairman and all entries and signatures in these log books shall be made in ink or indelible pencil.

(9) No person shall destroy, mutilate, alter or render illegible any entry made in any log book, or will fully make or procure or assist in the making of any fraudulent entry in, or omission from, any log book referred to in rule 57.

(10) The log books shall be preserved until such time the aircraft is permanently withdrawn from use and its Certificate of Registration is cancelled. Provided that in the case of an aircraft meeting with an accident resulting in damage beyond economical repairs, the log books shall be preserved for a period of two years after the date of the accident.

167. Journey log book.- (1) The operator of an aircraft shall take such action as is necessary to ensure that a journey log book may be kept in accordance with these rules and the pilot-in-command shall keep that log book.

(2) The journey log book should contain the following items and the corresponding roman numbers:

I ─ Aeroplane nationality and registration.
II ─ Date.
III ─ Names of crew members.
IV ─ Duty assignments of crew members.
V ─ Place of departure.
VI ─ Place of arrival.
VII ─ Time of departure.
VIII ─ Time of arrival.
IX ─ Hours of flight.
X ─ Nature of flight (General aviation, aerial work and scheduled or non-scheduled commercial air transport).
XI ─ Incidents, observations, if any.
XII ─ Signature of person in charge.

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

(4) Completed journey log book should be retained to provide a continuous record of the last six months' operations.

(5) Information from a journey log book shall, as soon as practicable, be entered in any other appropriate log book for record.

168. Navigation log book.- (1) The operator shall take such action as is necessary to ensure that a navigation log book may be kept in accordance with these rules and the pilot-in-command shall keep that log book.

(2) The navigation log book shall be kept in chronological order and shall contain such navigational data as is required to enable the geographical position of the aircraft to be determined at any time while the aircraft is in flight.

(3) The navigation log book of a Bangladesh aircraft engaged on an international flight shall include the following information:-

(a) points of departure and destination;
(b) required track;
(c) wind velocity used for calculations;
(d) headings flown;
(e) true airspeed;
(f) position lines, fixes and pin points obtained;
(g) times of alteration of heading;
(h) estimated times of arrival at turning points and destinations; and
(i) such other information relevant to the navigation of the aircraft as the Chairman directs.

169. General Aviation-Helicopter.- The rules contained in this part shall be applicable to all helicopters engaged in general aviation operations, except that these rules are not applicable to helicopters engaged in aerial work.

(1) General:

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

(b) The pilot-in-command shall be responsible for the operation and safety of the helicopter and for the safety of all crew members, passengers and cargo on board, from the moment the engine(s) are started until the helicopter shut down and the rotor blades stopped.

(c) If an emergency situation which endangers the safety of the helicopter or persons necessitates the taking of action which involves a violation of local regulations or procedures, the pilot-in-command shall notify the appropriate local authority without

delay. If required by the state in which the incident occurs, the pilot-in-command shall submit a report on any such violation to the appropriate authority of such state; in that event, the pilot-in-command shall also submit a copy of it to the Chairman such reports shall be submitted as soon as possible and normally within ten days.

(d) The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the helicopter resulting in serious injury or death of any person or substantial damage to the helicopter or property.

(2) Flight Operation: (a) Adequacy of operating facilities.- The pilot-in-command shall not commence a flight unless it has been ascertained by every reasonable means available that the ground and/or water areas and facilities available and directly required for such flight and for the safe operation of the helicopter are adequate including communication facilities and navigation aids.

(b) Heliport operating minima.- Except with the specific approval of the Chairman the pilot-in–command shall not operate to or from a heliport using operating minima lower than those established for that heliport.

(3) Briefing: (a) The pilot-in-command shall ensure that crew members and passengers are made familiar, by means of an oral briefing or by other means, with the location and the use of :

(i) seat belts; and , as appropriate,
(ii) emergency exits;
(iii) life jackets;
(iv) oxygen dispensing equipment; and
(v) other emergency equipment provided for individual use, including passenger emergency briefing cards.

(b) The pilot-in-command shall ensure that all persons on board are aware of the location and general manner of use of the principal emergency equipment carried for collective use.

(4) Helicopter airworthiness and safety precautions: A flight shall not be commenced until the pilot-in-command is satisfied that:

(a) the helicopter is airworthy, duly registered and that appropriate certificates with respect thereto are aboard the helicopter;
(b) the instruments and equipment installed in the helicopter are appropriate, taking into account the expected flight conditions;
(c) any necessary maintenance has been performed in accordance with sub-rule (26) of this rule;
(d) the mass of the helicopter and centre of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
(e) any load carried is properly distributed and safely secured; and

(f) the helicopter operating limitations contained in the flight manual, or its equivalent, will not be exceeded.

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

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

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

(6) Limitations imposed by weather conditions: (a) Flight in accordance with the VFR: A flight, except one of purely local character in visual meteorological conditions. to be conducted in accordance with the visual flight rules shall not be commenced unless available current meteorological reports, or a combination of current reports and forecasts, indicate that the meteorological conditions along the route, or that part of the route to be flown under the visual flight rules, will at the appropriate time, be such as to render compliance with these rules possible.

(b) Flight in accordance with the IFR: When an alternate is required- A flight to be conducted in accordance with the instrument flight rules shall not be commenced unless the available information indicates that conditions, at the heliport of intended landing and at least one alternate heliport will, at the estimated time of arrival, be at or above the heliport operating minima.

(c) When no alternate is required- A flight to be conducted in accordance with the instrument flight rules to a heliport when no alternate heliport is required shall not be commenced unless available current meteorological information indicates that the following meteorological conditions will exist from two hours before to two hours after the estimated time of arrival; or from the actual time of departure to tow hours after the estimated time of arrival, whichever is the shorter period:

(i) A Cloud base of at least 120, M (400ft) above the minimum associated with the instrument approach procedure; and

(ii) Visibility of at least 1.5 km more than the minimum associated with the procedure.

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

(b) An instrument approach shall not be continued beyond the outer marker fix in case of precision approach, or below 300m (1000 ft) above the heliport in case of

non-precision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(c) If, after passing the outer marker fix in case of precision approach, or after descending below 300 m (1000 ft) above the heliport in case of non-precision approach, the reported visibility or controlling RVR falls below the specified MDA/H. in any case, a helicopter shall not continue its approach-to-land beyond a point at which the limits of the heliport operating minima would be infringed.

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

(9) Alternate heliports: (a) For a flight to be conducted in accordance with the instrument flight rules, at least one suitable alternate shall be specified in the operational flight plan and the flight plan, unless:

(i) the weather conditions in sub-rule (6)(c) prevail, or

(ii) (A) The heliport of intended landing is isolated and no suitable alternate is available; and

(B) An instrument approach procedure is prescribed for the isolated heliport of intended landing; and

(C) A point of on return(PNR) is determined in case of an off-shore destination.

(b) Suitable off- shore alternates may be specified subject to the following:

(i) the off-shore alternates shall be used only after passing a point of no return (PNR). Prior to PNR on –shore alternates shall be used;

(ii) mechanical reliability of critical control systems and critical components shall be considered and taken into account when determining the suitability of the alternate;

(iii) one engine inoperative performance capability shall be attainable prior to arrival at the alternate:

(iv) to the extent possible deck availability shall be guaranteed; and

(v) weather information must be reliable and accurate.

(10) Fuel and oil supply: A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the helicopter carries sufficient fuel and oil to ensure that it can safely complete the flight. In addition, a

reserve shall be carried to provide for contingencies.

(11) Visual flight rules (VFR) operations. the fuel and oil carried in order to comply with sub-rule (10) shall, in the case of VFR operations be at least the amount sufficient to allow the helicopter:

(a) to fly to the heliport to which the flight is planned;
(b) to fly thereafter for a period of 20 minutes at best-range speed ; and
(c) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of potential contingencies, as determined by the Chairman and specified in these rules governing general aviation.

(12) Instrument flight rules (IFR) operations: The fuel and oil carried in order to comply with sub-rule (10) shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter:

(a) when no alternate is required, in terms sub-rule (6)(c) to fly to the heliport to which the flight is planned, and thereafter.

(i) to fly 30 minutes at holding speed at 450 m (1500 ft) above the destination heliport under standard temperature conditions and approach and land; and

(ii) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of potential contingencies;

(b) when an alternate is required, in terms of sub-rule (6)(b) to fly to and execute and approach, and a missed approach, at the heliport to which the flight is planned, and thereafter:

(i) to fly to the alternate specified in the flight plan; and then
(ii) to fly for 30 minutes at holding speed at 450 m (1500 ft) above the alternate under standard temperature conditions, and approach and land; and
(iii) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of potential contingencies;

(c) when no suitable alternate is available (i.e. the heliport of intended landing is isolated and no suitable alternate is available), to fly to the heliport to which the flight is planned and thereafter for a period as specified by the Chairman.

(d) in computing the fuel and oil required in sub-rule (10), at least the following shall be considered:
(i) meteorological conditions forecast;
(ii) expected air traffic control routings and traffic delays;
(iii) for IFR flight , one instrument approach at the destination heliport, including a missed approach;
(iv) the procedures for loss of pressurization, where applicable, or failure of one

power-unit while en route; and
(v) any other conditions that may delay the landing of the helicopter or increase fuel and/or oil consumption.

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

(i) all crew members and 10 percent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hpa and 620 hpa.

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

(b) A flight to be operated with a pressurized helicopter shall not be commenced unless a sufficient quantity of stored breathing oxygen is carried to supply all the crew members and a proportion of the passengers, as is appropriate to the circumstances of the flight being undertaken, in the event of loss of pressurization, for any period that the atmospheric pressure in any compartment occupied by them would be less than 700 hPa.

(14) Use of Oxygen: All flight crew members, when engaged in performing duties essential to the safe operation of a helicopter in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in sub-rule (13)(a) or (13)(b).

(15) In-flight emergency instruction: In an emergency during flight, the pilot-in-command shall ensure that all persons on board are instructed in such emergency action as may be appropriate to the circumstances.

