KINGDOM OF BAHRAIN
Ministry of Transportation and Telecommunications

مملكة البحرين
وزارة المواصلات والاتصالات

CIVIL AVIATION REGULATION 003

AIR NAVIGATION

SERVICE PROVIDER CERTIFICATION and STANDARDS REGULATIONS

11th March 2018

RECORD OF AMENDMENTS

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Ministry of Transportation and Telecommunications

Civil Aviation Regulation (CAR) 003 Update

Air Navigation Service Provider Certification and Standards Regulations

The Civil Aviation Affairs of the Kingdom of Bahrain (CAA) is responsible for the update of regulations pertaining to aviation service providers, as per Article 26 of the Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law. The updated Regulation at hand contains clarifications in the definitions and rules, aligns the medical standard for air traffic controllers more closely with ICAO requirements, changes training, experience and other standards, and updates the management of safety in ATC, adopting ICAO and other international principles and practices to the needs of the Kingdom in consultation with stakeholders. I hereby amend these Regulations, being CAR003 (version 1), effective the 11th day of March, 2018.

Undersecretary for Civil Aviation

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INTRODUCTION

AIR NAVIGATION SERVICE PROVIDER (ANSP) CERTIFICATION

(1) Civil Aviation Affairs of the Kingdom of Bahrain (the Authority) may make Regulations with respect to aviation and, without restricting the generality of the foregoing, may make Regulations with respect to activities of Air Navigation Services and the location, inspection, certification, registration and operation of Air Navigation Service Providers.

(2) Any registered organization or individual desiring to provide an Air Navigation Service that is described in paragraph 1.3 and that is required by the Authority, by rule, to be certified may file with the Authority an application for an Air Navigation Service Provider certificate. Such application shall include any documentation required by these Regulations for the Air Navigation Service. If the Authority determines that an applicant is properly and adequately equipped and able to conduct a safe operation in accordance with the requirements of these rules, and the Regulations and standards prescribed hereunder, the Authority shall issue an Air Navigation Service Provider certificate to the applicant. Each Air Navigation Service Provider certificate shall prescribe such terms, conditions, and limitations as are reasonably necessary to assure regulatory compliance.

Chapter 1 GENERAL

1.1 APPLICABILITY

1.1.1 Civil Aviation Regulation 003 is issued by the Civil Aviation Affairs in pursuit of its obligations to ensure enforcement of accepted international regulations and standards within organisations providing air navigation services to aviation, as per Article 26 of Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law, within the Bahrain FIR/UIR as designated by the BCAA, and within airspace of other States for which responsibility has been transferred to Bahrain, pursuant to Articles 55, 56 and 58.

1.1.2 These Regulations govern the certification and operation of organisations providing an air navigation service and the operating and technical standards for providing an air navigation service by those organisations.

1.1.3 Air navigation services consist of the following:

1.1.3.1 Air Traffic Control Services (ATCS)

(a) area control service

(b) approach control service

(c) aerodrome control service

1.1.3.2 Flight Information Service (FIS)

(a) area flight information

(b) aerodrome flight information service

1.1.3.3 Alerting service

1.1.3.4 Any other service provided in accordance with the requirements of the BCAA, and declared by the BCAA to be an Air Navigation Service.

1.1.4 The standards contained herein are based on ICAO Annexes 2 and 11 as well as ICAO PANS-ATM, Pans-ATM, in so far as they have been adopted by the Kingdom of Bahrain.

1.1.5 These Regulations also set out certain rules that apply to the BCAA in administering ANSP certificates.

1.1.6 Air traffic control service shall be provided:

1.1.6.1 To all IFR flights in airspace Classes A, B, C, D and E;

1.1.6.2 To all VFR flights in airspace Classes B, C and D;

1.1.6.3 To all special VFR flights;

1.1.6.4 To all aerodrome traffic at controlled aerodromes.

1.2 DEFINITIONS

Note — Throughout the text of this document the term "service" is used as an abstract noun to designate functions, or service rendered; the term "unit" is used to designate a collective body performing a service.

When the following terms are used in this Regulation they have the following meanings:

Accepting unit/controller: Air traffic control unit/air traffic controller next to take control of an aircraft.

Note— See definition of "transferring unit/controller".

ADS agreement: An ADS reporting plan which establishes the conditions of ADS data reporting (i.e. data required by the air traffic services unit and frequency of ADS reports which have to be agreed to prior to the provision of the ADS services).

Note— The terms of the agreement will be exchanged between the ground system and the aircraft by means of a contract, or a series of contracts.

ADS contract: A means by which the terms of an ADS agreement will be exchanged between the ground system and the aircraft, specifying under what conditions ADS reports would be initiated, and what data would be contained in the reports.

Note— The term "ADS contract" is a generic term meaning variously, ADS event contract, ADS demand contract, ADS periodic contract or an emergency mode. Ground forwarding of ADS reports may be implemented between ground systems.

ADS service: A service using aircraft information provided by means of automatic dependent surveillance.

Advisory airspace: An airspace of defined dimensions, or designated route, within which air traffic advisory service is available.

Advisory route: A designated route along which air traffic advisory service is available.

Note— Air traffic control service provides a much more complete service than air traffic advisory service; advisory areas and routes are therefore not established within controlled airspace, but air traffic advisory service may be provided below and above control areas.

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

Note— The term "aerodrome" where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.

Aerodrome control service: Air traffic control service for aerodrome traffic.

Aerodrome control tower: A unit established to provide air traffic control service to aerodrome traffic.

Aerodrome elevation: The elevation of the highest point of the landing area.

Aerodrome traffic: All traffic on the maneuvering area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.

Note— An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Aerodrome traffic circuit: The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

Aeronautical fixed service (AFS): A telecommunication service between specified fixed points provided primarily for the safety of air traffic and for the regular, efficient and economical operation of air services.

Aeronautical fixed station: A station in the aeronautical fixed service.

Aeronautical ground light: Any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.

Aeronautical Information Publication (AIP): A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

Aeronautical mobile service: A mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate; emergency position-indicating radiobeacon stations may also participate in this service on designated distress and emergency frequencies.

Aeronautical station: A land station in the aeronautical mobile service. In certain instances, an aeronautical station may be located, for example, on board ship or on a platform at sea.

Aeronautical telecommunication station: A station in the aeronautical telecommunication service.

Airborne collision avoidance system (ACAS): An aircraft system based on secondary surveillance radar (SSR) transponder signals which operate independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

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

Aircraft address: A unique combination of 24 bits available for assignment to an aircraft for the purpose of air-ground communications, navigation and surveillance.

Aircraft identification: A group of letters, figures or a combination thereof which is either identical to, or the coded equivalent of, the aircraft call sign to be used in air-ground communications, and which is used to identify the aircraft in ground-ground air navigation services communications.

Aircraft observation: The evaluation of one or more meteorological elements made from an aircraft in flight.

Aircraft proximity: A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised. An aircraft proximity is classified as follows:
Risk of collision- The risk classification of an aircraft proximity in which serious risk of collision existed.
Safety not assured- The risk classification of an aircraft proximity in which the safety of the aircraft may have been compromised.

No risk of collision- The risk classification of an aircraft proximity in which no risk of collision has existed.
Risk not determined- The risk classification of an aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

Air-ground communication: Two-way communication between aircraft and stations or locations on the surface of the earth.

AIRMET information: Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of low-level aircraft operations and which was not already included in the forecast issued for low-level flights in the flight information region concerned or sub-area thereof.

Air Navigation Service: Services provided to air traffic during various phases of operations including air traffic service (ATS) communications, navigation and surveillance (CNS), search and rescue (SAR) and aeronautical information services (AIS).

Air Navigation Service Provider (ANSP): An entity providing air navigation services.

AIRPROX: The code word used in an air traffic incident report to designate aircraft proximity.

Air-report*:* A report from an aircraft in flight prepared in conformity with requirements for position, and operational and/or meteorological reporting.

Air-taxiing: Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).
Note— The actual height may vary, and some helicopters may require air-taxiing above 8 m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo slingloads.

Air-to-ground communication: One-way communication from aircraft to stations or locations on the surface of the earth.

Air traffic: All aircraft in flight or operating on the maneuvering area of an aerodrome.

Air traffic advisory service: A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.

Air traffic control clearance: Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.
Note 1— For convenience, the term “air traffic control clearance” is frequently abbreviated to “clearance” when used in appropriate contexts.
Note 2— The abbreviated term “clearance” may be prefixed by the words “taxi”, “take-off”, “departure”, “en-route”, “approach” or “landing” to indicate the particular portion of flight to which the air traffic control clearance relates.

Air traffic control instruction: Directive/s issued by air traffic control officers for the purpose of requiring a pilot to take a specific action.

Air Traffic Controller: see ATCO.

Air Traffic Control Officer (ATCO): A person licensed by the appropriate authority to provide air traffic control services.

Air traffic control service: A service provided for the purpose of:
a) Preventing collisions between aircraft, and on the maneuvering area between aircraft and obstructions; and
b) Expediting and maintaining an orderly flow of air traffic.

Air traffic control unit: A generic term meaning variously, area control centre, approach control unit or aerodrome control tower.

Air traffic flow management (ATFM): A service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilized to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate ATS authority.

Air traffic management: The aggregation of the airborne functions and ground-based functions (air navigation services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.

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

Air traffic services airspaces: Airspaces of defined dimensions, alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.
Note— ATS airspaces are classified as Class A to G as shown in Annex 11, Appendix 4.

Air traffic services reporting office: A unit established for the purpose of receiving reports concerning air traffic services and flight plans submitted before departure.
Note— An air traffic services reporting office may be established as a separate unit or combined with an existing unit, such as another air traffic services unit, or a unit of the aeronautical information service.

Air traffic services unit: A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

Airway: A control area or portion thereof established in the form of a corridor.

Alert Level: The level at which an SPI triggers an action.

ALERFA: The code word used to designate an alert phase.

Alerting service: A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Alert phase: A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

Allocation, allocate: Distribution of frequencies, SSR Codes, etc. to a State, unit or service. Distribution of 24-bit aircraft addresses to a State or common mark registering authority.

Alphanumeric characters (alphanumerics): A collective term for letters and figures (digits).

Altitude: The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

Approach control service: Air traffic control service for arriving or departing controlled flights.

Approach control unit: A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

Approach sequence: The order in which two or more aircraft are cleared to approach to land at the aerodrome.

Appropriate authority: The Civil Aviation Affairs of the Kingdom of Bahrain

Apron: A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Area control centre (ACC): A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Area control service: Air traffic control service for controlled flights in control areas.

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

Area navigation route: An ATS route established for the use of aircraft capable of employing area navigation.

Assignment, assign: Distribution of frequencies to stations. Distribution of SSR Codes or 24-bit aircraft addresses to aircraft.

ATIS: The symbol used to designate automatic terminal information service.

ATS route: A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.
Note 1— The term "ATS route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.
Note 2— An ATS route is defined by route specifications which include an ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by the appropriate ATS authority, the lowest safe altitude.

Authority: The BCAA, and when referring to matters between different elements of the BCAA, the Undersecretary for Civil Aviation (USCA).

Automatic dependent surveillance (ADS): A surveillance technique in which aircraft automatically provide, via a data link, data derived from on-board navigation and position-fixing systems, including aircraft identification, four-dimensional position and additional data as appropriate.

Automatic terminal information service (ATIS): The automatic provision of current, routine information to arriving and departing aircraft throughout 24 hours or a specified portion thereof: Data link- automatic terminal information

service; (D-ATIS) the provision of ATIS via data link; Voice-automatic terminal information service (Voice- ATIS)- The provision of ATIS by means of continuous and repetitive voice broadcasts.

BCAA: The Civil Aviation Affairs of the Kingdom of Bahrain.

Base turn: A turn executed by the aircraft during the initial approach between the end of the outbound track and the beginning of the intermediate or final approach track. The tracks are not reciprocal.
Note— Base turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

Blind transmission: A transmission from one station to another station in circumstances where two-way communication cannot be established but where it is believed that the called station is able to receive the transmission.

Broadcast: A transmission of information relating to air traffic that is not addressed to a specific station or stations.

CAA: See 'BCAA'.

Ceiling: The height above the ground or water of the base of the lowest layer of cloud below 6 000 m (20 000 ft) covering more than half the sky.

Certificate of Competence (C of C): A certificate periodically issued to holders of an Air Traffic Service License indicating proficiency in a designated position or positions within an ATC Unit.

Clearance limit: The point to which an aircraft is granted an air traffic control clearance.

Code (SSR): The number assigned to a particular multiple pulse reply signal transmitted by a transponder in Mode A or Mode C.

Computer: A device which performs sequences of arithmetical and logical steps upon data without human intervention.
Note— When the word "computer" is used in this document it may denote a computer complex, which includes one or more computers and peripheral equipment.

Constitutional Document: A formal document containing the requirements and information described in Chapter 19 of this Regulation.

Control area: A controlled airspace extending upwards from a specified limit above the earth.

Controlled aerodrome: An aerodrome at which air traffic control service is provided to aerodrome traffic.
Note— The term "controlled aerodrome" indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

Controlled airspace: An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.
Note— Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in Annex 11, 2.6.

Controlled flight: Any flight which is subject to an air traffic control clearance.

Controller: Air Traffic Controller (see ATCO)

Controller-pilot data link communications (CPDLC): A means of communication between controller and pilot, using data link for ATC communications.

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

Cruise climb: An aeroplane cruising technique resulting in a net increase in altitude as the aeroplane mass decreases.

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

Current data authority: The designated ground system through which a CPDLC dialogue between a pilot and a controller currently responsible for the flight is permitted to take place.

Current flight plan (CPL): The flight plan, including changes, if any, brought about by subsequent clearances.
Note.— When the word "message" is used as a suffix to this term, it denotes the content and format of the current flight plan data sent from one unit to another.

Data convention: An agreed set of rules governing the manner or sequence in which a set of data may be combined into a meaningful communication.

Data link initiation capability (DLIC): A data link application that provides the ability to exchange addresses, names and version numbers necessary to initiate data link applications.

Data processing: A systematic sequence of operations performed on data.
Note.— Examples of operations are the merging, sorting, computing or any other transformation or rearrangement with the object of extracting or revising information, or of altering the representation of information.

Decision altitude (DA) or decision height (DH): A specified altitude or height in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.
Note 1— Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.
Note 2— The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In Category III operations with a decision height the required visual reference is that specified for the particular procedure and operation.
Note 3— For convenience where both expressions are used they may be written in the form "decision altitude/ height" and abbreviated "DA/H".

Dependent parallel approaches: Simultaneous approaches to parallel or near-parallel instrument runways where radar separation minima between aircraft on adjacent extended runway centre lines are prescribed.

DETRESFA: The code word used to designate a distress phase.

Discrete code: A four-digit SSR Code with the last two digits not being "00".

Distress phase: A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

Downstream data authority: A designated ground system, different from the current data authority through which the pilot can contact an appropriate ATC unit for the purposes of receiving a downstream clearance.

Due Regard: A military operation whereby the Pilot in Command of a military aircraft operating over the high seas declares that they are operating under "Due Regard". Such aircraft are not subject to civilian rules of the air. A declaration as a "Due Regard" operation is therefore accepting responsibility for all traffic and terrain separation, FIS, and alerting services.

Elevation: The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.

Emergency phase: A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

Estimated elapsed time: The estimated time required to proceed from one significant point to another.

Estimated off-block time: The estimated time at which the aircraft will commence movement associated with departure.

Estimated time of arrival: For IFR flights- the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For VFR flights- the time at which it is estimated that the aircraft will arrive over the aerodrome.

Expected approach time: The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.
Note— The actual time of leaving the holding fix will depend upon the approach clearance.

Filed flight plan (FPL): The flight plan as filed with an ATS unit by the pilot or a designated representative, without any subsequent changes.
Note— When the word "message" is used as a suffix to this term, it denotes the content and format of the filed flight plan data as transmitted.

Final approach: That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified, a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or b) at the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which:
1) A landing can be made; or
2) A missed approach procedure is initiated.

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

Flight Information Centre (FIC): A facility established to provide air traffic services to flights in areas under the jurisdiction of units located therein.

Flight information region (FIR): An airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service: A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight level: A surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hecto-pascals (hPa), and is separated from other such surfaces by specific pressure intervals.
Note 1— a pressure type altimeter calibrated in accordance with the Standard Atmosphere:
a) When set to a QNH altimeter setting will indicate altitude;
b) When set to QFE altimeter setting will indicate height above the QFE reference datum;
c) When set to a pressure of 1 013.2 hPa, may be used to indicate flight levels.
Note 2— the terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

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

Flight visibility: The visibility forward from the cockpit of an aircraft in flight.

Flow control. Measures designed to adjust the flow of traffic into a given airspace, along a given route, or bound for a given aerodrome, so as to ensure the most effective utilization of the airspace.

Forecast: A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

Glide path: A descent profile determined for vertical guidance during a final approach.

Ground effect: A condition of improved performance (lift) due to the interference of the surface with the airflow pattern of the rotor system when a helicopter or other VTOL aircraft is operating near the ground.
Note— Rotor efficiency is increased by ground effect to a height of about one rotor diameter for most helicopters.

Ground visibility: The visibility at an aerodrome, as reported by an accredited observer or by automatic systems.

Head of Training and Standards: The person, regardless of title (who would normally be of Chief or higher rank in the Civil Service Bureau equivalent grades) responsible by their job description for training and licensing standards for ATCOs. If these functions are split to separate Training from Standards, then positions descriptions shall clearly define responsibility.

Heading: The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

Height: The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

Holding fix: A geographical location that serves as a reference for a holding procedure.

Holding procedure: A predetermined maneuver which keeps an aircraft within a specified airspace while awaiting further clearance.

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

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

IFR: The symbol used to designate the instrument flight rules.

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

IMC: The symbol used to designate instrument meteorological conditions.

INCERFA: The code word used to designate an uncertainty phase.

Incident: An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.
Note— The type of incidents which are of main interest to the International Civil Aviation Organization for accident prevention studies are listed in the ICAO Accident/Incident Reporting Manual *(Doc 9156).*

Instrument meteorological conditions (IMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions.
Note — In a control zone, a VFR flight may proceed under instrument meteorological conditions if and as authorized by air traffic control.

Landing area: That part of a movement area intended for the landing or take-off of aircraft.

Level: A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

Liability insurance: Insurance coverage to protect against claims alleging that negligence or inappropriate action resulted in bodily injury or property damage.

Location indicator: A four-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station.

Low Visibility Procedures: Procedures to be used when the RVR visibility falls below defined minima.

Maneuvering area: That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Military Accepts Responsibility for Separation of Aircraft (MARSA): Procedures which delegate the separation responsibility, within a formation or area, temporarily to a military authority operating the participating flights.

Meteorological information: Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.

Meteorological office: An office designated to provide meteorological service for international air navigation.

Meteorological report: A statement of observed meteorological conditions related to a specified time and location.

Minimum fuel: The term used to describe a situation in which an aircraft's fuel supply has reached a state where little or no delay can be accepted.
Note— This is not an emergency situation but merely indicates that an emergency situation is possible, should any undue delay occur.

Missed approach procedure: The procedure to be followed if the approach cannot be continued.

Mode (SSR): The conventional identifier related to specific functions of the interrogation signals transmitted by an SSR interrogator. There are four modes specified in Annex 10: A, C, S and intermode.

Movement area: That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).

Next data authority: The ground system so designated by the current data authority through which an onward transfer of communications and control can take place.

Night Duty: A period of duty performed by an ATCO of which more than four hours occurs between 2230 Hours and 0630 Hours local time.

Non-radar separation: The separation used when aircraft position information is derived from sources other than radar.

NOTAM: A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH): The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation (as applicable), used in establishing compliance with appropriate obstacle clearance criteria.
Note 1.— Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approaches to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach is referenced to the aerodrome elevation.
Note 2.— For convenience when both expressions are used they may be written in the form "obstacle clearance altitude/height" and abbreviated "OCA/H".

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

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

Period of Duty: The period between the actual commencement of and the actual end of a shift during which an air traffic controller whose license contains a rating valid at the unit exercises, or could be called upon to exercise, the privileges of the license at that unit, and includes prescribed breaks, time spent on other duties such as training, airfield inspections, meteorological observations, administrative tasks and any extension of duty.

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.

Precision approach radar (PAR): Primary radar equipment used to determine the position of an aircraft during final approach, in terms of lateral and vertical deviations relative to a nominal approach path, and in range relative to touchdown.
Note.— Precision approach radars are designated to enable pilots of aircraft to be given guidance by radio communication during the final stages of the approach to land.

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

Primary radar: A radar system which uses reflected radio signals.

Primary surveillance radar (PSR): A surveillance radar system which uses reflected radio signals.

Procedure turn: A maneuver in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.
Note 1.— Procedure turns are designated "left" or "right" according to the direction of the initial turn.
Note 2.— Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

Profile: The orthogonal projection of a flight path or portion thereof on the vertical surface containing the nominal track.

PSR blip: The visual indication, in non-symbolic form, on a radar display of the position of an aircraft obtained by primary radar.

Radar: A radio detection device which provides information on range, azimuth and/or elevation of objects.

Radar approach: An approach in which the final approach phase is executed under the direction of a radar controller.

Radar clutter: The visual indication on a radar display of unwanted signals.

Radar contact: The situation which exists when the radar position of a particular aircraft is seen and identified on a radar display.

Radar control: Term used to indicate that radar-derived information is employed directly in the provision of air traffic control service.

Radar controller: A qualified air traffic control officer holding a radar rating appropriate to the functions to which he is assigned.

Radar display: An electronic display of radar-derived information depicting the position and movement of aircraft.

Radar identification: The situation which exists when the radar position of a particular aircraft is seen on a radar display and positively identified by the air traffic controller.

Radar map: Information superimposed on a radar display to provide ready indication * As defined in Annex 8. of selected features.

Radar monitoring: The use of radar for the purpose of providing aircraft with information and advice relative to significant deviations from nominal flight path, including deviations from the terms of their air traffic control clearances.

Radar position indication (RPI): The visual indication, in non-symbolic and/or symbolic form, on a radar display of the position of an aircraft obtained by primary and/or secondary surveillance radar.

Radar position symbol (RPS): The visual indication, in symbolic form, on a radar display, of the position of an aircraft obtained after automatic processing of positional data derived from primary and/or secondary surveillance radar.

Radar separation: The separation used when aircraft position information is derived from radar sources.

Radar service: Term used to indicate a service provided directly by means of radar.

Radar track position: An extrapolation of aircraft position by the computer based upon radar information and used by the computer for tracking purposes.
Note— In some cases, information other than radar derived information is used to assist the tracking processes.

Radar unit: That element of an air traffic services unit which uses radar equipment to provide one or more services.

Radar vectoring: Provision of navigational guidance to aircraft in the form of specific headings, based on the use of radar.

Receiving unit/controller: Air traffic services unit/air traffic controller to which a message is sent.
Note— See definition of "sending unit/controller".

Repetitive flight plan (RPL): A flight plan related to a series of frequently recurring, regularly operated individual flights with identical basic features, submitted by an operator for retention and repetitive use by ATS units.

Reporting point: A specified geographical location in relation to which the position of an aircraft can be reported.

Required navigation performance (RNP): A statement of the navigation performance necessary for operation within a defined airspace.
Note— Navigation performance and requirements are defined for a particular RNP type and/or application.

Rescue coordination centre (RCC): A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

Rescue unit: A unit composed of trained personnel and provided with equipment suitable for the expeditious conduct of search and rescue.

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 per cent of the total flying time. Example— RNP 4 represents a navigation accuracy of plus or minus 7.4 km (4 NM) on a 95 per cent containment basis.

Runway: A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Runway-holding position: A designated position intended to protect a runway, an obstacle limitation surface, or an ILS/MLS critical/sensitive area at which taxiing aircraft and vehicles shall stop and hold, unless otherwise authorized by the aerodrome control tower.
Note— In radiotelephony phraseologies, the expression "holding point" is used to designate the runway-holding position.

Runway incursion: Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

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

Safety Performance Indicator (SPI): A data-based safety parameter used for monitoring and assessing safety performance.

Secondary radar: A radar system wherein a radio signal transmitted from the radar station initiates the transmission of a radio signal from another station.

Secondary surveillance radar (SSR): A surveillance radar system which uses transmitters/receivers (interrogators) and transponders.

Segregated parallel operations: Simultaneous operations on parallel or near-parallel instrument runways in which one runway is used exclusively for approaches and the other runway is used exclusively for departures.

Sending unit/controller: Air traffic services unit/air traffic controller transmitting a message.
Note— See definition of "receiving unit/controller".

Shoreline: A line following the general contour of the shore, except that in cases of inlets or bays less than 30 nautical miles in width, the line shall pass directly across the inlet or bay to intersect the general contour on the opposite side.

SIGMET information: Information issued by a meteorological watch office concerning the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations.

Significant point: A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Systemic Occurrence Analysis Methodology (SOAM): A "Reason"-based organisational methodology for analysing incidents and accidents.

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

SSR response: The visual indication, in non-symbolic form, on a radar display, of a response from an SSR transponder in reply to an interrogation.

Standard instrument arrival (STAR): A designated instrument flight rule (IFR) arrival route linking a significant point, normally on an ATS route, with a point from which a published instrument approach procedure can be commenced.

Standard instrument departure (SID): A designated instrument flight rule (IFR) departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en-route phase of a flight commences.

Stopway: A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

Surveillance radar: Radar equipment used to determine the position of an aircraft in range and azimuth.

Take Off Roll: the process of accelerating down the runway in order to take off, which commences once the aircraft is wholly on the runway and the pilot has applied power with the intention to take off.

Taxiing: Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

Taxiway: A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:
a) *Aircraft stand taxilane.* A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.
b) *Apron taxiway.* A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.
c) *Rapid exit taxiway.* A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.

Terminal control area (TMA): A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

Threshold: The beginning of that portion of the runway usable for landing.

Total estimated elapsed time: For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.

Touchdown: The point where the nominal glide path intercepts the runway.
Note— "Touchdown" as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.

Track: The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

Traffic avoidance advice: Advice provided by an air traffic services unit specifying maneuvers to assist a pilot to avoid a collision.

Traffic information: Information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision.

Transfer of control point: A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.

Transferring unit/controller: Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.
Note— See definition of "accepting unit/controller".

Transition altitude: The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

Transition layer: The airspace between the transition altitude and the transition level.

Transition level: The lowest flight level available for use above the transition altitude.

Uncertainty phase: A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

Unmanned free balloon: A non-power-driven, unmanned, lighter-than-air aircraft in free flight.

VFR: The symbol used to designate the visual flight rules.

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

Vicinity of the Aerodrome: An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Visibility: Visibility for aeronautical purposes is the greater of:
a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;
b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.
Note 1— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).
Note 2— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

Visual approach: An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain.

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

VMC: The acronym used to designate visual meteorological conditions.

Waypoint: A specified geographical location used to define an area navigation route or the flight path of an aircraft employing area navigation. Waypoints are identified as either:
Fly-by waypoint- A waypoint which requires turn anticipation to allow tangential interception of the next segment of a route or procedure, or
Flyover waypoint- A waypoint at which a turn is initiated in order to join the next segment of a route or procedure.

1.3 AIR NAVIGATION SERVICES CERTIFICATE

1.3.1 No person or organisation shall provide an air navigation service to civil aircraft except under the authority of, and in accordance with the provisions of, an air navigation service provider certificate issued under this regulation. A person or organisation may in writing request the BCAA to determine whether an aviation-related service is an air navigation service.

1.3.1.1 No person may issue an air traffic control instruction or an air traffic control clearance for the purpose of air navigation unless that person holds a valid Air Traffic Controller or Student Air Traffic Controller License.