(16) Fitness of flight crew members: The pilot-in-command shall be responsible for ensuring that a flight:

(a) will not be commenced if any flight crew member is incapacitated from performing duties by any cause such as injury, sickness, fatigue, the effects of alcohol or drugs; and

(b) will not be continued beyond the nearest suitable heliport when flight crew members capacity to perform functions is significantly reduced by impairment of faculties from causes such as fatigue, sickness, lack of oxygen.

(17) Flight crew members at duty stations: (a) Take of and landing: All flight crew members required to be on flight deck duty shall be at their stations.

(b) En route: All flight crew members required to be on flight deck duty shall remain

at their stations except when their absence is necessary for the performance of duties in connection with the operation of the helicopter, or for physiological needs.

(18) Seat belts: All flight crew members shall keep their seat belt fastened when at their stations.

(19) All helicopters operated in accordance with IFR shall comply with the instrument approach procedures approved by the State in which the heliport is located, or by the State which is responsible for the heliport when located outside the territory of any State.

(20) Instruction –general: A helicopter rotor shall not be turned under power without a qualified pilot at the controls.

(21) Over-water flights: All helicopters on flights over water in accordance with sub-rule (23)(g) shall be certificated for ditching. Sea state shall be an integral part of ditching information.

(22) Helicopter Performance Operating Limitations: (a) A helicopter shall be operated:

(i) in compliance with the terms of its airworthiness certificate or equivalent approved document;
(ii) within the operating limitations prescribed by the Chairman and
(iii) within the mass limitations imposed by compliance with the applicable noise certification standards in part-XVI of these rules, unless otherwise authorized, in exceptional circumstances for a certain heliport where there is no noise disturbance problem, by the competent authority of the state in which the heliport is situated.

(b) Placards, listings, instrument markings, or combinations thereof, containing those operating limitations prescribed by the Chairman for visual presentation, shall be displayed in the helicopter.

(c) Where helicopters are operating to or from heliports in a congested hostile environment, the competent authority of the State in which the heliport is situated shall take such precautions as are necessary to control the risk associated with a power unit failure.

(23) Helicopter Instruments, Equipment and Flight Document: (a) General: In addition to the minimum equipment necessary for the issuance of a certificate of airworthiness, the instruments, equipment and flight documents prescribed in the following paragraphs shall be installed or carried, as appropriate, in helicopters according to the helicopter used and to the circumstances under which the flight is to be conducted. The prescribed instruments and equipment, including their installation, shall be approved or accepted by the Chairman.

(b) Instruments: A helicopter shall be equipped with instruments which will enable the flight crew to control the flight path of the helicopter, carry out any required procedural man oeuvre, and observe the operating limitations of the helicopter in the

expected operating conditions.

(c) Equipment: All helicopters on all flights shall be equipped with:

(i) an accessible first-aid kit;
(ii) portable fire extinguishers of a type which, when discharged, will not cause dangerous contamination of the air within the helicopter. At least one shall be located in:

(A) the Pilot's compartment; and
(B) each passenger compartment that is separate from the pilot's compartment and not readily accessible to the pilot or co-pilot;

(iii) (A) a seat or berth for each person over an age to be determined by the Chairman and
(B) a seat belt for each and restraining belts for each berth;

(iv) the following manuals, charts and information:
(A) the flight manual or other documents or information concerning any operating limitations prescribed for the helicopter by the Chairman, required for the application of sub-rule (22);
(B) current and suitable charts for the route of the proposed flight and all routes along which it is reasonable to expect that the flight bay be diverted;
(C) procedures, as prescribed in part-II of these rules, for pilots-in-command of intercepted aircraft; and
(D) a list of visual signals for use by intercepting and intercepted aircraft, as contained in part-II; and

(v) spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

(d) Instruments and equipment for flights operated under VFR and IFR –by day and night: All helicopters when operating in accordance with VFR by day shall be equipped with-

(i) a magnetic compass;
(ii) an accurate timepiece indicating the time in hours, minutes and seconds;
(iii) a sensitive pressure altimeter;
(iv) an airspeed indicator; and
(v) such additional instruments or equipment as may be prescribed by the appropriate authority.

(e) All helicopters when operating in accordance with VFR at night shall be equipped with:

(i) the equipment specified in para-(d);

(ii) an attitude indicator (artificial horizon) for each required pilot;
(iii) a slip indicator;
(iv) a heading indicator (directional gyroscope);
(v) a rate of climb and descent indicator;
(vi) such additional instruments or equipment as may be prescribed by the appropriate authority; and the following lights:

(A) the lights required by part-II for aircraft in flight or operating on the movement area of a heliport;

(B) a landing light;

(vii) illumination for all flight instruments and equipment that are essential for the safe operation of the helicopter;
(viii) lights in all passenger compartments; and

(ix) a flashlight for each crew member station.

(f) All helicopters, when operating in accordance with IFR, or when the helicopter cannot be maintained in a desired attitude without reference to one or more flight instruments, shall be equipped with:
(i) a magnetic compass:
(ii) an accurate timepiece indicating the time in hours, minutes and seconds;
(iii) a sensitive pressure altimeter;
(iv) an airspeed indicating system with a means of preventing malfunctioning due to either condensation or icing;
(v) a slip indicator;
(vi) an attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator;
(vii) a heading indicator (directional gyroscope);
(viii) means of indicating whether the supply of power to the gyroscopic instruments is adequate;
(ix) a means of indicating in the flight crew compartment the outside air temperature;
(x) a rate of climb and descent indicator;
(xi) such additional instruments or equipment as may be prescribed by the appropriate authority; and
(xii) if operated by night, the lights specified in para-(e)

(g) All helicopters on flight over water:

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

(A) engaged in offshore operations or other over water operations as prescribed by the Chairman or,

(B) flying at a distance from land specified by the Chairman.

(ii) Emergency equipment.- Helicopters operating in accordance with the provisions of para-(i) shall be equipped with:

(A) one life jacket, or equivalent individual flotation device, for each person on board, stowed in a position easily accessible from the seat of the person for whose use it is provided;

(B) when not precluded by consideration related to the type of helicopter used, life-saving rafts in sufficient numbers to carry all persons on board, stowed so as to facilitate their ready use in emergency, provided with such life-saving equipment including means of sustaining life as is appropriate to the flight to be undertaken; and

(C) equipment for making the pyrotechnical distress signals described in Part-II of these rules.

(iii) When taking off or landing at a heliport where, in the opinion of the Chairman the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching, at least the equipment required in para-(ii)(1) shall be carried.

(iv) Each life jacket and equivalent individual floatation device, when carried in accordance with para-(i) shall be equipped with a means of electric illumination for the purpose of facilitating the location of persons.

(h) All helicopters on flights over designated land areas: Helicopters, when operated across land areas which have been designated by the state concerned as areas in which search and rescue would be especially difficult, shall be equipped with such signalling devices and life saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

(i) All helicopters on high altitude flights: Un pressurized helicopters.- Un pressurized helicopters intended to be operated at high altitudes shall carry equipment for storing and dispensing the oxygen supplies required in sub-rule (13)(a).

(j) All helicopters required to comply with the noise certification Standards in CAR part-16: All helicopters required to comply with the noise certification Standards of part-1XVI of these rules shall carry a document attesting noise certification. When the document, or a suitable statement attesting noise certification as contained in another document approved by the Chairman is issued in a language other than English, it shall include an English translation.

(k) Flight data recorders:

(i) Type IV FDR shall record the parameters required to determine accurately the helicopter flight path speed, attitude, engine power and operation.

(ii) A Type IVA FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power, operation and configuration.

(iii) A Type V FDR shall record the parameters required to determine accurately the helicopter flight path, speed attitude and engine power.

(iv) The use of Engraving metal foil FDR s and photographic film FDRs shall not be used.

(v) Types IV and V FDRs shall be capable of retaining the information recorded during at least the last ten hours of their operation.

(vi) All helicopters of a maximum certificated take-off mass of over 7000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1989 shall be equipped with a Type IV FDR.

(vii) All helicopters of a maximum certificated take-off mass of over 3175 kg, for which the individual certificate of airworthiness is first issued after 1 January 2005 shall be equipped with a Type IVA FDR with a recording duration of at least 10 hours.

(l) Cockpit Voice Recorders:

(i) All helicopters for which the individual certificate of airworthiness is first issued after 1 January 2005. which utilize data link communications and are required to carry a CVR, shall record on a flight recorder all data link communications to and from the helicopter. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(ii) All helicopters which utilize data link communications and are required to carry a CVR, shall record on a flight recorder, all data link communications to and from the helicopter, The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(iii) Sufficient information to derive the content of the data link communications message, and, whenever practical, the time the message was displayed to or generated by the crew shall be recorded.

(iv) All helicopters of a maximum certificated take-off mass or over 7 000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1987 shall be equipped with a CVR the objective of which is the recording of the aural environment on the flight deck during flight time. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded

on one track of the CVR.

(v) A CVR shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

(vi) A CVR, installed in helicopters for which the individual certificate of airworthiness is first issued after 1 January 2003, shall be capable of retaining the information recorded during at least the last two hours of its operation.

(m) Flight recorders:

(i) construction and installation: Flight recorders shall be constructed, located and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered and transcribed.

(ii) operation:

(A) Flight recorders shall not be switched off during flight time.

(B) To preserve flight recorder, flight recorders shall be de-activated upon completion of flight time following an accident or incident.

(C) The flight recorders shall not be re-activated before their disposition as determined in accordance with part-XIII of these rules.

(iii) continued serviceability: Operational checks and evaluations of recordings from the FDR and CVR systems shall be conducted to ensure the continued serviceability of the recorders.

(n) Emergency locator transmitter (ELT): Applicable until 30 June 2008: Performance class 1 and 2 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating on flights over water as described in sub-rule (23)(g)(i)(A) and performance class 3 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating as described in sub-rule (23)(g)(i)(B) shall be equipped with at least one automatic ELT and one ELT (s) in a raft.

(i) All performance class 1 and 2 helicopters operating on flights over water as described in sub-rule 23(g)(i)(A) and performance class 3 helicopters operating as described in sub-rule 23(g)(i)(B) shall be equipped with at least one automatic ELT and one ELT (s) in a raft.