1.3.2 The BCAA may, in consultation with such persons as the BCAA considers necessary, determine whether the proposed service is an air traffic service.

1.3.3 The application for an air navigation service provider certificate shall be submitted to the BCAA for approval. All elements of the application shall be completed.

1.3.4 The application shall include the aerodrome or other locations and airspace designations at or within which the services will be provided.

1.3.5 The application shall be submitted to BCAA along with supporting documentation which shall include the Constitutional Document required by Chapter 19.

1.3.6 An applicant is entitled to an air navigation service provider certificate if—

1.3.6.1 The applicant and persons holding positions listed in 2.1.1.1 to 2.1.1.5 inclusive are acceptable to the BCAA;

1.3.6.2 The organisation's Constitutional Document as required in Chapter 19 is acceptable to the BCAA; and

1.3.6.3 The BCAA is satisfied that the granting of the certificate is not contrary to the interests of aviation safety; and

1.3.6.4 The applicant has paid any fees and/or charges levied by the BCAA.

1.3.7 The validity of an air navigation service provider certificate is based on continued operation in accordance with Civil Aviation Regulations, the State Safety Program, ANTR's and Instructions and Directives as published by the BCAA.

1.3.8 An air navigation service provider certificate remains in force until it expires, is suspended or revoked.

1.3.9 The holder of an air navigation service provider certificate that expires or is revoked shall surrender the certificate to the BCAA.

1.3.10 The holder of an air navigation service provider certificate that is suspended shall immediately return the certificate to the BCAA for appropriate endorsement.

1.4 PRIVILEGES OF CERTIFICATE

1.4.1 An air navigation service provider certificate specifies which of the following air navigation services and which training and assessment for such services, the certificate holder is authorised to provide—

1.4.1.1 Area control service;

1.4.1.2 Approach control service;

1.4.1.3 Aerodrome control service;

1.4.1.4 Flight information service;

1.4.1.5 Aerodrome flight information service;

1.4.1.6 Alerting service

1.4.1.7 Any other service provided in accordance with the requirements of the BCAA.

1.4.2 An air navigation service provider certificate holder may be endorsed by the Authority to issue, control, insure the liability of, and keep record of, Air Traffic Controller Licenses and Student Air Traffic Controller Licenses.

1.5 VALIDITY OF CERTIFICATE

1.5.1 The air navigation service provider certificate shall remain valid for a period of three years, subject to periodic surveillance audits conducted at the discretion of the BCAA, confirming ongoing compliance with the relevant Regulations.

1.5.2 The BCAA shall undertake a complete air navigation service certification audit at least once in every three year period following the issue of an air navigation service certificate.

1.6 CONTINUED COMPLIANCE

1.6.1 The holder of an air navigation service provider certificate shall –

1.6.1.1 Ensure its Constitutional Document is amended so as to remain a current description of the holder's organisation and services;

1.6.1.2 Provide access to a complete and current copy of its Constitutional Document at each ATS unit listed in its Constitutional Document and to BCAA personnel who require access to carry out their duties,

1.6.1.3 Provide access to a current and complete operations manual or system of manuals for the services listed in its Constitutional Document, for compliance by its personnel;

1.6.1.4 Where a holder is certificated to provide more than one air navigation service, or an air navigation service or services from more than one location, publish a core manual together with manual supplements specific to each service or location;

1.6.1.5 Comply with all procedures and standards detailed in its Constitutional Document in order to continue to meet the standards and comply with the requirements prescribed for certification under this Regulation; and

1.6.1.6 Promptly notify the BCAA of any change of address for service, telephone or facsimile number of the Accountable Manager (described in 2.1.1.1).

1.6.2 The Authority or its representative may:

1.6.2.1 Enter any ANSP for the purposes of making inspections relating to the enforcement of this Regulation;

1.6.2.2 Enter any place in the ANSP for the purposes of an investigation of matters concerning aviation safety;

1.6.2.3 Seize anything found in any place referred to in paragraph 1.6.2.1 or 1.6.2.2 that the Authority or its representative believes on reasonable grounds will afford evidence with respect to an offence under paragraph 1.6.3 or the causes or contributing factors pertaining to an investigation referred to in sub paragraph 1.6.2.2.

1.6.3 It shall be an offense to provide false information in support of an application for an ANSP certificate or to otherwise act, or fail to act, so as to endanger the provision of a certified Air Navigation Service. The provider of an Air Navigation Service may be proceeded against if found to have committed an offense in relation to the Air Navigation Service or associated facility for which he is responsible under the terms of the Air Navigation Service Provider certificate. In such eventuality the operator of the ANSP is liable to the penalty prescribed in Law No. 14 of 2013 with respect to the issuance of the Civil Aviation Law and its attendant Executive Orders.

Chapter 2 CERTIFICATION REQUIREMENTS

2.1 PERSONNEL REQUIREMENTS

2.1.1 The applicant for an air navigation service provider certificate shall engage, employ or contract:

2.1.1.1 An Accountable Manager who has the authority within the applicant's organisation to ensure that each air navigation service listed in its Constitutional Document can be financed and is provided in accordance with the requirements of this Regulation;

2.1.1.2 A Head of ATS responsible for ensuring that the organisation complies with the ATS provision requirements of this Regulation;

2.1.1.3 A Head of ATS Standards and Training (see definitions) responsible for ensuring that the organisation complies with the training and licensing requirements of this Regulation. If responsibility for these functions is split into Head of Training and Head of Standards, then both of these positions shall be named and engaged;

2.1.1.4 A Safety Management post holder responsible for the provision of a safety management system according to the requirements of ANTR Vol. III Part 19; and

2.1.1.5 A Quality Management post holder responsible for the provision of a quality management system; and

2.1.1.6 Sufficient personnel to manage, supervise, provide and support the air navigation service and any associated training or assessment listed in the applicant's Constitutional Document, plus meet the requirements of ANTR Vol. III Part 19 to develop and maintain an effective SMS.

2.1.2 Qualifications and experience details for the persons nominated by the applicant for the positions listed in Sections 2.1.1.1 to 2.1.1.5 inclusive shall be forwarded to the BCAA for acceptance prior to the person being named in that position by the applicant.

2.1.3 The persons listed in Section 2.1.1.2 to 2.1.1.5 inclusive above shall ultimately be responsible to the Accountable Manager.

2.1.4 The applicant shall establish procedures to:

2.1.4.1 Ensure the competence of those personnel who –

(a) supervise personnel providing air navigation services;

(b) provide the air navigation services listed in the applicant's Constitutional Document;

(c) provide training and assessment for those air navigation services in accordance with the requirements of Appendix 2;

(d) provide immediate operational support for those air navigation services;

2.1.4.2 Provide personnel listed in Section 2.1.1 with written evidence of the scope of their authorisation;

2.1.4.3 Ensure that those personnel hold appropriate current licenses and ratings issued under Appendix 3;

2.1.4.4 Ensure that those personnel only exercise the privilege of their rating or ratings if they are familiar with all relevant and current information;

2.1.4.5 Facilitate, for air traffic service license holders, compliance with the recent experience requirements of Appendix 2;

2.1.4.6 Ensure that an air traffic controller shall not exercise the privileges of their rating or ratings unless they hold a current Medical Certificate which is issued in accordance with the requirements of Appendix 6, and comply with any endorsements on their medical certificate, or when any decrease in their medical fitness might render them unable to safely exercise these privileges; and

2.1.4.7 Ensure that no person whose function is critical to the safety of aviation (safety sensitive personnel) shall undertake that function while:

(a) under the influence of any psychoactive substance, by reason of which human performance is impaired and

(b) that they shall not engage in any problematic use of substances,

(c) suffering from fatigue to the degree that their performance may be impaired.

2.1.5 A holder of an Air Traffic Controller License shall not be entitled to exercise the privileges of a rating contained in that license unless he holds a current Certificate of Competence (C of C) specific to the unit/sector/ equipment at and with the aid of which the air traffic control service is to be provided.

2.2 ATS TRAINING

2.2.1 The applicant for an ANSP certificate shall establish procedures and programmes for the training and assessment of the following personnel—

2.2.1.1 Air traffic controllers;

2.2.1.2 Flight service operators;

2.2.1.3 Personnel directly involved in supervision of, or immediate operational support to, personnel providing air navigation services listed in the applicant's Constitutional Document.

2.2.2 The applicant shall establish procedures to ensure that personnel giving instruction in an operational environment hold an appropriate current OJT instructor endorsement issued under Appendix 2.

2.2.3 The applicant shall establish procedures to ensure that personnel carrying out assessment for the issue of licenses, or the issue or validation of ratings, hold an appropriate current OJT instructor or examiner endorsement issued under Appendix 2.

2.2.4 The applicant for an ATS certificate shall submit the unit training and assessment plan (UTAP) to the BCAA for approval.

2.2.5 The applicant for an ATS certificate shall establish procedures and programmes for continuation training of ATS personnel in accordance with Appendix 2.

2.2.6 The applicant for an ATS certificate shall establish procedures to ensure that Student Air Traffic Controller and licensed air traffic controllers achieve and retain at least ICAO English language proficiency rating scale level 4.

2.3 SHIFT ADMINISTRATION

2.3.1 The applicant for an air navigation service provider certificate shall establish a procedure to ensure that-

2.3.1.1 Adequate time is provided at the beginning and end of each shift for the performance of those duties required-

(a) before providing an air traffic service including ATC briefing;

(b) after ceasing to provide an air traffic service; and

2.3.1.2 Adequate time is provided for each transfer of position responsibility at an operational ATS position through mandatory use of a position relief checklist that includes the current status of position related equipment and operational conditions or procedures. This information is to be clearly visible from the control position at all times.

2.4 FACILITY REQUIREMENTS

2.4.1 An applicant for an air navigation service provider certificate shall establish the following facilities appropriate to the air navigation services listed in the applicant's Constitutional Document:

2.4.1.1 Aerodrome control towers:

2.4.1.2 Approach control units:

2.4.1.3 Area control centres:

2.4.1.4 Aerodrome flight information units:

2.4.1.5 Flight information centres:

2.4.1.6 Dedicated training and assessment facilities.

2.4.2 Working conditions shall meet established levels for temperature, humidity, ventilation, noise and ambient lighting, and do not adversely affect controller performance. These conditions shall be acceptable to the Authority.

2.4.3 An applicant for an aerodrome control service, or an aerodrome flight information service, shall establish procedures to ensure that any aerodrome control tower or aerodrome flight information unit, listed in their Constitutional Document, is-

2.4.3.1 Constructed and situated to provide :

(a) the maximum practicable visibility of aerodrome traffic ;

(b) protection from glare and reflection;

(c) protection from noise;

2.4.3.2 Safeguarded from any development that would affect the requirements of 2.4.3.1;

2.4.3.3 At solo watch locations, provided with toilet facilities that ensure the minimum possible interruption to, or degradation of, air traffic services;

2.4.3.4 Provided with equipment for two way voice communication or data link meeting the required communication performance (RCP) type prescribed by the BCAA with-

(a) any aircraft, in or adjacent to airspace for which the applicant has responsibility;

(b) any aircraft, vehicle, and person, on, or adjacent to, the maneuvering area;

2.4.3.5 Provided with the following minimum equipment:

(a) A display system or systems designed to show the disposition of current and pending aerodrome traffic together with ancillary information for individual aircraft:

(b) A power supply:

(c) Appropriate current maps and charts:

(d) Binoculars:

(e) Clocks:

(f) A log keeping system:

(g) Outside temperature indicator:

(h) QNH displays:

(i) Signal lamp with green, red and white functions:

(j) Telephone communications:

(k) Status indicators for approach and landing aids and any road signalling equipment affecting the use of a runway:

(l) Visibility and cloud height checkpoints:

(m) Voice (including background) recording of the aural environment of the ATC workstations, and, if applicable, data recording equipment:

Note: The aural environment recording should preferably be by means of live headset microphones. Wind direction and speed display/s related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists. Where multiple sensor(s) are used, the displays to which they are related shall be clearly marked to identify the runway and section of the runway monitored by each sensor:

(n) An audible emergency alerting system:

(o) An AFTN terminal or, if provided for in an ATS letter of agreement, an alternative means of reception and transmission of information normally conveyed by AFTN:

(p) Display permitting read-out of the current runway visual range value(s) where runway visual range values are measured by instrumental means. The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists:

(q) Display permitting read-out of the current value(s) of the height of cloud base, where the height of cloud base is assessed by instrumental means. The displays should be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the meteorological station, where such a station exists:

(r) If applicable, airfield lighting control panel.

2.4.3.6 Provided with adequate facilities for staff off watch break periods.

2.4.4 The applicant for an area control service, flight information service or approach control service shall establish procedures to ensure that any area control centre, flight information centre and approach control unit is-

2.4.4.1 Provided with equipment enabling two way voice communication meeting the required communication performance types prescribed by the BCAA, to the fullest extent possible;

2.4.4.2 If applicable, data communication with any aircraft in or adjacent to airspace for which the applicant has responsibility;

2.4.4.3 Provided with the following minimum equipment:

(a) A display system or systems designed to show the disposition of current and pending flights together with ancillary information for individual aircraft:

(b) A power supply:

(c) Appropriate current maps and charts:

(d) Clocks:

(e) Log keeping system:

(f) Status indicator as appropriate for traffic, approach and landing aids:

(g) Telephone communications:

(h) Voice recording equipment including background recording of the aural environment of the ATC workstations and, if applicable, data recording equipment:

Note: The aural environment recording should preferably be by means of live headset microphones.

(i) An AFTN terminal or, if provided for in an ATS letter of agreement, an alternative means of reception and transmission of information normally conveyed by AFTN:

(j) For an approach control unit, an ILS status indicator at the approach control or approach control radar operating position for the aerodrome concerned:

(k) For an approach control operating position responsible for aircraft on final approach, or aircraft landing or taking off,

(i) a wind direction and wind speed display fed from the same source as the corresponding unit in the aerodrome control tower.

(ii) RVR display(s) permitting read-out of the current runway visual range value(s), where RVR is assessed by instrumental means. The display(s) shall be related to the same location(s) of observation and be fed from the same sensor(s) as the corresponding displays in the aerodrome control tower.

(iii) display(s) permitting read-out of the current value(s) of the height of cloud base where cloud base is assessed by instrumental means. The displays should be related to the same location(s) of observations and be fed from the same sensor(s) as the corresponding display(s) in the aerodrome control tower.

2.4.4.4 Provided with adequate facilities for staff off watch break periods.

2.4.5 The applicant shall establish procedures to ensure that the aeronautical telecommunications equipment required by 2.4.3 and 2.4.4 is operated in accordance with ICAO Doc 9432.

2.4.6 The applicant shall establish procedures to ensure that any equipment, maps, charts, monitors and displays used by air traffic service personnel are positioned with due regard to the relative importance of the information displayed and ease of use by the staff concerned.

2.4.7 The equipment required by 2.4.3.4, 2.4.3.5, 2.4.4.1, 2.4.4.2 and2.4.4.3, shall have a level of reliability, availability and redundancy that minimises the possibility of failure, non-availability, or significant degradation of performance.

2.4.8 The applicant shall establish procedures to ensure that the status indicators required by 2.4.3.5 (k) and 2.4.4.3 (f) and (j) are fitted with –

2.4.8.1 An aural alarm to indicate a change of status; and

2.4.8.2 A visual indication of the current status.

2.4.9 A temporary aerodrome control tower and a temporary aerodrome flight information office are not required to be provided with the equipment required under 2.4.3.5 (l), (q) and (r) if it is impracticable to do so and other appropriate measures are taken, as the case may be, to-

2.4.9.1 Provide the person/s providing the air traffic service from the temporary tower or unit with the information that would be available from the equipment required under 2.4.3.5 (l) and (q); and

2.4.9.2 Control the aerodrome lighting if applicable.

2.5 ESTABLISHMENT AND TRANSFER OF SERVICE

2.5.1 The applicant for an air navigation service provider certificate shall include with its application-

2.5.1.1 For each aerodrome and airspace, a schedule of the proposed hours of service for the first 12 months of operation; and

2.5.1.2 In respect of an aerodrome, or airspace, not currently provided with an air navigation service, a copy of the safety study that led to the decision to provide the air navigation service.

2.5.2 The applicant for an air navigation service provider certificate intending to assume responsibility for providing any air navigation service from an existing certificate holder, shall include with its application, full details of transitional arrangements endorsed by the Heads of ATS of both organisations.

2.6 DOCUMENTATION

2.6.1 The applicant for an air navigation service provider certificate shall hold copies of the relevant technical manuals and all other documents necessary for the provision and operation of the services listed in its Constitutional Document.

2.6.2 The applicant shall establish a procedure to control all the documentation required by 2.6.1. The procedure shall ensure that –

2.6.2.1 Appropriate arrangements are in place to ensure receipt of amendments to documents held by the unit;

2.6.2.2 All incoming documentation is reviewed and actioned as required by authorised personnel;

2.6.2.3 All documentation is reviewed and authorised before issue;
2.6.2.4 Current issues of all relevant documentation are available to personnel at all locations where they need access to such documentation for the provision and operation of air navigation services;
2.6.2.5 All obsolete documentation is promptly removed from all points of issue or use;
2.6.2.6 Any obsolete documents retained as archives are suitably identified as obsolete;
2.6.2.7 The current version of each item of documentation can be identified to preclude the use of out of date documents; and
2.6.2.8 A regular document audit is made of the amendment status of controlled documents held on the unit.

2.6.3 The order of precedence of publications is as follows:
2.6.3.1 Bahrain Civil Aviation Law,
2.6.3.2 Bahrain Civil Aviation Regulations,
2.6.3.3 Other regulatory material published by the BCAA,
2.6.3.4 ICAO Annexes,
2.6.3.5 ICAO Documents.

2.6.4 ICAO Standards & Recommended Practices and Procedures for Air Navigation Services have the following regulatory status:
2.6.4.1 Standards: Mandatory unless specifically modified in the applicable parts of Supplements to the Annexes or in the Civil Aviation or Air Navigation Technical Regulations.
2.6.4.2 Recommended Practices: Mandatory unless the organisation has obtained BCAA approval of an alternative provision, resulting in a level of safety equal to or greater than that achieved by application of the recommended practice.
2.6.4.3 PANS: Procedures for Air Navigation Services (PANS) shall be applied, with similar Mandatory status as for the SARPs, except where specifically deleted or modified in the Civil Aviation Regulations.
2.6.4.4 Definitions, tables, figures and appendices contained in ICAO Annexes are to be considered as Standards and therefore mandatory.
2.6.4.5 Attachments to ICAO Annexes are supplementary to SARPs or included as general guidance material. Where specific or general applications are considered necessary for additional safety levels, these are included in the Civil Aviation Regulations and carry Mandatory status.

2.7 CONTINGENCY PLAN

2.7.1 The applicant for an air navigation service provider certificate shall establish, in accordance with the requirements of Annex 11, Attachment C, a contingency plan and appropriate facility and equipment providing for the safe and orderly flow of traffic in the event of a disruption of an air navigation service or a related support service.
2.7.2 The applicant for an air navigation service provider certificate shall establish procedures to practice contingency plans related to the evacuation of each ATS operational facility at intervals not exceeding 12 months. A full evacuation of the ATS operational facility is not required. Written reports including any shortcomings shall be forwarded to the BCAA within one month of conducting the practice contingency plan.

2.8 ATS COORDINATION REQUIREMENTS

2.8.1 The applicant for an air navigation service provider certificate shall establish appropriate co-ordination and communication systems between each ATS unit listed in the applicant's Constitutional Document and the following agencies where applicable:-

2.8.1.1 Any aeronautical telecommunication service organisation specified by the BCAA;
2.8.1.2 Any holder of an air navigation service organisation certificate issued under this Regulation;
2.8.1.3 Any aviation meteorological service organisation specified by the BCAA;
2.8.1.4 Any aeronautical information service specified by the BCAA;
2.8.1.5 Aircraft operators;
2.8.1.6 The Bahrain armed forces; and
2.8.1.7 Search and rescue authorities.

2.8.2 The applicant shall establish appropriate communication systems and coordination by written agreement between each ATS unit in their Constitutional Document and –

2.8.2.1 The ATS unit responsible for adjoining airspace, and
2.8.2.2 Any other ATS unit with which regular operational co-ordination is required.
2.8.2.3 Where the listed ATS unit is an aerodrome control or aerodrome flight service unit-
(a) the aerodrome operator;
(b) any apron management service, if that service is not provided by the aerodrome control unit;
(c) rescue and emergency services;
(d) meteorological office serving the unit concerned

2.8.3 The applicant shall ensure that each ATS agreement specified in 2.8.1 and 2.8.2;

2.8.3.1 Details such matters necessary for effective coordination between the units party to the agreement, including, in the case of 2.8.2.3 (a), details of those aerodrome safety management programmes in which ATC shall be required to participate;
2.8.3.2 Is kept current; and
2.8.3.3 Has the written agreement of the Head of ATS of the relevant ATS units and the equivalent representative of the other organisations; and
2.8.3.4 Is part of the applicant's operations manual.

2.8.4 The applicant shall establish systems and procedures to facilitate communications between those ATS units having an operational requirement to communicate with each other, and to ensure that, unless another language is used by mutual agreement, the English language is used for all coordination.

2.8.5 The applicant shall provide systems and procedures to ensure that ATS units are provided, where they require the information through the exchange of ATS messages, with details of-

2.8.5.1 The intended movement of each aircraft for which a flight plan has been filed, and any amendments to that flight plan; and
2.8.5.2 Current information on the actual progress of the flight.

2.8.6 The applicant shall establish procedures to ensure that ATS messages are prepared and transmitted in accordance with procedures detailed and cross referenced in PANS-ATM (Chapter 11 – Air Traffic Service Messages)

2.8.7 The applicant shall ensure that procedures and communication systems established under 2.8.1.6 shall:

2.8.7.1 Permit information pertinent to safe and expeditious civil flights to be promptly exchanged between military and ATC units;
2.8.7.2 Ensure that activities potentially hazardous to civil aircraft are be coordinated between military and

ATS units to:

(a) allow timely promulgation of information;

(b) minimize interference with normal civil aircraft operations;

(c) avoid hazards to civil aircraft.

2.8.7.3 Ensure that ATS units are advised by the military if a military unit observes civil aircraft approaching or in an area where interception might be necessary;

2.8.7.4 Require the ATS authority to initiate the promulgation of information regarding the activity; and

2.8.7.5 Promote the flexible use of airspace reserved for military or other special activities.

2.8.8 The applicant shall establish procedures to ensure that failures in the ATC coordination processes required in 2.8.2 are investigated and recorded and that appropriate corrective and preventive action is undertaken where necessary. Occurrence reports shall be filed where the ATC coordination failure affected, or may have affected flight safety.

2.8.9 The communication systems required in 2.8.1, 2.8.2 and 2.8.7 shall include provisions for:

2.8.9.1 Communications by direct speech alone, or in combination with data link communications, whereby for the purpose of transfer of control using radar or ADS-B, the communications can be established instantaneously and for other purposes the communications can normally be established within fifteen seconds;

2.8.9.2 Printed communications, when a written record is required; the message transit time for such communications being no longer than five minutes.

2.8.9.3 Where considered necessary, the communications systems shall be supplemented by other forms of visual or audio communications such as CCTV, or separate information processing systems.

2.8.10 The communication systems required in 2.8.1.6, 2.8.2.3 (c) shall include provisions for direct speech arranged for conference communications.

2.9 NOTIFICATION OF FACILITY STATUS

2.9.1 An applicant for an air navigation service provider certificate shall establish procedures to notify the users of its air navigation services of relevant operational information and of any changes in the operational status of each facility or service listed in the applicant's Constitutional Document.

2.9.2 The applicant shall ensure that procedures established under 2.9.1 require-

2.9.2.1 Operational information for each of the applicant's air navigation services to be forwarded to the aeronautical information service in accordance with BCAA requirements for the AIP service; and

2.9.2.2 The users of the applicant's air navigation services to be notified without delay of any change in operational status of a facility or service that may affect the safety of air traffic, and, except if the change is temporary in nature, information concerning any change in operational status is forwarded to the aeronautical information service in accordance with BCAA requirements for the NOTAM service.

2.9.3 In the event that the type or level of ATS service changes within a given period, clear operational information shall be communicated in a timely manner through the AIS System to ensure there is no possibility that the users will be confused as to which service they are receiving.

2.10 RECEIPT OF INFORMATION REQUIREMENTS

2.10.1 The applicant for an air navigation service provider certificate shall establish procedures to ensure that each air traffic service unit, receives the following information in a timely manner when the activity could affect airspace used by flights within the unit's area of responsibility-

2.10.1.1 SIGMET, METAR and AIRMET information;

2.10.1.2 Information concerning the release of radioactive materials or toxic chemicals into the atmosphere;

2.10.1.3 Information on changes in the availability of radio navigation services and visual aids;

2.10.1.4 Information on changes in condition of aerodromes and associated facilities, including information on the state of the aerodrome movement areas when they are affected by contaminants and temporary hazards;

2.10.1.5 The presence of birds to the degree that could be a hazard to aerodrome traffic;

2.10.1.6 Information on unmanned free balloons.

2.11 METEOROLOGICAL INFORMATION AND REPORTING

2.11.1 The applicant for an air navigation service provider certificate shall establish systems and procedures to ensure the supply of all meteorological information required for the performance of the various ATS functions and that the information is supplied by an aviation meteorological service organisation acceptable to the BCAA or is issued as an observation by ATS personnel.

2.11.2 The applicant shall establish systems to ensure that ATS units are supplied with the above meteorological information in a form that requires a minimum of interpretation by ATS personnel.

2.11.3 The applicant shall establish procedures to ensure that equipment used in the compilation of ATS observations supplies data representative of the area for which the measurements are required

2.11.4 The applicant shall establish a procedure to ensure that the information contained in a meteorological bulletin remains unchanged through onward transmission.

2.11.5 The applicant shall establish a procedure to ensure that aircraft reports of weather or atmospheric phenomena are forwarded to the appropriate meteorological service provider without delay, and to other aircraft and ATC units when applicable and relevant.

Chapter 3 AREA AND APPROACH CONTROL SERVICES

3.1 An applicant for an air navigation services provider certificate in respect of an area or approach control service shall establish systems and procedures to –

3.1.1 Determine from information received, the positions of known aircraft relative to each other ;

3.1.2 Provide for the issue of ATC clearances, instructions, and information in accordance with the airspace classification and type of flight for the purpose of preventing collisions between aircraft under the control of the unit, and for expediting and maintaining a safe and efficient flow of traffic;

3.1.3 Coordinate clearances with other ATC units as necessary; and

3.1.4 Display information on aircraft movements together with a record of clearances issued, in a manner that permits ready analysis of such information.

3.2 The separation required by 3.1.2 shall be in accordance with the applicable criteria and minima prescribed by Appendix 1 to these Regulations.

Chapter 4. AERODROME CONTROL SERVICES

4.1 The applicant for an air navigation service provider certificate in respect of an aerodrome control service shall establish systems and procedures to:

4.1.1 Determine, from information received and visual observation, the relative positions of known aircraft to each other;

4.1.2 Provide for the issue of ATC clearances, instructions and information, including the runway in use at controlled aerodromes, for the purpose of preventing collisions between:

4.1.2.1 aircraft flying in the vicinity of the aerodrome;

4.1.2.2 aircraft landing and taking off;

4.1.2.3 aircraft operating on the maneuvering area;

4.1.2.4 aircraft, vehicles, and persons, operating on the maneuvering area;

4.1.2.5 aircraft on the maneuvering area and obstructions on that area;

4.1.3 Provide for the issue of ATC clearances, instructions, and information, for the purpose of expediting and maintaining a safe and efficient flow of traffic; and, except as provided in 5.6 and Appendix A.1.1.(d), provide runway and wake turbulence separation.