(ii) Helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, on flights over designated land areas as described in para-(h) shall be equipped with at least one automatic ELT.

(iii) Helicopters on flights over designate land areas as described in (h) shall be

equipped with at least one automatic ELT.

(iv) ELT equipment carried to satisfy the requirements of para-(i), (ii), and (iii) shall operate in accordance with the relevant provisions of part-X of these rules.

(v) All helicopters operating in performance Class 1 and 2 shall be equipped with, at least one automatic ELT and, when operating on flights over water as described in para-(g)(i)(A) with at least one automatic ELT and one ELT(S) in a raft or life jacket.

(vi) All helicopters operating in performance Class 3 shall be equipped with, at least one automatic ELT and when operating of flights over water as described in para-(g)(i)(B) with at least one automatic ELT and one ELT(S) in a raft or life jacket.

(vii) ELT equipment carried to satisfy the requirements of para-(v) and para-(vi) shall operate in accordance with the relevant provisions part-X of these rules.

(viii) Unless exempted by the Chairman, all helicopters shall be equipped with a pressure-altitude reporting transponder which operates in accordance with the relevant provisions of part-X of these rules.

(24) Helicopter Communication Equipment: (a) A helicopter to be operated in accordance with the instrument flight rules or at night shall be provided with radio communication equipment. Such equipment shall be capable of conducting two-way communication with those aeronautical stations and on those frequencies prescribed by the appropriate authority.

(b) When compliance with (a) requires that more than one communication equipment unit be provided, each shall be independent of the other or others to the extent that a failure in any one will not result in failure of any other.

(c) A helicopter to be operated in accordance with the visual flight rules, but as a controlled flight, shall, unless exempted by the appropriate authority, be provided with radio communication equipment capable of conducting two-way communication at any time during flight with such aeronautical stations and on such frequencies as may be prescribed by the appropriate authority.

(d) A helicopter to be operated on a flight to which the provisions of sub-rule (23)(g)(i) or (23)(h) apply shall, unless exempted by the appropriate authority, be provided with radio communication equipment capable of conducting two-way communication at any time during flight with such aeronautical stations and on such frequencies as may be prescribed by the appropriate authority.

(e) For flights in defined portions of airspace or on routes where an RCP type has been prescribed, a helicopter shall in addition to the requirements specified in para-(a)

to para-(d)-

(i) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP type(s): and

(ii) be authorized by the Chairman for operations in such airspace.

(25) Helicopter Navigation Equipment: (a) A helicopter shall be provided with navigation equipment which will enable it to proceed:

(i) in accordance with its flight plan; and
(ii) in accordance with the requirements of air traffic services;

except when, if not so precluded by the appropriate authority navigation for flights under the visual flight rules is accomplished by visual reference to landmarks. For international general aviation, Landmarks shall be located at least every 110 km (60 NM).

(b) For flights in defined portions of airspace or on routes where an RNP type has been prescribed, a helicopter shall, in addition to the requirements specified in para-(a):

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

(ii) be authority by the Chairman for operations in such airspace.

(c) The helicopter shall be sufficiently provided with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the helicopter to navigate in accordance with para-(a)and where applicable in para-(b).

(d) On flights in which it is intended to land in instrument meteorological conditions a helicopter shall be provided with radio equipment capable of receiving signals providing guidance to a point from which a visual landing can be effected. This equipment shall be capable of providing such guidance at each helicopter at which it is intended to land in instrument meteorological conditions and at any designated alternate helicopters.

(26) Helicopter Maintenance: (a) Maintenance responsibilities: The owner of a helicopter, or in the case where it is leased, the lessee shall ensure that-

(i) the helicopter is maintained in an airworthy condition;

(ii) the operational and emergency equipment necessary for the intended flight is serviceable;

(iii) The Certificate of Airworthiness of the helicopter remains valid; and

(iv) the maintenance of the helicopter is performed in accordance with a maintenance programme acceptable to the Chairman.

(b) The helicopter shall not be operated unless it is maintained and released to service under a system acceptable to the Chairman.

(c) When the maintenance release in not issued by an organization approved in accordance with part-VI of these rules, the person signing the maintenance release shall be licensed in accordance with part-I of these rules.

(d) Maintenance records: The owner shall ensure that the following records are kept for the periods mentioned in para-(e).

(i) The total time in service hours, calendar time and cycles, as appropriate of the helicopter and all life-limited components;

(ii) The current status of compliance with all mandatory continuing airworthiness information;

(iii) Appropriate details of modifications and repairs to the helicopter;

(iv) The Time in service (hours, calendar time and cycles, as appropriate) since last overhaul of the helicopter or its components subject to a mandatory overhaul life;

(v) The current status of the helicopter's compliance with the maintenance programme; and

(vi) The detailed maintenance records to show that all requirements for signing of a maintenance release have been met.

(e) The records in para-(d)(i) to para-(d)(v) shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in para-(d)(vi) for a minimum period of one year after the signing of the maintenance release. The lessee of a helicopter shall comply with the requirements of para-(d) and para-(e) as applicable, while the helicopter is leased.

(f) Continuing airworthiness information: The owner of a helicopter over 3175 kg maximum certificated take –off mass, or in the case where it is leased, the lessee, shall, ass required by the Chairman, ensure that, the information resulting from maintenance and operational experience with respect to continuing airworthiness, is transmitted as required by part-XIII of these rules.

(g) Modifications and repairs: All modifications and repairs shall comply with airworthiness requirements acceptable to the Chairman. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness' requirements are retained.

(h) Maintenance release: A maintenance release shall be completed and signed, as prescribed by the Chairman, to certify that the maintenance work performed has been completed satisfactorily.

(i) A maintenance release shall contain a certification including:

(A) basic details of the maintenance carried out;
(B) date such maintenance was completed;
(C) when applicable, the identity of the approved maintenance organization; and
(D) the identity of the person or persons signing the release.

(27) Helicopter Flight Crew: (a) Qualifications: The pilot-in-command shall ensure that the licenses of each flight crew member have been issued or rendered valid by the Chairman and are properly rated and of current validity. and shall be satisfied that flight crew members have maintained competence.

(b) Composition of the flight crew: The number and composition of the flight crew shall not be less that that specified in the flight manual or other documents associated with the certificate of airworthiness.

170. Commercial Air Transport Helicopter: (1) The Rules contained in part-VI of these rules shall be applicable to all helicopters engaged in commercial air transport operations except that these rules are not applicable to helicopters engaged in aerial work.

DEFINITIONS: For the purposes of this rule when the following terms are used for domestic and international operations with helicopters, they have the following meanings:

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

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

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

Destination alternate. An alternate heliport to which a helicopter may proceed should it

become either impossible or inadvisable to land at the heliport of intended landing.

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

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

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

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

Categories of precision approach and landing operations:

Category 1 (CAT I) operation. A precision instrument approach and landing with a decision height not lower than 60 m (200 ft) and with either a visibility not loess than 800 m or a runway visual range not less that 550 m.

Category II (CAT II) operation. A precision instrument approach and landing with a decision height lower that 60 m (200 ft), but not lower than 30 m (100ft) , and a runway visual range not less than 350 m.

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

a) A decision height lower than 30 m (100 ft) or no decision height; and
b) A runway visual range not less than 200 m.

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

a) A decision height lower than 15 m (50 ft) or no decision height; and
b) A runway visual range less than 200 m but not less than 50m.

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

Approach and landing phase-helicopters. That part of the flight from 300 m (1 000 ft) above the elevation of the FATO, if the flight is planned to exceed this height, or from the commencement of the descent in the other cases, to landing or to the balked landing point.

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

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

Congested area. In relating to a city, town or settlement, any area which is substantially used for residential, commercial or recreational purposes.

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

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

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

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

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

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

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

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

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

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

also by hydrostatic sensors. Manual deployment is also provided.

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

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

Final approach and take-off area (FATO) . A defined areas over which the final phase of the approach manicure to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by helicopters operating in performance Class 1, the defined area includes the rejected take-off area available.

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

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

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

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

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

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

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

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

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

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

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power driven rotors on substantially vertical axes.
Helideck. A heliport located on a floating or fixed offshore structure.

Heliport. An aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure and surface movement of helicopters.

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

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

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

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

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

Hostile environment. An environment in which:

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

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

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

(D) There is an unacceptable risk or endangering persons or property on the ground.

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

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

Integrated CAR survival suit. A survival suit which meets the combined requirements or the survival suit and life jacket.

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

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

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

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

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

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

Maximum mass. Maximum certificated take-off mass.

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

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

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

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

Non-hostile environment. An environment in which:

a) A safe forced landing can be accomplished because the surface and surrounding environment are adequate;
b) The helicopter occupants can be adequately protected from the elements;
c) Search and rescue response/capability is provided consistent with anticipated exposure; and
d) The assessed risk of endangering persons or property on the ground is acceptable.

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

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

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

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

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

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

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

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

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

forced landing may be required.

Operations in performance Class3. Operations with performance such that in the event of a power-unit performance such that , in the event of a power-unit failure at any time during the flight, a forced landing will be required.

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

Psychoactive Substances. Alcohol, opioids, cannabinoids, sedatives and hypnotics, cocaine, other psycho stimulants, hallucinogens, and volatile solvents, whereas coffee and tobacco are excluded.

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

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

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

Required navigation performance (RNP) A statement of the navigation performance necessary for operation within a defined airspace.

Rest period. Any period of time on the ground during which a flight crew member is relieved of all duties by the operator.

RNP type. A containment value expressed as a distance in nautical miles from the intended position within which flights would be for at least 95 percent of the total flying time.

Example- RNP 4 represents a navigation accuracy of plus or minus 7.4 km (4 NM) on a 95 percent containment bases.

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

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

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

safety.

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

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

(A) Begin and end within a period of 24 hours; and

(B) Are all conducted bys the same pilot-in-command.

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

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

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

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

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

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

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

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

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

V_{TOSS}. The minimum speed at which climb shall be achieved with the critical power-unit inoperative, the remaining power-units operating within approved operating limits.