4.1.4 Ensure that emergency vehicles responding to an aircraft emergency are given priority over all other surface movement traffic;

4.1.5 Provide for the control of the movement of persons or vehicles, including towed aircraft, on the maneuvering area, as necessary to avoid hazard to them or to aircraft landing, taxiing, or taking off;

4.1.6 Coordinate as necessary with other ATS units; and

4.1.7 Display, at operating positions, such continuously updated information on aircraft movements as is necessary for the provision of an aerodrome control service in a manner that permits ready analysis of such information.

4.2 The separation required by 4.1.2 and 4.1.3 shall be in accordance with the applicable criteria and minima prescribed by Appendix 1.

4.3 The applicant shall establish a procedure to ensure that, except as provided in 5.6, and subject to authorisation by the applicable approach control unit, if an approach control service is provided, aerodrome control units provide separation in accordance with Appendix 1 between –

1. IFR flights and IFR flights;
2. IFR and Special VFR flights; and
3. Special VFR flights when the flight visibility is reported to be less than 5 km.

4.4 The applicant shall establish a procedure to ensure that, when radio communication is not available, basic clearances and instructions required by 4.1.2 can be conveyed by the use of light signals described in Appendix 1 to ICAO Annex 2.

4.5 The applicant shall establish procedures to ensure that when required by either the weather, or category of approach, or both –

4.5.1 Aircraft on an ILS approach are informed of ILS critical area incursions, or the imminent possibility of an incursion; or

4.5.2 The applicable ILS critical areas are protected from incursion when an aircraft is on an ILS approach.

4.6 The applicant shall establish a procedure to ensure that, when authority has been delegated by, and accepted from, the applicable area or approach control unit, aerodrome control units provide separation between controlled flights in accordance with the delegation.

Chapter 5. AIRSPACE

5.1 Special Use Airspace (SUA)

5.1.1 An applicant for an air navigation service provider certificate in respect of an air traffic control service shall establish systems and procedures to ensure that separation in accordance with Appendix A.1.4 is provided between controlled flights and active special use airspace, except when –

5.1.1.1 In the case of a restricted area or military operations area, the pilot has approval from the administering authority or arbiter to operate in the airspace; or

5.1.1.2 In the case of a danger area the pilot has notified an express intention to operate in the relevant area; or

5.1.1.3. It is known, that the pilot of a VFR flight or an IFR flight navigating by visual reference is aware that the airspace is active; or

5.1.1.4 Upon a request by the pilot, a flight navigating by visual reference is cleared to maintain its own separation from the airspace.

5.2 RESPONSIBILITY FOR CONTROL

5.2.1 The applicant for an air navigation service provider certificate in respect of an air traffic control service shall establish procedures to ensure that any controlled flight is under the control of only one ATC position at any given time.

5.2.2 The applicant shall establish procedures to ensure that responsibility for the control of all aircraft operating within a given block of airspace is vested in a single operating position. Control of aircraft or groups of aircraft may be delegated to other operating positions provided that coordination between all affected parties is assured.

5.2.3 The applicant shall establish procedures for transfer of responsibility for the control of an aircraft in accordance with PANS-ATM. These procedures shall include details of the time, place or level at which responsibility for an aircraft shall be transferred from one unit to another. The transfer process shall not be considered complete until the receiving unit notifies acceptance of the aircraft.

5.2.4 The procedures required by 5.2.3 shall ensure that transfer arrangements are:

5.2.4.1 Agreed between ATC units responsible for adjacent airspaces and published in ATS letters of agreement; and

5.2.4.2 In place for separate operating positions within an ATC unit and promulgated in the holder's operations manual.

5.2.5 The procedures required by 5.2.3 shall ensure that responsibility for control of an aircraft is not transferred from one ATC unit to another without –

5.2.5.1 Communication of appropriate parts of the current flight plan;

5.2.5.2 Any relevant control information; and

5.2.5.3 The consent of the receiving unit.

5.2.6 The procedures required by 5.2.3 shall make clear to ATCOs that the receiving sector shall not issue control instructions to an aircraft until all requirements for transfer of control have been met, and specific training on this subject is conducted by ATS units prior to validation check and refreshed via ECT at least every 2 years.

5.3 PRIORITIES

5.3.1 The applicant for an air navigation service provider certificate in respect of an air traffic service shall establish procedures to ensure that, provided safety is not jeopardised, ATC units apply the following priorities:

5.3.1.1 An aircraft known or believed to be in a state of emergency or impaired operation has priority over other aircraft;

5.3.1.2 An aircraft landing, or in the final stages of an approach to land has priority over a departing aircraft;

5.3.1.3 An aircraft landing or taking off has priority over a taxiing aircraft.

5.3.2 The applicant shall establish procedures to ensure that, where practical, following a request from a pilot, an aircraft involved in, or positioning for, the following activities is granted priority:

5.3.2.1 Ambulance or mercy mission:

5.3.2.2 Search and rescue:

5.3.2.3 Civil defense or police emergency:

5.3.2.4 Carriage of head of State, head of government or equivalent dignitary.

5.3.3 The applicant shall establish procedures to ensure that an aircraft at cruising level generally has priority over other aircraft requesting that level, except that-

5.3.3.1 An aircraft may be given priority for a cruising level in accordance with procedures published in Document 7030, or an ATS letter of agreement; and

5.3.3.2. An aircraft occupying a cruising level may be reassigned another level to maintain separation, or when overall significant economic benefit can be derived.

5.3.4 The applicant for an air navigation service provider certificate may establish procedures regarding priorities to be applied in airspace designated as RNAV, RNP or RVSM airspace by the BCAA.

5.3.5 Subject to the requirements of 5.3.1 and 5.3.2, an applicant may put in place priority and air traffic management schemes for arriving and departing flights, provided that consultation with interested parties, including the BCAA, is undertaken prior to implementing the scheme.

5.3.6 The applicant shall, where priorities are established under 5.3.3 and 5.3.4, ensure relevant information is published in the Bahrain AIP about the priority scheme.

5.3.7 The applicant shall establish procedures to ensure that, providing safety is not jeopardised, due regard is given to those priorities determined in conjunction with the aerodrome operator for –

5.3.7.1 Aircraft arriving and departing the aerodrome; and

5.3.7.2 Other operations in a control zone associated with the aerodrome.

5.3.8 The applicant shall establish procedures to ensure that, except when applying priority in accordance with other provisions of this rule, priority for arriving and departing aircraft is allocated on a first come, first served basis.

5.3.9 The applicant shall establish procedures to ensure that the provision of an ATC service takes precedence:

5.3.9.1 Over the provision of a flight information service whenever the situation so requires; and

5.3.9.2 over the performance of any non-ATS tasks.

5.4 AIR TRAFFIC FLOW MANAGEMENT (ATFM)

5.4.1 The applicant for an air navigation service provider certificate in respect of an air traffic control service shall establish ATFM procedures where, due to limitations in the ATS system declared capacity or aerodrome capacity, the applicant considers the procedures necessary.

5.4.2 The procedures shall take account of –

5.4.2.1 Traffic demand (forecast) and available resources of airspace, ATS and aerodrome capacity.

5.4.2.2 The requirements of the affected aerodrome operators including their traffic handling priorities;

5.4.2.3 The needs of the aircraft operators, and other ATS providers, who will be affected by the procedures; and

5.4.2.4 The requirements of the aeronautical information service, including advance notice, and information on the method of activation and de-activation.

5.4.3 The procedures shall include the role and relationships among ATFM main factors, airspace, aircraft operator, aerodrome, ATS provider managers (and military related representatives) and the Regulator in establishing the process on strategy, pre-tactical and tactical level.

5.4.4 Initiation, cancellation and changes to ATFM shall be recorded in the ATS log.

5.5 ATC CLEARANCES

5.5.1 The applicant for an air navigation control service provider certificate in respect of an air traffic control service shall establish procedures for the provision of ATC clearances.

5.5.2 The procedures shall ensure that –

5.5.2.1 No person knowingly issues an ATC clearance or instruction that requires or invites a pilot to violate the provisions of any other rule;

5.5.2.2 Clearances and instructions contain positive and concise data and are, where practicable, phrased in a standard manner;

5.5.2.3 If a pilot advises that a clearance or instruction is unable to be complied with, an amended clearance or instruction is, if practicable, issued;

5.5.2.4 An ATC clearance for an enroute flight consists of –

(a) the aircraft identification as shown on the flight plan or, where similarity with another flight may cause confusion, an alternative identification provided by ATC;

(b) the clearance limit;

(c) the route of the flight;

(d) the level (s) of flight for the entire route, or part thereof, and changes of level if required;

(e) any necessary instructions or information on other matters such as approach or departure maneuvers, communications, and the time of validity or expiry of the clearance;

5.5.2.5 An ATC clearance for a local flight, defined as operations within the aerodrome circuit, a flight operating in defined areas, or a flight operating in a random manner, includes those elements detailed in 5.5.2.4 that are appropriate;

5.5.2.6 An ATC clearance shall be issued in a timely manner, to ensure that they are transmitted to the aircraft in sufficient time for them to be complied with;

5.5.2.7 A clearance issued as a downstream clearance shall be clearly identified as such to the pilot. A downstream clearance shall not affect the aircraft's original flight profile in airspace other than that of the unit responsible for the clearance;

5.5.2.8 All Clearances or instructions are read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with. Readback of the following clearances and information is required:

(a) ATC route, approach and departure clearances and amendments thereto;

(b) Clearances to VFR aircraft to operate within controlled airspace, to enter or vacate the circuit;

(c) Clearances and instructions to enter, land on, take off from, hold short off, cross or backtrack on, any runway;

(d) Runway in use, altimeter setting, SSR codes, level instructions, heading and speed instruction, transition levels, whether issued by the controller or contained in an ATIS broadcast; and

(e) Conditional clearances.

5.5.2.9 Controllers shall insist upon and listen to the read back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew/ vehicle driver and shall take immediate action to correct any discrepancies revealed by the read-back.

5.5.3 DENIAL OF AN ATC CLEARANCE

5.5.3.1 The holder of an air navigation service provider certificate in respect of an aerodrome control service shall not deny the pilot of an aircraft an ATC clearance on the basis of nonpayment of charges owed to the certificate holder unless –

(a) The aircraft is on the ground; and
(b) That clearance is for entry onto the maneuvering area.

5.6 DEVIATION FROM AN ATC CLEARANCE

5.6.1 Subject to 5.6.2 the applicant for an air navigation service provider certificate in respect of an air traffic control service shall establish procedures to ensure that instructions issued by ATC to restore a loss of separation do not hinder the responses of a pilot to –

5.6.1.1 An ACAS resolution advisory; or

5.6.1.2 A GPWS or TAWS alert; or

5.6.1.3 due to weather or any other emergency situation which requires a deviation from an ATC clearance.

5.6.2 The procedures required by 5.6.1 shall specify that if any separation has been lost, it is restored immediately after the emergency situation has been resolved.

5.7 CRUISING LEVELS

5.7.1 The applicant for an air navigation service provider certificate in respect of an air traffic control service shall establish procedures to ensure that cruising levels allocated within the Bahrain FIR are selected in accordance with ICAO Annex 2, Appendix 3 (Table of Cruising Levels), except that, within controlled airspace –

5.7.1.1 For both IFR and VFR flights, correlation of cruising level with track need not apply; and

5.7.1.2 VFR flights may be allocated IFR levels.

Chapter 6 FLIGHT INFORMATION SERVICES

6.1 Procedures for FIS

6.1.1The applicant for an air navigation service provider certificate shall establish procedures to ensure that a flight information service is provided to the following;

6.1.1.1 Each aircraft being provided with an ATC service that is likely to be affected by the information in 6.2:

6.1.1.2 Each aircraft being provided with an aerodrome flight information service that is likely to be affected by the information in 6.2:

6.1.1.3 Each aircraft operating IFR that is likely to be affected by the information in 6.2:

6.1.1.4 Any aircraft operating VFR for which the pilot has submitted a VFR plan to an ATS unit:

6.1.1.5 Any aircraft operating VFR if the pilot makes a specific request to an ATS unit for flight information.

6.2 Content

6.2.1The applicant shall ensure that the procedures required by 6.1 for the provision of flight information services include the provision of available and relevant –

6.2.1.1 SIGMET and AIRMET information;

6.2.1.2 Information on weather conditions reported or forecast at departure, destination, and alternate aerodromes;

6.2.1.3 Information concerning pre-eruption volcanic activity, volcanic eruptions and ash clouds

6.2.1.4 Information concerning the release into the atmosphere of radioactive materials or toxic chemicals;

6.2.1.5 Information on changes in the operational state of the radio navigation services and visual aids;

6.2.1.6 Information on changes in the condition of aerodromes and associated facilities, including information on the state of the aerodrome movement area when they are affected by contaminants;

6.2.1.7 Information on unmanned free balloons; and

6.2.1.8 Other information likely to affect safety.

6.3 Water on Runway

6.3.1 The applicant for an air navigation service provider certificate for an aerodrome control service or aerodrome flight information service shall establish procedures to ensure that, whenever water is present on a runway, a description of the runway surface conditions on the centre half of the width of the runway is made available using one of the following terms:

6.3.1.1 DAMP – the surface shows a change of colour due to moisture:

6.3.1.2 WET – the surface is soaked but there is no standing water:

6.3.1.3 STANDING WATER– where more than 25% of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by water more than 3mm deep.

6.4 Hours of Service

6.4.1 The applicant for an air navigation service provider certificate for an aerodrome control service, approach control service, or an aerodrome flight information service shall establish procedures to ensure that, if practical, local aircraft operators likely to be affected by the information are advised of short notice changes to published hours of service if they are unlikely to have the information from any other source.

6.5 Essential Traffic Information

6.5.1 The applicant for an air navigation service provider certificate for an air traffic control service shall establish procedures to ensure that essential traffic information is passed to all affected traffic.

6.6 Traffic Information

6.6.1The applicant for an air navigation service provider certificate shall establish procedures to ensure that each ATS unit operating under that certificate provides traffic information to flights that are known to the ATS unit and are likely to be affected by the information as follows:

6.6.1.1 In class C airspace, between VFR flights together with traffic avoidance advise on request;

6.6.1.2 In class D airspace, between IFR and VFR flights, and between VFR flights, together with traffic avoidance advice on request;

6.6.1.3 If practical, in class E airspace, between IFR and VFR flights, and between VFR flights on request;

6.6.1.4 In class G airspace, between IFR flights and, if practical, between other flights on request.

6.7 ATIS

6.7.1 The applicant for an air navigation service provider certificate shall establish procedures to ensure that automatic terminal information service (ATIS) broadcasts shall be provided at aerodromes where there is a requirement to reduce the communication load on the ATS VHF air-ground communication channels.

6.7.2 ATIS information shall:

6.7.2.1 Relate to a single aerodrome,

6.7.2.2 Contain information relevant to the mode of operation, e.g. departure or arrival, as per Annex 11, chapter 4.3,

6.7.2.3 Contain information extracted from the local meteorological routine or special report/s,

6.7.2.4 Be updated immediately a significant change occurs,

6.7.2.5 Be prepared and disseminated by the relevant ATS unit,

6.7.2.6 Be identified by use of the ICAO spelling alphabet, in consecutive alphabetical order.

6.7.2.7 Receipt of current ATIS shall be acknowledged by aircraft.

6.7.3 Receipt of current ATIS shall be acknowledged by aircraft.

6.7.4 ATS shall pass the QNH to an aircraft irrespective of the aircraft acknowledging the current ATIS.

6.7.5 Where an aircraft acknowledges receipt of an ATIS that is no longer current, any element of information that needs updating shall be transmitted to the aircraft without delay.

Note: Where rapidly changing weather conditions prevent weather being included in the ATIS message, the ATIS shall indicate that relevant weather information will be given on initial contact with the applicable ATS unit.

6.7.6 Where Voice-ATIS is provided, it shall comprise:
6.7.6.1 One broadcast serving arriving aircraft; or
6.7.6.2 One broadcast serving departing aircraft; or
6.7.6.3 One broadcast serving both arriving and departing aircraft; or
6.7.6.4 Two broadcasts serving arriving and departing aircraft respectively at those aerodromes where the length of a broadcast serving both arriving and departing aircraft would be excessively long.
6.7.6.5 The broadcast designation shall follow the requirements of Annex 11, chapter 4.3.

6.7.7 A discrete frequency shall be used whenever practicable. If not practicable, the transmission may be made on the voice channel/s of applicable terminal navigation aids/s provided:
6.7.7.1 The range and readability are adequate, and
6.7.7.2 The identification of the navigation aid is not obliterated. and
6.7.7.3 Voice-ATIS shall not be broadcast on the voice channel of an ILS, and
6.7.7.4 The broadcast is continuous and repetitive, and
6.7.7.5 The broadcast is in English, and
6.7.7.6 Human performance factors are taken into account, and
6.7.7.7 A Voice-ATIS broadcast shall be as short as possible.

6.7.8 Where D-ATIS supplements Voice-ATIS:
6.7.8.1 The information broadcast on both shall be identical,
6.7.8.2 Information shall be updated simultaneously.

6.8 AERODROME FLIGHT INFORMATION SERVICE

6.8.1 The applicant for an air navigation service provider certificate in respect of an aerodrome information service shall follow the requirements notified by the BCAA.

6.9 ALERTING SERVICE

6.9.1 The applicant for an air navigation service provider certificate shall establish systems and procedures to ensure the provision of an alerting service within its area of responsibility –

6.9.1.1 For all aircraft provided with an air traffic control service; or

6.9.1.2 In as far as is practicable, for all aircraft having filed a flight plan; or otherwise known by any air traffic service to be in need of assistance; or

6.9.1.3 Known or believed to be the subject of unlawful interference.

6.9.2 The applicant for an air navigation service provider certificate shall establish procedures to ensure that, in the event of a state of emergency described in 6.9.3 –

6.9.2.1 Immediate declaration of an INCERFA, ALERFA or DETRESFA is made, in accordance with 6.9.5;

6.9.2.2 The declaration of an appropriate phase is made by the ATS officer first becoming aware of the state of emergency; and

6.9.2.3 The declaration is notified to the RCC (via the Bahrain ACC) except where the emergency can be dealt with by an aerodrome emergency plan.

6.9.3 The applicant for an air navigation service provider certificate shall establish procedures to ensure that notification of emergency phases shall follow the following criteria:

6.9.3.1 Uncertainty phase, when:

(a) no communication has been received from an aircraft within a period of thirty minutes after the time a communication should have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or

(b) an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later;

Except when no doubt exists as to the safety of the aircraft and its occupants.

6.9.3.2 Alert Phase, when:

(a) following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft, or

(b) an aircraft has been cleared to land and fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or

(c) information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely;

Except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or

(d) An aircraft is known or believed to be the subject of unlawful interference.

6.9.3.3. Distress phase, when:

(a) following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or

(b) the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or

(c) information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or

(d) information is received or it is reasonably certain that the aircraft is about to make or has made a forced landing,

Except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance.

6.9.4 The applicant for an air navigation service provider certificate in respect of an area control service or flight information service shall establish procedures to ensure that, in the event of a state of emergency, the Bahrain ACC-

6.9.4.1 Shall forward such information without delay to the RCC and the BCAA; and
6.9.4.2 Serves as the central point within the FIR for collecting all information relevant to the state of emergency.

6.9.5 Notwithstanding 6.9.2, the applicant for an air navigation service provider certificate for an aerodrome control service, approach control service, or aerodrome flight information service, shall establish procedures to ensure that whenever the urgency of the situation so requires, those services shall first notify appropriate local emergency organisations.

6.9.6 The applicant for an air navigation service provider certificate shall establish procedures to ensure the notification of an emergency situation required by includes such of the following information as is available, in the order listed:
6.9.6.1 INCERFA, ALERFA or DESTRESFA as appropriate to the phase of the emergency;
6.9.6.2 Agency and person calling;
6.9.6.3 Nature of the emergency;
6.9.6.4 Significant information from the flight plan;
6.9.6.5 Unit that made last contact, time and means used;
6.9.6.6 Last position report and how determined;
6.9.6.7 Colour and distinctive marks of the aircraft;
6.9.6.8 Dangerous goods carried as cargo;
6.9.6.9 Any action taken by the reporting office; and
6.9.6.10 Any other pertinent remarks.

Any information not available on the initial notification shall be obtained and passed prior to the declaration of the distress phase.

6.9.7 The applicant for an air navigation service provider certificate shall establish procedures to ensure that, following the notification of an emergency situation, the RCC is provided without delay, with –
6.9.7.1 Any useful additional information; and
6.9.7.2 Notification when the emergency situation no longer exists however only the RCC can terminate an ALERFA or DETRESFA phase.

6.9.8 The applicant for an air navigation service provider certificate shall establish procedures to ensure, as necessary, the use of all available means to establish and maintain communication with, and surveillance of, an aircraft in a state of emergency.

6.9.9 The applicant for an air navigation service provider certificate shall establish procedures to ensure that, when a state of emergency is considered to exist, the last known position of any aircraft involved is established and recorded. Radar data shall be retained for flights involved in a state of emergency. The positions of other aircraft in the vicinity should be established to determine those most suitable to provide assistance.

6.9.10 The applicant for an air navigation service provider certificate shall establish procedures to ensure that –
6.9.10.1 When an INCERFA or ALERFA phase is declared it shall, where practical, advise the aircraft

operator prior to notifying the RCC;

6.9.10.2 When a DETRESFA phase is declared, the RCC shall be notified immediately, then the aircraft operator; and

6.9.10.3 All information notified to the RCC by the Bahrain ACC shall, where practical, also be communicated to the aircraft operator without delay.

6.9.11 The applicant for an air navigation service provider certificate shall establish procedures to ensure that, in the event of an ELT signals being received and immediate checks fail to identify the source of the signal, the RCC is notified via Bahrain ACC without delay.

6.9.12 The applicant for an air navigation service provider certificate shall establish procedures to ensure that—

6.9.12.1 When it has been established by an air traffic services unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity and which may be affected by the situation of the aircraft involved, shall be informed of the nature of the emergency as soon as practicable., and

6.9.12.2 When an air traffic services unit knows or believes that an aircraft is being subjected to unlawful interference, no reference shall be made in ATS air-ground communications to the nature of the emergency unless it has first been referred to in communications from the aircraft involved and it is certain that such reference will not aggravate the situation.

6.9.13 The applicant for an air navigation service provider certificate shall establish procedures to ensure that if an ATS unit becomes aware of a situation or receives information relevant to a state of emergency of an aircraft operating within a flight information region or controlled airspace not under the control of that unit, it shall confirm that that the phase declaration has been made and not assume that another ATS unit has declared the phase.

Chapter 7 FLIGHT PLANS

7.1 The applicant for an air navigation service provider certificate shall establish procedures for the acceptance and processing of flight plans, unless this function has been allocated to a centralised flight planning office, when necessary for the provision of air traffic services including –

7.1.1 A check for compliance with any prescribed flight plan format and data conventions;

7.1.2 A check for completeness, and, to the extent practical, for accuracy; and

7.1.3 Provision for any action necessary to make the plan acceptable to ATS.

7.2 The applicant for an air navigation service provider certificate operating a centralised flight planning office shall ensure that the office is equipped with –

7.2.1 Appropriate communication facilities, for the acceptance of flight plans from aircraft operators and any other ATS unit; and

7.2.2 Facilities for the advance filing, retention, and activation of standard or repetitive elements of flight plan information.

7.3 Flight plans may be filed by radio if the ATS provider has the capacity to accept such plans.

Chapter 8 TIME

8.1 The applicant for an air navigation service provider certificate shall establish a procedure to ensure that ATS unit clocks and other time recording devices –

8.1.1 Use Co-ordinated Universal Time and express that time in hours and minutes and, when required, seconds of the 24 hour day beginning at 0000 UTC; and

8.1.2 Are correct to within 5 seconds of UTC, or, wherever data link communications are utilized by an air traffic services unit, clocks and other time-recording devices shall be checked as necessary to ensure correct time to within 1 second of UTC as determined by reference to a standard time station or corrected GPS time standard.

8.2 The applicant shall establish procedures to ensure that the correct time, to the nearest half minute, is provided –

8.2.1 In respect of any aerodrome control service or aerodrome flight information service, to aircraft prior to taxiing for take-off unless arrangements have been made for the pilot to obtain it from other sources; and

8.2.2 To any other aircraft on request.

Chapter 9 ALTIMETER SETTING PROCEDURES

9.1 The applicant for an air navigation service provider certificate shall establish a procedure to ensure that –

9.1.1 QNH altimeter settings are in hectopascals rounded down to the nearest whole hectopascal;

9.2.2 The appropriate aerodrome QNH altimeter setting or area QNH zone altimeter setting is provided to all aircraft requiring it, on initial radio contact, including aircraft that advise having received the current applicable ATIS broadcast except where it is known that an aircraft has already received the information;

9.3.3 ATS units provide to an aircraft on request, the current applicable aerodrome QNH altimeter setting or area QNH zone altimeter setting; and

9.4.4 Where local traffic requires the altimeter setting in inches, a standard conversion is applied.

Chapter 10 RADIO AND TELEPHONE PROCEDURES

10.1 The applicant for an air navigation service provider certificate shall establish procedures to ensure that –

10.1.1 The standard telephony and radiotelephony phraseology prescribed in ICAO Doc. 9432 is used wherever possible;

10.1.2 In all radiotelephony communications, discipline is observed by transmitting only those messages that do not have an adverse effect on the provision of an air traffic service, or safety;

10.1.3 Communications procedures are in accordance with the applicable communications procedures prescribed in Annex 10 Volume II, except that –

10.1.3.1 procedures relating to callsigns for domestic use by Bahrain registered aircraft are those approved by the BCAA:

10.1.3.2 An aerodrome flight information service shall use the radiotelephony callsign suffix flight service; and

10.1.4. The English language shall be used for all communications.

10.2 The applicant shall establish procedures to ensure that, for the purposes of 10.1, the standard phraseology, and the circumstances in which it is used, is that published in –

10.2.1 ICAO Document 9432; or

10.2.2 Annex 10; or

10.2.3 PANS-ATM; or

10.2.4 a manual approved by the BCAA

10.3 For the purposes of 10.2, where differences occur between the stated documents, the particular phraseology shall be selected according to the order of precedence of the documents as listed.

10.4 Ground vehicles shall use frequencies separate from those used for control of aircraft, however a vehicle operating on a maneuvering area shall operate on the appropriate aerodrome control frequency.

10.5 The applicant for an air navigation service provider certificate shall establish procedures to ensure the management and reporting of callsign confusion.