(2) Commercial Air Transport – Helicopter.-

(1) General:

(a) Compliance with laws, regulations and procedures: Operators shall ensure that their employees when abroad know that they must comply with the laws, regulations and procedures of the states in which their helicopters are operated.

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

(c) Operators shall ensure that flight crew members demonstrate the ability to speak and understand the language used for communications as specified in part-I of these rules.

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

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

(f) If an emergency situation which endangers the safety of the helicopter or persons becomes known first to the flight operations officer/flight dispatcher, action by that person in accordance with sub-rule (22) of this rule shall include, where necessary, notification to the appropriate authorities of the nature of the situation without delay, and requests for assistance if required.

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

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

(i) An operator shall establish and maintain an accident prevention and flight safety programme.

(j) An operator of a helicopter of a certificated take-off mass in excess of 7000 kg or having a passenger seating configuration of more than 9 and fitted with a flight data recorder should establish and maintain a flight data analysis programme as part of its accident prevention and flight safety programme.

(k) Any flight data analysis programme shall be non-punitive and contain adequate safeguards to protect the source(s) of the data.

(l) Safety management:

(i) Chairman shall establish a safety programme in order to achieve an acceptable level of safety in the operation of aircraft.

(ii) The acceptable level of safety to be achieved shall be established by the Chairman.

(iii) All operators shall implement a safety management system acceptable to the Chairman as part of their safety programme, as minimum:

(A) identifies safety hazards;
(B) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
(C) provides for continuous monitoring and regular assessment of the safety level achieved; and
(D) aims to make continuous improvement to the overall level of safety.

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

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

(2) Operating facilities:

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

(b) An operator shall ensure that any inadequacy of facilities observed in the course

of operations is reported to the authority responsible for them, without undue delay.
(c) An operator shall not engage in commercial air transport operations unless in possession of a valid air operator certificate issued by the Chairman.

(d) The air operator certificate shall authorize the operator to conduct commercial air transport operations in accordance with specified authorizations, conditions and limitations.

(e) An air operator certificate issued by another Contraction state shall be recognised as valid provided that the requirements under which the certificate was issued are at least equal to the applicable rules specified in this part.

(f) The issue of an air operator certificate shall be dependent upon the operator demonstrating an adequate organization, method of control and supervision of flight operations, training programme as well as ground handling and maintenance arrangements consistent with the nature and extent of the operations specified

(g) the continued validity of an air operator certificate or equivalent document shall depend upon the operator maintaining the requirements of para-(f) under the supervision of the Chairman.

(h) The air operator certificate shall contain at least the following:

(i) operator's identification (name, location);
(ii) date of issue and period of validity;
(iii) description of the types of operations authorized;
(iv) the type(s) of aircraft authorized for use; and
(v) authorized areas of operation or routes.

(i) The Chairman shall establish a system for both the certification and the continued surveillance of the operator in accordance with to ensure that the required standards of operations established in para-(c)are maintained.

(3) Operations manual: (a) An operator shall make available, for the use and guidance of operations personnel concerned, an operations manual constructed using the guidance contained in the operations manual shall be amended or revised as is necessary to ensure that the information contained therein is kept up to date. All such amendments or revision shall be notified to all personnel that are required to use this manual.

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

(4) Operating instructions- general:

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

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

(c) No emergency or abnormal situations shall be simulated when passengers or cargo are being carried.

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

(5) Checklists: The checklists provided in accordance with sub-rule (32)(d) shall be used by flight crews prior to, during and after all phases of operations, and in emergency, to ensure compliance with the operating procedures contained in the aircraft operating manual, the flight manual or other documents associated with the certificate of airworthiness and otherwise in the operations manual. The design and utilization of checklists shall observe human Factors principles.

(6) Minimum flight altitudes:

(a) An operator shall establish minimum flight altitudes for those routes flown, which shall not be less than established by the Chairman.

(b) An operator shall specify the method by which it is intended to determine minimum flight altitudes for operations conducted over routes for which minimum flight altitudes have not been established and shall include this method in the operations manual. The minimum flight altitudes determined in accordance with the above method shall not be lower than specified in part-II of these rules.

(7) Heliport operating minima:

(a) Except when specifically approved by the Chairman an operator shall establish heliport operating minima for each heliport to be used in operations.

(b) In establishing heliport the operating minima, which will apply to any particular operation, full account shall be taken of:

(i) the type performance and handling characteristics of the helicopter;
(ii) the composition of the flight crew, their competence and experience;
(iii) the physical characteristics of the heliport, and direction of approach;
(iv) the adequacy and performance of the available visual and non-visual ground

aids;
(v) the equipment available on the helicopter for the purpose of navigation and/or control of the flight path during the approach to landing and the missed approach;
(vi) the obstacles in the approach and missed approach areas and the obstacle clearance altitude/height for the instrument approach procedures;
(vii) the means used to determine and report meteorological conditions; and
(viii) the obstacles in the climb-out areas and necessary clearance margins.

(c) A flight shall not be continued towards the heliport of intended landing, unless the latest available information indicates that at the expected time of arrival, a landing cab be effected at that heliport, or at least one alternate heliport, in compliance with the operating minima established in accordance with sub-rule (7)(a).

(d) An instrument approach shall not be continued beyond the outer marker fix case of precision approach or the outer marker fix in case of precision approach, or below 300m (1000 ft) above the heliport in case of non-precision approach, unless the reported visibility or controlling RVR is above the specified minimum.

(e) If, after passing the outer marker fix in case of precision approach, or after descending below 300m (1000 ft) above the heliport in case of non-precision approach, the reported visibility or controlling RVR falls below the specified minimum, the approach may be continued to DA/H or MDA/H . In any case, a helicopter shall not continue its approach-to-land at any heliport beyond a point at which the limits of the operating minima specified for that heliport would be infringed.

(8) Fuel and oil records:

(a) An operator shall maintain fuel and oil records to enable the Chairman to ascertain that, for each flight, the requirements of sub-rule (16) of this rule have been complied with.

(b) Fuel and oil records shall be retained by the operator for a period of three months.

(9) Crew:

(a) Pilot-in-command. For each flight the operator shall designate one pilot to act as pilot-in-command.

(b) Flight time, flight duty periods and rest periods. An operator shall formulate rules to limit flight time and flight duty periods and for the provision of adequate rest periods for all its crewmembers. These rules shall be in accordance with the regulations established by the Chairman and included in the operations manual.

(c) An operator shall maintain current records of the flight time, flight duty periods and rest periods of all its crewmembers.

(d) During take-off and landing all flight crewmembers required to be on flight deck duty shall be at their stations.

(e) During en-route phase all flight crew members required to be on flight deck duty shall remain at their stations except when their absence is necessary for the performance of duties in connection with the operation of the helicopter or for physiological needs.

(f) All flight crew members shall keep their seat belt fastened when at their stations.

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

(10) Passengers: (a) An operator shall ensure that passengers are made familiar with the location and use of:

(i) seat belts or harnesses;
(ii) emergency exits;
(iii) life jackets, if the carriage of life jackets is prescribed;
(iv) oxygen dispensing equipment, if the provision of oxygen for the use of passengers is prescribed; and
(v) other emergency equipment provided for individual use, including passenger emergency briefing cards.

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

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

(11) Over-water flights: All helicopters on flight over water in a hostile environment in accordance with sub-rule 32(n)(I) shall be certificated for ditching. Sea state shall be an integral part of ditching information.

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

(i) the helicopter is airworthy;
(ii) the instruments and equipment prescribed in sub-rule (32), for the particular

type of operation to be undertaken, are installed and are sufficient for the flight;
(iii)a maintenance release as prescribed in sub-rule (35)(g) has been issued in respect of the helicopter;
(iv)the mass of the helicopter and center of gravity location are such that the flight can be conducted safely, taking into account the flight conditions expected;
(v) any load carried is properly distributed and safely secured;
(vi) a check has been completed indicating that the operating limitations can be complied with for the flight to be undertaken; and
(vii) the standards of sub-rule (13)(a) relating to operational flight planning have been complied with.

(b) Completed flight preparation forms shall be kept by an operator for a period of three months.

(13) Operational flight planning: (a) An operational flight plan shall be completed for every intended flight or series of flight, or series of flights, and approved by the pilot-in-command, and shall be lodged with the appropriate authority. The operator shall determine the most efficient means of lodging the operational flight plan.

(b) The operations manual shall describe the content and use of the operational flight plan.

(14) Alternate heliports:

(a) Take-off alternate heliport:

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

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

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

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

(ii) the heliport of intended landing is isolated and no suitable alternate is available. A point of no return (PNR) shall be determined.

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

(iv) suitable offshore alternates shall be specified subject to the following-

(1) the offshore alternates shall be used only after a PNR. Prior to PNR on – shore alternates shall be used.

(2) mechanical reliability of critical control systems and critical components shall be considered and taken into account. When determining the suitability of the alternates;

(3) one engine inoperative performance capability shall be attainability shall be attainable prior to arrival at the alternate;

(4) to the extent possible, deck availability shall be guaranteed; and

(5) weather information must be reliable and accurate.

(15) Weather conditions:

(a) A flight to be conducted in accordance with VFR shall not be commenced unless current meteorological reports or a combination of current reports and forecasts indicate that the meteorological conditions along the route or that part of the route to be flown or in the intended area of operations under VFR will, at the appropriate time, be such as to render compliance with these rules possible.

(b) Flight to be conducted in accordance with IFR shall not be commenced unless the information is available which indicates that conditions at the heliport of intended landing or, when an alternate is required, at least one alternate heliport will, at the estimated time of arrival, be at or above the heliport operating minima.

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

(d) A flight to be planned or expected to operate in suspected or known ground icing conditions shall not be commenced unless the helicopter has been inspected for icing and, if necessary, has been given appropriate deicing/anti-icing treatment. Accumulation of ice or other naturally occurring contaminants shall be removed so that the helicopter is kept in an airworthy condition prior to take-off.

(16) Fuel and oil supply:

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

(b) VFR Operation: The fuel and oil carried in order to comply with sub-rule (a) shall, in the case of VFR operations, be at least the amount sufficient to allow the helicopter:

(i) to fly to the heliport to which the flight is planned;
(ii) to fly thereafter for a period of 20 minutes at best range speed; and
(iii) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the state of the Operator.