Chapter 11 ATS SURVEILLANCE SERVICES

11.1 In this Chapter, the use of the word surveillance includes ADS-B and Multilateration systems as well as primary and secondary radar in accordance with the provisions of PANS-ATM, chapter 8.
11.2 A safety case for the introduction of ADS-B and Multilateration systems shall be presented to the BCAA, prior to such equipment being introduced to operational service.
11.3 The applicant for an air navigation service provider certificate shall establish procedures to ensure that, where radar or automatic dependent surveillance is used to support the provision of an air traffic service:
11.3.1 All surveillance separations are in accordance with the requirements of Appendix A.1 and PANS -ATM;
11.3.2 Mode A SSR code allocation shall be made by the ATC units in accordance with the ORCAM allocation procedures.
11.3.3 Full information is made available to pilots and aircraft operators on:
11.3.3.1 the nature and extent of the surveillance services provided;
11.3.3.2 any significant limitations regarding such surveillance services;
11.3.4 The information displayed at individual surveillance operating positions is that required for the air traffic services to be provided, including the display of safety related alerts and warnings, where the BCAA has determined that the facility is required; and
11.3.5 The surveillance system used shall be provided and maintained in accordance with the requirements of the BCAA.
11.4 Mode C information may be verified when the difference between reported and observed levels is 200ft or less at all levels within the Bahrain FIR.
11.4.1 Determination of level occupancy:
11.4.1.1 maintaining a level: An aircraft can determine to be maintaining a level when the observed level is within the tolerances, indicated above, of the assigned level;
11.4.1.2 vacating a level: An aircraft can be considered to have vacated a level when the observed level is more than 300ft from the previously occupied level, in the anticipated direction;
11.4.1.3 passing a level: An aircraft can be considered to have crossed a level when the observed level has passed the level by more than 200ft in the required direction.
11.4.1.4 reaching a level: An aircraft is considered to have reached a level to which it had been cleared when whichever is the greater of 3 sensor or display updates, or 15 seconds has passed since the level information has indicated that it is within the appropriate tolerance required in 11.4.1.
11.4.2 Departing a runway:
11.4.2.1 The surveillance display indicates a positive rate of climb from the aerodrome elevation however Mode C information shall not be used when the display varies by more than 200ft from the aerodrome elevation during the take-off roll.
11.5 If the reported level and the observed level differ by more than the criteria above, the pilot shall be asked to check the pressure setting and confirm the aircraft's level.
11.5.1 A pilot reported level shall take precedence over an observed level.

11.6 ADS-B may be used alone for separation of aircraft provided that:
11.6.1 Identification of ADS-B equipped aircraft is established and maintained; and
11.6.2 There is no requirement for detection of aircraft not transmitting ADS-B; and
11.6.3 The integrity of the ADS-B is adequate to support the separation minima; and

11.6.4 The sole use of ADS-B has been approved by the BCAA.

11.7 The display system shall provide a continuously updated presentation of the surveillance information.
11.8 Position symbols may represent the raw data source of the position information, or a combined symbol.
11.9 Safety related and automated coordination information shall be displayed in a clear and distinct manner to facilitate ease of recognition.
11.10 Labels associated with displayed targets shall show, as a minimum, information relating to the identity of the aircraft and, if available, pressure altitude derived information in a clear and concise manner.
11.11 Labels shall be associated with the aircraft symbol in a manner precluding erroneous identification or confusion for the controller.

11.12 Identification shall be established prior to the provision of any surveillance service, and the pilot informed. Identification shall be maintained until the termination of the surveillance service.
11.13 Identification shall be established by one of the following methods:
11.13.1 ADS-B
11.13.1.1 direct recognition of aircraft identification in an ADS-B label; or
11.13.1.2 transfer of ADS-B identification; or
11.13.1.3 observation of compliance with an instruction to transmit ident.
11.13.2 SSR
11.13.2.1 direct recognition of aircraft identification in a radar label; or
11.13.2.2 transfer of identification; or
11.13.2.3 observance of compliance with an instruction to squawk ident; or
11.13.2.4 recognition in a radar label, of an assigned discrete code which has been verified;
11.13.2.5 observation of compliance with an instruction to set a specific code.
11.13.3 PSR
11.13.3.1 by correlating a radar position indication with an aircraft reporting its position over, or as a bearing and distance from a point shown on the display, and by ascertaining that the track of the target is consistent with the aircraft's path or heading; or
11.13.3.2 by correlating an observed radar position indication with an aircraft that is known to have just departed, provided that the identification is established within 1 NM of the end of the runway used, or
11.13.3.3 by transfer of identification; or
11.13.3.4 after ascertaining the aircraft's heading, by instructing a pilot to change heading by 30 degrees or more for a period long enough, based on the aircraft's speed, to allow the track change to be identified and correlating the movements of a particular radar position symbol with the aircraft's acknowledged compliance with the instruction ; or
11.13.3.5 by correlating the movements of a particular position indication with movements currently reported by an aircraft.

Note: When using methods 11.13.3.4 and 11.13.3.5, the controller shall verify that only one radar position indication has carried out the manoeuvre, and that the aircraft will remain within coverage of both radar and the situation display.
11.14.4 Transfer of identification shall be effected by one of the following means:
11.14.4.1 automated designation of the position indication; or

11.14.4.2 notification of the aircraft's SSR code, Mode S or ADS-B identification feature; or

11.14.4.3 manual indication of the target where displays are adjacent or common; or

11.14.5 Designation of a position indication by reference to, or bearing and distance from a significant point or fix, together with the track of the position indication.

11.14.6 Instruction by the transferring controller to change SSR code and observation by the receiving controller of the change; or

11.14.7 Instruction by the transferring controller to squawk/ transmit ident and the observation of this response by the receiving controller.

11.14.8 The use of methods 11.14.6 and 11.14.7 require prior coordination between the controllers.

11.15 The applicant for an air navigation service provider certificate shall establish procedures to ensure position information shall be passed to an aircraft receiving a surveillance service:

11.15.1 Upon identification except when identification is based upon departure, SSR, Mode S or ADS-B, or transfer of identification; or

11.15.2 When requested by the pilot; or

11.15.3 When a pilot's estimate differs significantly from that estimated by the controller, based on the observed position; or

11.15.4 When the pilot is resuming own traffic after vectoring, if the vectoring has taken the aircraft off an assigned route; or

11.15.5 Immediately before the termination of an ATS surveillance service, if the aircraft is observed to deviate from its intended route.

11.16 Position information shall be passed in one of the following forms:

11.16.1 As a well-known geographical position; or

11.16.2 Magnetic track and distance to a significant point, enroute or approach aid; or

11.16.3 Compass direction and distance from a known position; or

11.16.4 Distance to touchdown if on final approach; or

11.16.5 Distance and direction from the centreline of an ATS route.

Chapter 12 AIRCRAFT EMERGENCIES AND IRREGULAR OPERATIONS

12.1 Priority & Assistance

12.1.1 The applicant for an air navigation service provider certificate shall establish procedures to ensure maximum assistance and priority is given to an aircraft known, or believed to be, in a state of emergency.
Note.— To indicate that it is in a state of emergency, an aircraft equipped with an appropriate data link capability and/or an SSR transponder may operate the equipment as follows:

12.1.1.1 on Mode A, Code 7700;

12.1.1.2 on Mode A, Code 7600, to indicate specifically communications failure;

12.1.1.3 on Mode A, Code 7500, to indicate specifically that it is being subjected to unlawful interference; and/or

12.1.1.4 activate the appropriate emergency and/or urgency capability of ADS-B or ADS-C; and/or

12.1.1.5 transmit the appropriate emergency message via CPDLC.

12.2 Strayed, Unidentified and Intercepted Aircraft

12.2.1 The applicant shall, where appropriate, establish procedures in accordance with PANS-ATM, to assist strayed aircraft, unidentified aircraft, and aircraft subject to military interception.

12.3 Human Factors

12.3.1 In communications between ATS units and aircraft in the event of an emergency, Human Factors principles, as shown in ICAO Document 9683, should be observed.

12.4 ACCIDENT, INCIDENT AND OCCURRENCE REPORTING

12.4.1 The applicant for an air navigation service provider certificate shall establish procedures for –

12.4.1.1 The notification of accidents, incidents and occurrences to a list of contacts agreed by the Authority, by a method agreed by the Authority, as soon as practicable after an event; and

12.4.1.2 Provision of an initial written report of any Accident or Serious Incident to the Authority within 7 days; and

12.4.1.3 Provision of a final written report of any Accident or Serious Incident to the Authority upon conclusion of the investigation, but not later than 6 months after the Accident or Serious Incident; and

12.4.1.4 Provision of the final report of any investigation of incidents, excepting Accidents, Serious incidents and incidents of co-ordination failures which are not a factor in any subsequent Incident, within 30 days; and

12.4.1.5 The forwarding of facility malfunction reports required by 2.9 to the applicable aeronautical telecommunication service.

12.4.2 The applicant for an air navigation service provider certificate shall establish procedures regarding an incident or occurrence to:

12.4.2.1 Determine if any air navigation equipment or facilities have contributed to the event;

12.4.2.2 Ensure immediate action is taken to –

(a) warn other aircraft that may be using or intending to use the equipment or facilities;

(b) advise the operator of the equipment or facility of the occurrence, and that the equipment or facility may be implicated;

(c) assist the operator of the equipment or facility with the prompt promulgation of any decision to withdraw the equipment or facility from service; and

12.4.2.3 Ensure that any equipment or facility identified in 12.4.2.1 is not used in the provision of separation to IFR aircraft until cleared for use by the relevant aeronautical telecommunications service.

Chapter 13 RECORDS

13.1 General

13.1.1The applicant for an air navigation service provider certificate shall establish systems and procedures to identify, collect, store, secure, maintain, access, and dispose of, records necessary for –

13.1.1.1 The operational provision of air navigation services;

13.1.1.2 The purpose of assisting with any accident or incident investigation;

13.1.1.3 The ongoing SMS improvement process;

13.1.1.4 Low visibility operations where applicable.

13.2 Electronic Recording

13.2.1 Where applicable, the records shall include electronic recordings of–

13.2.1.1 Telephone communications;

13.2.1.2 Radio broadcasts and communications;

13.2.1.3 Air - ground or ground – ground digital data exchanges displayed at unit, regardless of source;

13.2.1.4 Radar data and information displayed at unit, regardless of source;

13.2.1.5 Automatic dependent surveillance data and information;

13.2.1.6 Any other communication or surveillance system;

13.2.1.7 Any electronic means of providing situational awareness such as electronic flight strips; and

13.2.1.8 The aural environment at ATC work stations including the background communications.

Note- The requirements in 13.2.1.3 and 13.2.1.4 for recording of data may be met by LoA with the unit from which the data is received.

13.3 Content of Records

13.3.1 The records shall include-

13.3.1.1 Filed flight plans including standard and repetitive plans;

13.3.1.2 Flight progress strips;

13.3.1.3 Appropriate meteorological and aeronautical information, except where the information is retained for an equivalent period by a meteorological or AIS organisation;

13.3.1.4 Staff duty rosters;

13.3.1.5 ATS logs and position logs;

13.3.1.6 A record of each internal audit report, corrective action, preventive action and management review required by 17.1.4, 5, 6 and 7 respectively. The record shall detail the activities reviewed and any necessary follow-up corrective and preventive actions; and

13.3.1.7 Unit occurrence investigation records.

13.4 Content of Electronic Records

13.4.1 The applicant shall establish systems and procedures to ensure that electronic records required by 13.2–

13.4.1.1 Include time recording, correct to 5 seconds of UTC, as determined by reference to a standard time station or GPS time standard; and

13.4.1.2 Replicate the voice communications, and, if applicable, the surveillance picture, applying at the particular operating position.

13.5 Clarity

13.5.1 The applicant for an air navigation service provider certificate shall establish systems and procedures to ensure that all records, except where replication is required by 13.4.2, are of sufficient clarity to convey the required information.

13.6 Retention

13.6.1 The applicant shall establish procedures to ensure that the records referred to in 13.2 and 13.3 are retained for 60 days from the date of entry, except for –

13.6.1.1 Staff duty rosters;

13.6.1.2 Written records associated with the requirements of 15.1.1 and 15.1.2;

13.6.1.3 ATS logs,

which shall be retained for 3 years, and

13.6.1.4 Records of occurrence investigations and associated data, which shall be retained for a period of not less than 5 years.

13.7 Format

13.7.1 Records shall be made available, in a format acceptable to the BCAA, when requested. The acceptable formats include:

13.7.1.1 All Microsoft applications, i.e. Office and Windows; or

13.7.1.2 Any media player (video and/or audio recordings) compatible with Microsoft Windows;

13.7.1.3 PDF, JPeg, Zip, PNG, JPG,

13.7.1.4 If files cannot be uploaded to Q Pulse due to the size of the file(s), recordings may be burned on to a DVD/CD or stored on a USB external hard-disk or flash memory stick and forwarded to the BCAA.

13.7.2 When records are requested and cannot be provided in an acceptable format, the holder of an ANSP certificate shall make available to the Authority the equipment required to replay the record.

13.8 LOGS, POSITION LOGS AND DUTY HOUR LOGS

13.8.1 The applicant for an air navigation service provider certificate shall establish procedures to ensure that a log is kept at each ATS unit, and, where a unit has physically separate operations areas, at each such location within the unit.

13.8.2 The log shall be used to record all significant occurrences and actions relating to operations, facilities, equipment and staff at an ATS unit including, but not limited to, such matters as:

13.8.2.1 Incidents, accidents, non-compliance with Regulations or ATC clearances regardless of whether an additional separate report is required;

13.8.2.2 Aerodrome inspections, details of work in progress and other essential aerodrome information;

13.8.2.3 Changes to the status of navigation facilities, services and procedures;

13.8.2.4 Receipt of special aerodrome reports, SIGMET reports or other significant meteorological phenomena

13.8.3 The procedure shall ensure that –

13.8.3.1 The log is maintained by the senior person on duty, or the person on watch at a nominated operating position;

13.8.3.2 The log is maintained throughout the hours of watch of the ATS unit or operations room;

13.8.3.3 If a logbook is used, the pages are sequentially numbered, all entries are; -

(a) in chronological order, include the time of entry in UTC;

(b) are in ink; and without erasure, defacement, or obliteration;

(c) corrected by drawing a single line through the erroneous information and initialing the correction;

13.8.3.4 When the Log is in an electronic format, measures shall be taken to ensure that all entries made in the log are traceable and protected. The electronic format shall not permit entries to be subsequently altered or tampered with in any way;

13.8.3.5 Actual times of opening and closing watch are recorded in the log, together with the reason for every variation from published hours of service; and

13.8.3.6 Reviewed by the ATC Manager, or designee, daily to note all significant entries.

13.8.4 The applicant shall establish procedures to ensure the keeping of an operating position log, when such information is not available in the logbook required by 13.8.1.