(c) IFR operations: The fuel and oil carried in order to comply with (a) shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter:

(i) when an alternate is not required, in terms of sub-rule (14)(b)-

(A) to fly to the heliport to which the flight is planned, and thereafter.
(B) to fly 30 minutes at holding speed at 450 m (1500 ft) above the destination heliport under standard temperature conditions and approach and land; and
(C) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the state of the operator.

(ii) when an alternate is required: to fly to and execute an approach, and a missed approach, at the heliport to which the flight is planned, and thereafter:

(A) to fly to the alternate specified in the flight plan; and then
(B) to fly for 30 minutes at holding speed at 450 m (1500ft) above the alternate under standard temperature conditions, and approach and land; and
(C) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of the state of the operator.

(d) When no suitable alternate is available, in terms of 14(b)(e.g the destination is isolated), sufficient fuel shall be carried to enable the helicopter to fly to the destination to which the flight is planned and thereafter for a period that will, based on geographic and environmental considerations, enable a safe landing to be made.

(e) In computing the fuel and oil required in sub-rule (16)(a), at least the following shall be considered:

(i) meteorological conditions forecast;

(ii) expected air traffic control routings and traffic delays;
(iii) for IFR flight, one instrument approach at the destination heliport, including a missed approach;
(iv) the procedures prescribed in the operations manual for loss of pressurization, where applicable, or failure of one power-unit while en route; and
(v) any other conditions that may delay the landing of the helicopter or increase fuel and /or oil consumption.

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

(i) all crew members and 10 percent of the passengers for any period in excess of 30 minutes that the pressure in compartments occupied by them will be between 700 hpa and 620 hpa;

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

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

(18) Hazardous flight conditions: Hazardous flight conditions encountered, other than those associated with meteorological conditions, shall be reported to the appropriate aeronautical station as soon as possible. The reports so rendered shall give such details as may be pertinent to the safety of other aircraft.

(19) Use of oxygen: All flight crew members, when engaged in performing duties essential to the safe operation of a helicopter in flight, shall use breathing oxygen continuously whenever the circumstances prevail for which its supply has been required in sub-rule (17)(a) or(16)(e).

(20) Instrument flight procedures: (a) One or more instrument approach procedures to serve each final approach and take-off area or heliport utilized for instrument flight operations shall be approved and promulgated by the state in which the heliport is located, or by the state which is responsible for the heliport when located outside the territory of any state.

(b) All helicopters operated in accordance with IFR shall comply with the instrument

approach procedures approved by the Chairman.

(21) Responsibility of P-In-C: (a) The pilot-in-command shall be responsible for the operation and safety of the helicopter and for the safety of all crew members, passengers and cargo on board, from the moment the engine(s) are started until the helicopter finally comes to rest at the end of the flight, which the engine(s) shut down and the rotor blades stopped.

(b) The pilot-in-command shall ensure that the checklists specified in sub-rule (5) are complied with in detail.

(c) The pilot-in-command shall be responsible for notifying the nearest appropriate authority by the quickest available means of any accident involving the helicopter, resulting in serious injury or death of any person or substantial damage to the helicopter or property.

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

(e) The pilot-in- command shall be responsible for the journey log book or the general declaration containing the information listed in sub-rule (38)(e).

(22) A flight operation officer/flight dispatcher in conjunction with a method of control and supervision of flight operations in accordance with sub-rule 2(f) of this rule shall:

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

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

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

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

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

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

(24) The operator shall ensure that all baggage carried onto a helicopter and taken into the passenger cabin is adequately and securely stowed.

(25) Operating Limitations: (a) Helicopter shall be operated in accordance with a code of

performance established by Chairman, in compliance with the applicable rules:

(b) In conditions where the safe continuation of flight is not ensured in the event of a critical power-unit failure, helicopter operations shall be conducted in a manner that gives appropriate consideration for achieving a safe forced landing.

(c) Where helicopters are operated to or form heliports in a congested hostile environment, the Chairman shall specify the requirements to enable these operations to be conducted in a manner that gives appropriate consideration for the risk associated with a power-unit failure.

(26) Following rules are applicable to the helicopters to which Part-VI or part-VIII is applicable:

(a) The level of performance defined by the appropriate parts of the code of performance referred to in sub-rule (25)(a) for the helicopters designated in sub-rule (26)(a) to (f) shall be consistent with to the overall level embodied in the rule of this chapter.

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

(c) The Chairman issuing instruction that are reasonable possible to ensure that the general level of safety contemplated by these provisions is maintained under all expected operating conditions, including those not covered specifically by the provisions of this chapter.

(d) A flight shall not be commenced unless the performance information provided in the flight manual indicates that the sub-rule (26)(e) and (26)(f) can be complied with for the flight to be undertaken.

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

(f) Mass limitations:

(i) The mass of the helicopter at the start of take-off shall not exceed the mass at which the code of performance referred to in sub-rule (25)(a) if complied with, allowing for expected reductions in mass as the flight proceeds and for such fuel jettisoning as is appropriate.

(ii) In no case shall the mass at the start of take-off exceed the maximum take-off mass specified in the helicopter flight manual taking into account the factors specified in sub-rule (26)(e).

(iii) In no case shall the estimated mass for the expected time of landing at the destination and at any alternate exceed the maximum landing mass specified in the helicopter flight manual taking into account the factors specified in sub-rule (26)(e).

(iv) In no case shall the mass at the start of take-off or at the expected time of landing at the destination and at any alternate exceed the relevant maximum mass at which compliance has been demonstrated with the applicable noise certification in part-XVI of these rules, unless otherwise authorized in exceptional circumstances for a certain operating site where there is no noise disturbance problem, by the competent authority of the state in which the operating site is situated.

(v) In developing a code of performance, Chairman shall apply in sub-rule (27), (28) & (29).

(27) Take-off and initial climb phase: (a) Operations in performance Class 1. The helicopter shall be able, in the event of the failure of the critical power-unit being recognized at or before the take-off decision point, to discontinue take-off and stop within the rejected take-off area available or, or in the event of the failure of the critical power-unit being recognized at or after the take-off decision point, to continue the take-off, clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with sub-rule (28)(a).

(b) Operations in performance Class 2. the helicopter shall be able, in the event of the failure of the critical power-unit at any time after reaching DPATO, to continue the take-off, clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with sub-rule (28)(a) Before the DPATO, failure of the critical power-unit may cause the helicopter to force-land; therefore the conditions stated in sub-rule (25)(b) shall apply.

(c) Operations in performance Class 3. At any point of the flight path, failure of a power-unit will cause the helicopter to force-land; therefore the conditions stated in sub-rule (25)(b) shall apply.

(28) En-route phase:

(a) Operations in performance Classes 1 and 2 the helicopter shall be able, in the event of the failure of the critical power-unit at any point in the en-route phase, to continue the flight to a site at which the conditions of sub-rule (29)(a) for operations in performance Class 1, or the conditions of sub-rule (29)(b) for operations in

performance Class 2 can be met, without flying below the appropriate minimum flight altitude at any point.

(b) Operation in performance Class 3. the helicopter shall be able with all power-units operating to continue along its intended route or planned diversions without flying at any point below the appropriate minimum flight altitude. At any point of the flight path, failure of a power-unit will cause the helicopter to force-land; therefore the conditions stated in sub-rule (29)(b) shall apply.

(29) Approach and landing phase:

(a) Operations in performance Class 1. In the event of the failure of the critical power –unit being recognized at any point during the approach and landing phase, before the landing decision point, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, be able to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in sub-rule (27)(a). In case of the failure occurring after the landing decision point, the helicopter shall be able to land and stop within the landing distance available.

(b) Operations in performance Class 2. In the event of the failure of the critical power-unit before the DPBL, the helicopter shall, at the destination and at any alternate, after clearing all obstacles in the approach path, be able either to land and stop within the landing distance available or to perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in sub-rule (27)(b). After the DPBL, failure of a power-unit may cause the helicopter to force-land; therefore the conditions stated in sub-rule (25)(b) shall apply.

(c) Operations in performance Class 3. At any point of the flight path, failure of a power-unit will cause the helicopter to force-land; therefore the conditions stated in sub-rule (25)(b) shall apply.

(30) Obstacle data: The operator shall use available obstacle data to develop procedures to comply with the take-off, initial climb approach and landing phases detailed in the code of performance established by the state.

(31) Additional requirements for operations of helicopters in performance Class 3 in IMC, except special VFR flights:

(a) Operations in performance Class 3 in IMC shall be conducted only over a surface environment acceptable to the competent authority of the state over which the operations are performed.

(b) In approving operations by helicopters operating in performance Class 3 in IMC, the Chairman shall ensure that the helicopter is certificated for flight under IFR and that the overall level of safety intended by the provisions of part 6 and 8 is provided

by:

(i) the reliability of the engines;
(ii) the operator's maintenance procedures, operating practices and crew training programmes;

(c) Operations of helicopters operating in performance Class 3 in IMC shall have a programme for engine trend monitoring and shall utilize the engine and helicopter manufactures recommended instruments, systems and operational/maintenance procedures to monitor the engines.

(32) Helicopter Instruments, Equipment, and Flight Documents:

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

(b) A helicopter shall carry a certified true copy of the air operator certificate specified in sub rule (2)(c) and a copy of the authorizations, conditions and limitations relevant to the helicopter type, issued in conjunction with the certificate. When the certificate and the associated authorizations, conditions and limitations are issued by Chairman , will be in English.

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

(d) The operator shall make available to operations staff and members an aircraft operating manual, for each aircraft type operated, containing the normal, abnormal and emergency procedures relating to the operation of the aircraft. The manual shall include details of the aircraft systems and of the checklists to be sued. The design of the manual shall observe. Human Factors principles. The manual shall be easily accessible to the flight crew during all flight operations.

(e) A helicopter shall be equipped with instruments that will enable the flight crew to control the flight path of the helicopter, carry out any required procedural manoeuvres and observe the operating limitations of the helicopter in the expected operating conditions.

(f) A helicopter shall be equipped with:

(i) One or more first-aid kits as appropriate to the number of passengers the helicopter is authorized to carry;

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

(A) the pilot's compartment; and
(B) each passenger compartment that is separate from the pilot's compartment and that is not readily accessible to the flight crew;
(C) A seat or berth for each person over an age to be determined by the Chairman;
(D) seat belt for each seat and restraining belts for each berth; and
(E) safety harness for each flight crew seat. The safety harness for each pilot seat shall incorporate a device, which will automatically restrain the occupant's torso in the event of rapid deceleration.

(g) A helicopter shall be equipped with the means of ensuring that the following information and instructions are conveyed to passengers:
(i) when seat belts or harnesses are to be fastened:
(ii) when and how oxygen equipment is to be used if the carriage of oxygen is required;
(iii) restrictions on smoking;
(iv) location and use of life jackets or equivalent individual floatation devices where their carriage is required; and
(v) location and method of opening emergency exits; and
(vi) If fuses are used, spare electrical fuses of appropriate ratings for replacement of those accessible in flight.

(h) A helicopter shall carry:

(i) The operations manual prescribed in sub rule (3)(a) or those parts of it that pertain to flight operations;
(ii) The helicopter flight manual for the helicopter, or other documents containing performance data required for the application and any other information necessary for the operation of the helicopter within the terms of its certificate of airworthiness, unless these data are available in the operations manual; and
(iii) Current and suitable charts to cover the route of the proposed flight and any route along which it is reasonable to expect that the flight may be diverted.

(i) Flight data recorders:

(i) A Type IV FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power and operation.

(ii) A Type IVA FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude, engine power, operation and configuration.

(iii) A type V FDR shall record the parameters required to determine accurately the helicopter flight path, speed, attitude and engine power.

(iv) Engraving metal foil FDRs and photographic film FDRs shall not be used.

(v) All helicopters for which the individual certificate of airworthiness is first issued after 1 January 2005, that utilize data link communications and are required to carry a CVR shall record, on a flight recorder, all data link communications to and from the helicopter. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(vi) All helicopters that utilize data link communications and are required to carry a CVR shall record, on a flight recorder, all data link communications to and from the helicopter. The minimum recording duration shall be equal to the duration of the CVR, and shall be correlated to the recorded cockpit audio.

(vii) Sufficient information to derive the content of the data link communications message and, whenever practical, the time the message was displayed to or generated by the crew shall be recorded.

(viii) Flight data recorders – duration: Types IV and V FDRs shall be capable of retaining the information recorded during at least the last ten hours of their operation.

(ix) All helicopters of a maximum certificated take-off mass of over 7000 kg, for which the Individual certificate of airworthiness is first issued on or after 1 January 1989, shall be equipped with a Type IV FDR.

(x) All helicopters of a maximum certificate take-off mass of over 3175 kg, for which the individual certificate of airworthiness is first issued after 1 January 2005 shall be equipped with a Type IVA FDR with a recording duration of at least 10 hours.

(j) Cockpit voice recorders:

(i) All helicopters of a maximum certificated take-off mass of over 7000 kg, for which the individual certificate of airworthiness is first issued on or after 1 January 1987, shall be equipped with a CVR, the objective of which is the recording of the aural environment on the flight deck during flight time. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded

on one track of the CVR.

(ii) All helicopters of a maximum certificate take-off mass of over 3175 kg, up to and including 7000 kg, shall be equipped with a CVR, the objective of which is the recording of the aural environment on the flight deck during flight time. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on one track of the CVR.

(iii) All helicopters of a maximum certificated take-off mass of over 7000 kg, for which the individual certificate of airworthiness was first issued before 1 January 1987, shall be equipped with a CVR, the objective of which is the recording of the aural environment on the flight deck during flight time. For helicopters not equipped with an FDR, at least main rotor speed shall be recorded on one track of the CVR.

(iv) A CVR shall be capable of retaining the information recorded during at least the last 30 minutes of its operation.

(v) A CVR, installed in helicopters for which the individual certificate of airworthiness is first issued after 1 January 2003, shall be capable for retaining the information recorded during at least the last two hours of its operation.

(k) Flight recorders:

(i) Flight recorders shall be constructed, located and installed so as to provide maximum practical protection for the recordings in order that the recorded information may be preserved, recovered and transcribed. Flight recorders shall meet the prescribed crashworthiness and fire protection specifications.

(ii) Flight recorders shall not be switched off during flight time.

(iii) To preserve flight recorder records, flight recorders shall be deactivated upon completion of flight time following an accident or incident. The flight recorders shall not be reactivated before their disposition as determined in accordance with part-XIII of these rules.

(iv) Operational checks and evaluations of recordings from the FDR and CVR systems shall be conducted to ensure the continued serviceability of the recorders.

(l) Instruments and equipment for flights operated under VFR - by day and night:

(i) All helicopters when operating in accordance with VFR by day shall be equipped with:

(A) a magnetic compass;
(B) an accurate timepiece indicating the time in hours, minutes and seconds;
(C) a sensitive pressure altimeter;

(D) an airspeed indicator; and
(E) such additional instruments or equipment as may be prescribed by the appropriate authority.

(ii) All helicopters, when operating in accordance with VFR at night shall be equipped with:
(A) the equipment specified in sub-rule (32)(e)(i);
(B) an attitude indicator (artificial horizon) for each required pilot and one additional attitude indicator;
(C) a slip indicator;
(D) a heading indicator (directional gyroscope);
(E) a rate of climb and descent indicator;
(F) such additional instruments or equipment as may be prescribed by the appropriate authority;
(G) the lights required by Part-II of these rules for aircraft in flight or operating on the movement area of a heliport;
(H) two landing lights;
(I) illumination for all instruments and equipment that are essential for the safe operation of the helicopter that are used by the flight crew;
(J) lights in all passenger compartments; and
(K) a flashlight for each crew member station.

(m) Instruments and equipment for flights operated under IFR - by day and night:

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

(A) a magnetic compass;
(B) an accurate timepiece indicating the time in hours, minutes and seconds;
(C) two sensitive pressure altimeters;
(D) an airspeed indication system with means of preventing malfunctioning due to either condensation or icing;
(E) a slip indicator;
(F) an attitude indicator (artificial horizon), for each required pilot and one additional attitude indicator;
(G) a heading indicator (directional gyroscope);
(H) a means of indicating whether the power supply to the gyroscopic instrument is adequate;
(I) a means of indicating in the flight crew compartment the outside air temperature;
(J) a rate of climb and descent indicator;

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

(L) such additional instruments or equipment as may be prescribed by the Chairman; and
(M) if operated at night, the lights as specified.

(ii) All helicopters when operating in accordance with IFR shall be fitted with an emergency power supply, independent of the main electrical generation system, for the purpose of operating and illuminating, for a minimum period of 30 minutes, an attitude ideating instrument (artificial horizon), clearly visible to the pilot-in-command. The emergency power supply shall be automatically operative after the total failure of the main electrical generating system and clear indicating shall be given on the instrument panel that the attitude indicator(s) is being operated by emergency power.

(n) All helicopters on flights over water:

(i) Means of flotation:

(A) Engaged in offshore operations, or other over water operations as prescribed by the Chairman; or

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

(C) Flying over water in a non-hostile environment at a distance from land specified by the appropriate authority of the responsible state when operating in performance Class 1; or

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

(ii) Emergency equipment: Helicopters operating in performance Class 1 or 2 and operating in accordance with the provisions of sub-rule (32)(n)(ii) shall be equipped with:

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

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

(C) equipment for making the pyrotechnical distress signals described in part-II of these rules.

(iii) Helicopters operating in performance class 3 when operating beyond auto rotational distance form land but within a distance from land specified by the Chairman shall be equipped with for each person on board, stowed in a position easily accessible from the seat or berth of the person for whose use it is provide.

(iv) For offshore operations, when operating beyond auto rotational distance form the land, the life jacket shall be worm unless the occupant is wearing an integrated survival suit that includes the functionality of the life jacket.

(v) Helicopters operating in performance Class 3 when operating beyond the distance specified in sub-rule (32)(n)(iii) shall be equipped as. sub-rule (32)(n)(ii).

(vi) In the case of helicopters operating in performance Class 2 or 3 when taking off or landing at a heliport where, in the opinion of the Chairman, the take-off or approach path is so disposed over water that in the event of a mishap there would be likelihood of a ditching , at least the equipment required in sub-rule (32)(n)(ii)(A) shall be carried.

(vii) Each life jacket and equivalent individual flotation device, when carried in accordance with these rules shall be equipped with a means of electric illumination for the purpose of facilitation the location of persons.

(o) All helicopters on fights over designated sea areas: Helicopters, when operating over sea areas which have been designated by the Chairman as areas in which search and rescue would be especially difficult, shall be equipped with life-saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

(p) All helicopters on flights over designated land areas: Helicopters, when operated across land areas which have been designated by the Chairman as areas in which search and rescue would be especially difficult, shall be equipped with such signalling devices and life-saving equipment (including means of sustaining life) as may be appropriate to the area over flown.

(q) Emergency locator transmitter (ELT):

(i) Until 30 June 2008 performance Class 1 and 2 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating on flights over water as described in sub-rule (32)(n)(vi) and performance Class 3 helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, operating as described in sub-rule (32)(n)(i)(B) shall be equipped with at least one automatic ELT and at least one ELST(s) in a raft.

(ii) All performance Class 1 and 2 helicopters operating on flights over water as described in sub-rule (32)(m)(i)(A) and performance Class 3 helicopters operating as described in sub-rule (32)(m)(i)(B) shall be equipped with at least one automatic ELT and at least one ELT(s) in a raft.

(iii) Helicopters for which the individual certificate of airworthiness is first issued after 1 January 2002, on flights over designated land areas as described in sub-rule (32)(p) shall be equipped with at least one automatic ELT.

(iv) Helicopters on flights over designated land areas described in sub-rule (32)(p) shall be equipped with at least one automatic ELT.

(v) ELT equipment carried to satisfy the requirements of sub-rule (32)(q)(i) to (iv) shall operate in accordance with the relevant provisions of the Convention.

(vi) All helicopters operating in performance Class 1 and 2 shall be equipped with at lest one automatic ELT and, when operating on flights over water as described in sub-rule (32)(n)(i)(A) with at least one automatic ELT and one ELT(s) in a raft or life jacket.

(vii) All helicopters operating in performance Class 3 shall be equipped with at lest one automatic ELT and, when operating on flights over water as described in sub-rule (32)(n)(i)(B), with at least one automatic ELT and one ELT(s) in a raft or life jacket.

(viii) ELT equipment carried to satisfy the requirements of sub-rule (32)(q)(vi) and (vii) shall operate in accordance with the relevant provisions of part-X of these rules.

(r) All helicopters on high altitude flights:

(i) A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hpa in personnel compartments shall be equipped with oxygen storage and dispensing apparatus capable of storing and dispensing the oxygen supplies required in sub-rule (17)(a).

(ii) A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is less than 700 hpa but which is provided with means of maintaining pressures greater than 700 hpa in personnel compartments shall be provided with oxygen storage and dispensing apparatus capable of storing and storing and dispensing the oxygen supplies required in sub-rule (17)(b).

(iii) A helicopter intended to be operated at flight altitudes at which the atmospheric pressure is more than 376 hpa which cannot descend safely within four minutes to a flight altitude at which the atmospheric pressure is equal to 620 hpa, and for which the individual certificate of airworthiness was issued on or

after 9 November 1998, shall be provided with automatically deployable oxygen equipment to satisfy the requirements of sub-rule(16)(c)(i). The total number of oxygen dispensing units shall exceed the number of passenger and cabin crew seats by at least 10 percent.

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

(t) Noise certification: All helicopters required to comply with the noise certification rules of part-XVI of these rules shall carry a document attesting noise certification. When the document or a suitable statement attesting noise certification as contained in another document approved by the Chairman shall be in English language.

(u) Helicopters carrying passengers-cabin crew seats:

(i) All helicopters shall be equipped with a forward or rearward facing within 15 degrees of the longitudinal axis of the helicopter) seat, fitted with a safety harness for the use of each cabin crew member required to satisfy the intent of sub-rule (39)(a) in respect of emergency evacuation.

(ii) Cabin crew seats shall be located near floor level and other emergency exits as required by the Chairman for emergency evacuation.

(v) Helicopters required to be equipped with a pressure-altitude reporting transponder: Except as may be otherwise authorized by the appropriate authority, all helicopters shall be equipped with a pressure-altitude reporting transponder which operates in accordance with the provisions of part-X of these rules.

(w) Microphones: All flight crew members required to be on flight deck duty shall communicate through boom or throat microphones.

(33) Helicopter Communication Equipment:

(a) A helicopter shall be provided with radio communication equipment capable of:
(i) conduction two-way communication for heliport control purposes;
(ii) receiving meteorological information at any time during flight;
(iii) conducting two-way communication at any time during flight with at least one aeronautical station and with such other aeronautical stations and on such frequencies as may be prescribed by the appropriate authority.

(b) The radio communication equipment required in accordance with (a) shall provide for communications on the aeronautical emergency frequency.

(c) For flights in defined portions of airspace or on routes where an RCP type has been prescribed, a helicopter shall, in addition to the requirements specified in para-

(a):

(i) be provided with communication equipment which will enable it to operate in accordance with the prescribed RCP type(s) and

(ii) be authorized by the Chairman for operations in such airspace.

(34) Helicopter Navigation equipment: (a) A helicopter shall be provided with navigation equipment which will enable it to proceed:

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

(ii) in accordance with the requirements of air traffic services;

Except when, if not so precluded by the appropriate authority, navigation for flight under VFR is accomplished by visual reference to landmarks.

(b) For flights in defined portions of airspace or on routes where an RNP type has been prescribed, a helicopter shall, in addition to the requirements specified in para-(a):

(i) be provided with navigation equipment which will enable it to operate in accordance with the prescribed RNP type(s) and

(ii) be authorized by the Chairman for operations in such airspace.

(c) The helicopter shall be sufficiently provide with navigation equipment to ensure that, in the event of the failure of one item of equipment at any stage of the flight, the remaining equipment will enable the helicopter to navigate in accordance with para-(a) and where applicable para-(b).

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

(e) Installation: The equipment installation shall be such that the failure of any single unit required for either communications or navigation purposes or both will not result in the failure of another unit required for communications or navigation purposes.

(35) Helicopter Maintenance: (a) Operators shall ensure that, in accordance with procedures acceptable to the Chairman-

(i) each helicopter they operate is maintained in an airworthy condition;

(ii) the operational and emergency equipment necessary for the intended flight is serviceable; and

(iii) the certificate of airworthiness of the helicopter they operate remains valid.

(b) An operator shall not operate a helicopter unless it is maintained and releases to service by an organization approved in accordance with part 6.

(c) An operator shall employ a person or group of persons to ensure that all maintenance is carried out in accordance with the maintenance control manual.

(d) The operator shall ensure that he maintenance of its helicopters is performed in accordance with the maintenance programme approved by the Chairman.

(e) Operator's maintenance control manual: The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance control manual, acceptable to the state of Registry, in accordance with the requirements of the design of the manual shall observe Human Factors principles.

(f) The operator shall ensure that the maintenance control manual is amended as necessary to keep the information contained therein up to date.

(g) Copies of all amendments to the operator's maintenance control manual shall be furnished promptly to all organizations or persons to whom the manual has been issued.

(h) The operator shall provide the state of the operator and the state of Registry with a copy of the operator's maintenance control manual, together with all amendments and/or revisions to it and shall incorporate in it such mandatory material as the state of the operator or the state of Registry may require.

(i) Maintenance programme: The operator shall provide, for the use and guidance of maintenance and operational personnel concerned, a maintenance programme, approved by the Chairman, containing the information required by the design and application of the operator's maintenance programme shall observe Human Factors principles.

(j) Copies of all amendments to the maintenance programme shall be furnished promptly to all organizations or persons to whom the maintenance programme has been issued.

(k) Maintenance records: An operator shall ensure that the following records are kept for the periods mentioned in(l):

(i) The total time in service (hours, calendar time and cycles, as appropriate) of the helicopter and all life-limited components;

(ii) The current status of compliance with all mandatory continuing airworthiness information;

(iii) Appropriate details of modifications and repairs to the helicopter and its major components;

(iv) The time in service (hours, calendar time and cycles, as appropriate) since last overhaul of the helicopter or its components subject to a mandatory overhaul life;

(v) The current status of the helicopter's compliance with the maintenance programme; and

(vi) The detailed maintenance records to show that all requirements for a maintenance release have been met.

(l) The records in para (k) (i) to (v)shall be kept for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service, and the records in para (k)(vi) for a minimum period of one year after the signing of the maintenance release.

(m)In the event of a temporary change of operator, the records shall be made available to the new operator. In the event of any permanent change of operator, the records shall be transferred to the new operator.

(n) Continuing airworthiness information: The operator of a helicopter over 3175 kg maximum mass shall monitor and assess maintenance and operational experience with respect to continuing airworthiness and provide the information as prescribed by the Chairman and report through the system specified in part-VIII of these rules.

(o) The operator of a helicopter over 3175 kg maximum mass shall obtain and assess containing airworthiness information and recommendations available from the organization responsible for the type design and shall implement resulting actions considered necessary in accordance with a procedure acceptable to the Chairman.

(p) Modifications and repairs: All modifications and repairs shall comply with airworthiness requirements acceptable to the Chairman. Procedures shall be established to ensure that the substantiating data supporting compliance with the airworthiness requirements are retained.

(q) Maintenance release: A maintenance release shall be completed and signed to certify that the maintenance work has been completed satisfactorily and in accordance with approved data and the procedures described in the maintenance organization's procedures manual.

(r) A maintenance release shall contain a certification including:

(i) basic details of the maintenance carried out including detailed reference of the approved data used;

(ii) data such maintenance was completed;

(iii) when applicable, the identity of the approved maintenance organization; and

(iv) the identity of the person or persons signing the release.

(s) Records: An operator shall ensure that the following records are kept-

(i) in respect of the entire helicopter: the total time in service;
(ii) in respect of the major components of the helicopter:

(A) the total time in service;
(B) the date of the last overhaul;
(C) the date of the last inspection;

(iii) in respect of those instruments and equipment, the serviceability and operating life of which are determined by their time in service:

(A) such records of the time in service as are necessary to determine their serviceability or to compute their operating life;
(B) the date of the last inspection.

(t) These records shall be kept for a period of 90 days after the end of the operating life of the unit to which they refer.

(36) Helicopter Flight Crew: (a) The number and composition of the flight crew shall not be less than that specified in the operations manual. The flight crews shall include flight crew members in addition to the minimum numbers specified in the flight manual or other documents associated with the certificate of airworthiness, when necessitated by considerations related to the type of helicopter used, the type of operation involved and the duration of flight between points where flight crews are changed.

(b) The flight crew shall include at least one member authorized by the Chairman to operate the type of radio transmitting equipment to be used.

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

(d) Flight crew member training programmes: An operator shall establish and maintain a ground and flight training programme, approved by the Chairman, which ensures that all flight crew members are adequately trained to perform their assigned duties. The training programme shall:

(i) include ground and flight training facilities and properly qualified instructors as determined by the Chairman.

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

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

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

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

(vi) be given on a recurrent basis, as determined by the state of the operator and shall include an assessment of competence.

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

(i) the use, to the extent deemed feasible by the Chairman, of flight simulation training devices approved by that state for that purpose; or

(ii) the Completion within the appropriate period of the proficiency check required by (m) in that type of helicopter.

(f) Qualifications: Recent experience-pilot-in-command: An operator shall not assign a pilot to act as pilot-in-command of a type or variant of a type of helicopter unless, on the same type of helicopter within the preceding 90 days, that pilot has made at least three take-offs and landings.

(g) Recent experience-co-pilot: An operator shall not assign a co-pilot to operate at the flight controls during take-off and landing of a type or variant of a type of helicopter unless, on the same type of helicopter within the preceding 90 days, that

co-pilot has operated the flight controls, as pilot-in-command or as co-pilot, during three take-offs and landings or has otherwise demonstrated competence to act as co-pilot on a flight simulation training device approved for the purpose.

(h) Pilot-in-command operational qualification: An operator shall not utilize a pilot as pilot-in-command of a helicopter on an operation for which that pilot is not currently qualified until such pilot has complied with para-(i) and (j).

(i) Each such pilot shall demonstrate to the operator an adequate knowledge of:

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

(A) the terrain and minimum safe altitudes;
(B) the seasonal meteorological Conditions;
(C) the meteorological, communication and air traffic facilities, services and procedures;
(D) the search and rescue procedures; and
(E) the navigation facilities and procedures associated with the route or area in which the flight is to take place; and

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

(j) A pilot-in-command shall have made a flight, reprehensive of the operation with which the pilot is to be engaged which must include a landing at a representative heliport, as a member of the flight crew and accompanied by a pilot who is qualified for the operation.
(k) The operator shall maintain a record, sufficient to satisfy the Chairman of the qualification of the pilot and of the manner in which such qualification of the pilot and of the manner in which such qualification has been achieved.

(l) An operator shall not continue to utilize a pilot as a pilot-in-command on an operation unless, within the preceding 12 months, the pilot has made at least one representative flight as a pilot member of the flight crew, or as a check pilot, or as an observer on the flight check. In the event that more than 12 months elapse in which a pilot has not made such a representative flight, prior to again serving as a pilot-in-command on that operation. that pilot must rituality in accordance with (i)and(j).

(m) Pilot proficiency checks: An operator shall ensure that piloting technique and the ability to execute emergency procedures is checked in such a way as to demonstrate the pilot's competence on each type or variant of a type of helicopter. Where the operation may be conducted under IFR, an operator shall ensure that the pilot's competence to comply with such rules is demonstrated to either a check pilot of the operator or to a representative of the Chairman. Such checks shall be performed twice

within any period of one year. Any two such checks which are similar and which occur within a period of four consecutive months shall not alone satisfy this requirement.

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

(o) Flight time, flight duty periods and rest periods: The Chairman shall establish regulations specifying the limitations applicable to the flight time and flight duty periods for flight crew members. These regulations shall also make provision for adequate rest periods and shall be such as to ensure that fatigue occurring either in a flight or successive flights or accumulated over a period of time due to these and other tasks, does not endanger the safety of a flight.

(37) Flight Operations Officer/Flight Dispatcher:

(a) When the Chairman requires that a flight operations officer/flight dispatcher, employed in conjunction with an approved method of control and supervision of flight operations be licensed, that flight operations officer/flight dispatcher shall be licensed in accordance with the provisions of part 1.

(b) In accepting proof of qualifications other than the option of holding of a flight operations officer/flight dispatcher licence, the Chairman, in accordance with the approved method of control and supervision of flight operations, shall require that, as a minimum, such persons meet the requirements specified in part 1 for the flight operations officer/flight dispatcher licence.

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

(i) satisfactorily completed an operator-specific training course that addresses all the specific components of its approved method of control and supervision of flight operations specified in sub-rule (2)(f);

(ii) made within the preceding 12 months, as least of one-way qualification flight in a helicopter over any area for supervision. The flight should include landings at as many heliports as practicable;

(iii) demonstrated to the operator a knowledge of:

(A) the contents of the operations manual;
(B) the radio equipment in the helicopters used; and
(C) the navigation equipment in the helicopters used;

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

(A) the seasonal meteorological conditions and the sources of meteorological information;
(B) the effects of meteorological conditions on radio reception in the helicopters used;
(C) the peculiarities and limitations of each navigation system which is used by the operation; and
(D) the helicopter loading instructions;

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

(vi) Demonstrated to the operator the ability to perform the duties specified in sub-rule (2)(e).

(38) Manuals, Logs and Records: (a) The flight manual shall be updated by implementing changes made mandatory by the Chairman.

(b) Operator's maintenance control manual: The operator's maintenance control manual provided in accordance with 35(e) which may be issued in separated parts, shall contain the following information:

(i) Description of the procedures required by sub-rule (35)(a) including, when applicable:

(A) a description of the administrative arrangements between the operator and the approved maintenance organization;

(B) a description of the maintenance procedures and the procedures for completing and signing a maintenance release when maintenance is based on a system other than that of an approved maintenance organization;

(ii) Names and duties of the person or persons required by sub-rule (35)(c);

(iii) A reference to the maintenance programme required by sub-rule (35)(i);

(iv) A description of the methods used for the completion and retention of the operator's maintenance records required by sub-rule (35)(k);

(v) A description of the procedures for monitoring, assessing and reporting maintenance and operational experience required by sub-rule (35)(n);

(vi) A description of the procedures for complying with the service information

reporting requirements of part-VIII of these rules ;

(vii) A description of procedures for assessing continuing airworthiness information and implementing any resulting actions, as required sub-rule (35)(o);

(viii) A description of the procedures for implementing action resulting from mandatory continuing airworthiness information;

(ix) A description of established and maintaining a system of analysis and continued monitoring of the performance and efficiency of the maintenance programme, in order to correct any deficiency in that programme;

(x) A description of helicopter types and models to which the manual applies;

(xi) A description of procedures for ensuring that unserviceabilities affecting airworthiness are recorded and rectified;

(xii) A description of the procedures for advising the state of Registry of significant in service occurrences;

(xiii) A description of procedures to control the leasing of aircraft and related aeronautical products; and

(xiv) A description of the maintenance control manual amendment procedures.

(c) Maintenance programme: A maintenance programme for each helicopter as required by sub-rule (35)(i) shall contain the following information:

(i) Maintenance tasks and the intervals at which these are to be performed, taking into account the anticipated utilization of the helicopter;

(ii) When applicable, a continuing structural integrity programme;

(iii) Procedures for changing or deviating form para-(a) and (b) above; and

(iv) When applicable, condition monitoring and reliability programme descriptions for helicopter systems components, power transmissions, rotors and power plants.

(d) Maintenance tasks and intervals that have been specified as mandatory in approval of the type design shall be identified as such.

(e) Journey log book:

I- Helicopter nationality and registration.
II- Date.
III- Names of crew members.
IV- Duty assignments of crew members.

V- Place of departure.
VI- Place of arrival.
VII- Time of departure.
VIII- Time of arrival.
IX- Hours of flight.
X- Nature of flight (private,scheduled or non-scheduled).
XI- Incidents, observations, if any.
XII- Signature of person in charge.

(f) Records of emergency and survival equipment carried: Operators shall at all times have available for immediate communication to rescue coordination centers, lists containing information on the emergency and survival equipment carried on board any of their helicopters engaged in international air navigation. The information shall include, as applicable, the number, color and type of life rafts and pyrotechnics, details of emergency medical supplies, water supplies and the type and frequencies of the emergency portable radio equipment.

(g) Flight recorder records: An operator shall ensure, to the extent possible, in the event the helicopter becomes involved in an accident or incident, the preservation of all related flight recorder records, and if necessary the associated flight recorders, and their retention in safe custody pending their disposition as determined in accordance with part-XIII of these rules.

(39) Cabin Crew: (a) An operator shall establish, to the satisfaction of the Chairman the minimum number of cabin crew required for each type of helicopter , based on seating capacity or the number of passengers carried, in order to effect a safe and expeditious evacuation of the helicopter , and the necessary functions to be performed in an emergency or a situation requiring emergency evacuation. the operator shall assign these functions for each type of helicopter.

(b) Protection of cabin crew during flight: Each cabin crew member shall be seated with seat belt or, when provided, safety harness fastened during take-off and landing and whenever the pilot-in-command so directs.

(c) Training: An operator shall establish and maintain a training programme, approved by the Chairman to be completed by all persons being assigned as a cabin crew member. Cabin crew shall complete a recurrent training programme annually. these training programmes shall ensure that each person is:

(i) Competent to execute those safety duties and functions that the cabin attendant is assigned to perform in the event of an emergency or in a situation requiring emergency evacuation;

(ii) Drilled and capable in the use of emergency and life-saving equipment required to be carried , such as life jackets, life rafts, evacuation slides, emergency exits, portable fire extinguishers, oxygen equipment and first-aid kits;

(iii) When serving on helicopters operated above 3000m (10000 ft) knowledgeable as regards the effect of lack of oxygen and, in the case of pressurized helicopters, as regards physiological phenomena accompanying a loss of pressurization;

(iv) Aware of other crew member's assignments and functions in the event of an emergency so far as is necessary for the fulfilment of the cabin crew member's own duties;

(v) Aware of the types of dangerous goods which may, and may not, be carried in a passenger cabin and has completed the dangerous goods training programme required by part-XVIIIA of these rules; and

(vi) Knowledgeable about human performance as related to passenger cabin safety duties and including flight crew cabin crew coordination.

(d) The Chairman shall establish regulations specifying the limits applicable to flight time, flight duty periods and rest periods for cabin crew.

(40) Security: (a) Helicopter search procedure checklist: An operator shall ensure that there is on board a checklist of the procedures to be followed in searching for a bomb in case of suspected sabotage. The checklist shall be supported by guidance on the course of action to be taken should a bomb or suspicious object be found.

(b) Training programmes: An operator shall establish and maintain a training programme which enables crew members to act in the most appropriate manner to minimize the consequences of acts of unlawful interference.

(c) An operator shall also establish and maintain a training programme to acquaint appropriate employees with preventive measures and techniques in relation to passengers, baggage, cargo, mail, equipment, stores and supplies intended for carriage on a helicopter so that they contribute to the prevention of acts of sabotage or other forms of unlawful interference.

(d) Reporting acts of unlawful interference: Following an act of unlawful interference the pilot-in-command shall submit, without delay, a report of such an act to the designated local authority.

(e) Within the mass limitations imposed by compliance with the applicable noise certification standards, unless otherwise authorized, in exceptional circumstances for a certain aerodrome or a runway where there is no noise disturbance problem, by the Chairman**.**