13.8.5 The procedure shall ensure that the operating position log contains sufficient information to identify –

13.8.5.1 When that position was in operation;

13.8.5.2 The services being provided from that position; and

13.8.5.3 The identity of the individual providing the service.

13.8.6 An air traffic controller duty hour log shall be maintained at the Supervisor position. Supervisors are responsible for ensuring that the entries made in the duty hour log are complete and accurate.

13.8.7 Unit management shall have a process in place to ensure that entries made in the duty log are complete and accurate and to oversight the controller duty hours so that, in the event that a controller will or has worked outside the duty hour restrictions, the controller shall not be permitted to continue operational duties until the duty hours requirements can be met.

13.8.8 Each duty hour log shall include unit and operational position identifiers. Unit managers shall have in place resources that enable the following information to be verified:

1. The identity of any air traffic controller on duty at any position;

2. The date - time controller accepted handover from previous controller; and

3. The date - time controller completed handover to on-coming controller.

Chapter 14 SECURITY

14.1 The applicant for an air navigation service provider certificate shall prepare an ATS security programme.

14.2 Each ATS security programme shall specify the physical security requirements, practices and procedures to be followed for the purposes of minimising the risk of destruction of, damage to, or interference with the operation of any ATS unit operated by the applicant where such destruction, damage or interference is likely to endanger the safety of aircraft.

14.3 Without limiting the generality of 14.2, the security programme shall specify such physical security requirements, practices and procedures as may be necessary –

14.3.1 To ensure that entrances to permanent ATS facilities operated by the applicant are subject to positive access control at all times, so as to prevent unauthorised entry;

14.3.2 To monitor unattended permanent ATS buildings to ensure that any intrusion or interference is detected;

14.3.3 To protect personnel on duty; and

14.3.4 To be followed in the event of a bomb threat or other threat of violence against an ATS unit.

Chapter 15 SERVICE DISRUPTIONS

15.1 The applicant for an air navigation service provider certificate shall establish procedures to –

15.1.1 Advise the BCAA of any planned disruption to the provision of air navigation services that could have an impact on safety;

15.1.2 Investigate any unplanned disruption to the provision of air navigation services;

15.1.3 Report to the BCAA, within 48 hours of the occurrence, the circumstances surrounding any unplanned disruption to air navigation services when the disruption affected, or could have affected, the safety of air navigation.

15.2 Disruptions reportable under 15.1 shall include, but are not limited to, any –

15.2.1 Failure to open watch within 15 minutes of the promulgated opening time;

15.2.2 Any interruption, of greater than 10 minutes, to the normal provision of an air traffic service; and

15.2.3 Curtailment of watch, by greater than 30 minutes, from the promulgated off watch time.

Chapter 16 SAFETY MANAGEMENT SYSTEM (SMS) REQUIREMENTS

16.1 The applicant for an air navigation service provider certificate shall establish a safety management system acceptable to the BCAA that, as a minimum complies with the requirements of ANTR Volume III Part 19 and, in the case of an aerodrome control service, includes the requirement to participate in relevant Aerodrome safety management programmes such as :

16.1.1 Provide representatives on Runway safety teams;

16.1.2 Low visibility Operations and back-up runway practice use programmes.

16.2 A safety management system shall clearly define lines of safety accountability throughout the ATS organisation, including a direct responsibility for safety on the part of senior management.

16.3 For compliance requirements refer to ANTR Vol. III Part 19, Safety Management Systems (SMS).

16.4 An ATS service provider shall ensure that any significant change to the ATS system, including but not limited to proposed amendments to separation minima, operational equipment or major procedural changes, ATS sectorisation, international coordination procedures and hours of duty shall be subject to a safety assessment, indicating that a level of safety acceptable to the CAA shall be met, prior to implementation.

16.5 User consultation shall form part of the safety assessment.

16.6 The safety assessment required by 16.4 shall be presented to, and accepted by, the BCAA prior to implementation of the change.

16.7 An ATS unit shall define appropriate safety performance indicators, safety performance targets and alert levels for those occurrences agreed with the Authority.

16.7.1 The Authority may require any occurrence type to have SPI's, SPT's and alert levels defined.

16.8 ATS units shall forward the defined safety performance indicators, safety performance targets and alert levels for each of the above occurrences specified in 16.7, calculated quantitatively in accordance with ICAO Doc 9859, by a process determined by the BCAA, to the BCAA for acceptance.

16.9 ATS Units shall conduct a monthly safety performance assessment and forward to the BCAA by the last day of the month following the end of each reporting month. The assessment must contain as a minimum:

16.9.1 monthly ATS Unit traffic movements,

16.9.2 the status of current safety performance and alert levels,

16.9.3 identification and quantification of risk elements within those incidents related to the safety performance indicators and targets, using a methodology determined by the BCAA,

16.9.4 the unit response to any breached alert level, and

16.9.5 A summary of actions taken to maintain or improve safety performance and a review of the effectiveness of any actions in progress relating to measured risks.

16.10 An annual assessment shall be conducted within one calendar month after the end of the financial year used by the certificate holder, that must contain as a minimum:

16.10.1 a summary of the monthly elements required in 16.9 above

16.10.2 an evaluation of the controls implemented to manage safety performance and identified safety risks,

16.10.3 a summary of actions taken to maintain or improve safety levels and a timeline for implementation of identified improvements.

16.11 ATS Units shall comply with any request for information regarding safety performance as deemed necessary by the BCAA.

Chapter 17 QUALITY ASSURANCE SYSTEM (QAS) REQUIREMENTS

17.1 The applicant for an air navigation service provider certificate shall establish an internal quality assurance system (QAS) to ensure compliance with, and the adequacy of, the procedures required by these Regulations.

The QAS shall, include –

17.1.1 A quality assurance policy and procedures that are relevant to the applicant's organisational goals and the expectations and needs of its customers;

17.1.2 Procedures to ensure that aeronautical data at any moment is traceable to its origin so as to allow any data anomalies or errors, detected during production/maintenance phases or in operational use, to be corrected;

17.1.3 Procedures to ensure quality indicators relevant to the service being provided, including but not limited to, samples of radio and telephone records, defect and incident reports, and personnel and customer feedback, are monitored to identify existing problems or potential causes of problems within the system;

17.1.4 A procedure for corrective action to ensure existing problems that have been identified within the system are corrected;

17.1.5 A procedure for preventive action to ensure that potential causes of problems that have been identified within the system are remedied;

17.1.6 An internal quality audit programme to audit the applicant's organisation for conformity with its quality assurance system; and

17.1.7 Management review procedures to ensure the continuing suitability and effectiveness of the internal quality assurance system in satisfying the requirements of this Regulation.

Chapter 18 DUTY HOURS AND STAFFING

18.1 The duty hours for air traffic controllers shall be limited to ensure so far as is reasonably possible, that controller fatigue does not impair operational safety and efficiency.

Note- When reference is made to air traffic controllers in this regulation it shall also mean student air traffic controllers.

18.2 ATS units shall establish procedures for the management of fatigue related issues.

18.3 Air traffic controllers shall be responsible for obtaining sufficient rest and sleep prior to attending operational duties.

18.4 Sleeping or napping at operational positions shall not be permitted.

18.5 Adherence to the rules within these regulations and fatigue-related issues shall be taken into account before shift changes are implemented.

18.6 For the purposes of this chapter, air traffic control officers having, prior to commencing operational duty, performed unlicensed duties such as, but not limited to, office, administration, training, courses, seminars, and workshops, shall have the time periods for unlicensed duties counted toward duty period limits.

Note: As far as reasonably practicable, the provisions of this regulation should also apply to air traffic control assistants interacting with air traffic controllers.

Definitions of relevant duty periods are found in Chapter 1.

18.7 Unless operating under a fatigue management regime approved by the Authority, or a written variation from the Authority, duty hour requirements shall include the following:

18.7.1 No Period of Duty shall exceed 10 hours;

18.7.2 There shall be an interval of not less than 10 hours between the conclusion of one Period of Duty and the commencement of the next Period of Duty. This interval may be reduced by up to 20 minutes solely for the purpose of orderly shift handover;

18.7.3 Not more than 2 Night Duties may be worked in immediate succession; however this may be increased by 1 additional night duty in the event of an unplanned call-out to cover a Night duty, or at the request of, or with the consent of the ATCO concerned, provided that ATCO does not perform any Duty for 48 hours succeeding the end of that third consecutive Night Duty. Not more than 3 Night duties shall be worked within 264 consecutive hours (11 days);

18.7.4 Within 40 consecutive hours the aggregate of Periods of Duty shall not exceed 20 hours;

18.7.5 Within 720 consecutive hours (30 days) the aggregate of Periods of Duty and Standby Duties shall not exceed 300 hours, provided that Periods of Duty do not exceed 200 hours. For the purpose of this limitation, Standby Duty is calculated at 50 per cent of duty time;

18.7.6 Within 720 consecutive hours (30 days) the sum of hours of exactly 3 separate Off Duty Periods shall total more than 168hrs;

18.7.7 Upon the conclusion of seven Periods of Duty within 168 consecutive hours (seven days), or upon Periods of Duty within 168 consecutive hours reaching a total of 55 hours, whichever is the earlier, there shall be an interval of a minimum of 60 hours before the commencement of the next Period of Duty;

18.7.8 ATC Operational Duties shall not normally exceed 2 ½ continuous hours. After any 2 ½ hour period consisting of continuous ATC Operational Duties there shall be at least one Break not less than 30 minutes in duration immediately prior to the resumption of operational duties. Frequent break periods shall be considered during heavy or complex traffic situations, low visibility conditions (for air traffic control officers performing aerodrome control) and particularly between the hours of 00:00 and 07:00.

18.7.9 The Air Navigation Service Provider may, for limited periods where unforeseen and unusual circumstances warrant, increase the Operational Duty period stated in 18.7.8 to a maximum of 4 hours.

18.8 Unit management shall have a process in place so that, in the event that an air traffic control officer will or has worked outside the duty hour restrictions, additional resources can be employed as soon as practicable until the normal duty hours and break requirements can be met.

18.9 During any calendar year there shall be not fewer than 30 calendar days of total holiday entitlement; and

18.9.1 At least one leave period shall be not less than 10 consecutive days; and

18.9.2 The employee must be afforded the opportunity to take one leave period of not less than 20 consecutive days

18.10 WATCH ROSTERS

18.10.1 ATC Service Providers shall meet the rostering limitations specified in the duty hour requirements contained in 18.7

18.10.2 ATC Service Providers shall notify the BCAA of formal rostering arrangements of a repetitive nature only once.

18.10.3 ATC Service Providers who are unable to set a regular pattern of attendance for Air Traffic Control Officers shall supply to the BCAA a copy of the prepared roster at least 30 days before it is due to come into force together with details of each month's or each four week period's roster actually worked. Rosters supplied to the BCAA shall indicate where they meet the various rostering limitations specified in the duty hour requirements contained in 18.7.

18.10.4 ATC Service Providers shall not require controllers to carry out ancillary tasks while they are providing operational air traffic control services unless this can be accomplished without negative effects on safety.

Note: An ancillary task is any task in an operational control room, which is not directly associated with the provision of an air traffic control service.

18.10.5 ATC Service Providers shall make available adequate support staff to enable controllers to carry out their duties in accordance with Civil Aviation Regulations, ICAO Annex 11 and Doc 4444. The number and disposition of support staff will depend on the complexity of the unit. The ATS Provider shall arrange appropriate training and shall be responsible for the continued competency of such staff. The BCAA may require to be given details of the training which support staff has received.

18.10.6 Exceptionally, where such ancillary duties are unavoidable, the ATS Provider shall satisfy the BCAA that controllers will not be distracted from their primary function or placed under undue pressure. These duties and the person responsible for discharging them shall be clearly identified in the unit's Operations Manual.

18.10.7 The ATS provider shall ensure that adequate staff resources are provided to ensure that such operational staff are provided with suitable breaks during the work shifts, with work periods not exceeding 10 hours and a minimum of 10 hours break being provided between working shifts.

Note: The rest facility requirements are contained in 2.4.3.6 and 2.4.4.4.

18.10.8 Controllers may delegate some of their responsibilities to adequately trained support staff (such as Flight Clerks, Air Traffic Control Assistants and Air Traffic Service Assistants) provided they do not include duties for which an Air Traffic Control license is required. Duties that may be delegated fall into two categories:

18.10.8.1 Air Traffic Control related duties not closely associated with the safety of aircraft (e.g. Telephone messages concerning flight data and clearances). These duties and the person responsible for discharging them shall be clearly identified in the unit's MATM; and

18.10.8.2 Other duties of an administrative nature.

Chapter 19 ORGANISATION CONSTITUTIONAL DOCUMENT

19.1 The applicant for an air navigation service provider certificate shall provide the BCAA with a Constitutional Document containing –

19.1.1 A statement signed by the Accountable Manager on behalf of the applicant's organisation confirming that the Constitutional Document and any included manuals –

19.1.1.1 Define the organisation and demonstrate its means and methods for ensuring ongoing compliance with this and any other applicable Regulation;

19.1.1.2 Are required to be complied with by its personnel at all times;

19.1.2 A statement signed by the Accountable Manager on behalf of the applicant's organisation confirming that:

19.1.2.1 the organisation has sufficient financial strength to provide the services contained within the organisation's Constitutional Document;

19.1.2.2 the organisation has sufficient liability and insurance cover to meet any claims that could be made relating to the services contained within the organisation's Constitutional Document;

19.1.3 The titles and names of the person or persons required by 2.1.1.1 to 2.1.1.5 inclusive;

19.1.4 The duties and responsibilities of the person or persons specified in 19.1.3, including matters for which they have responsibility to deal directly with the BCAA on behalf of the organisation;

19.1.5 An organisation chart showing lines of responsibility of the persons specified in 19.1.3, and extending to each location listed under 19.1.6.1 and 19.1.6.2;

19.1.6 In the case of an organisation providing air navigation services from more than one ATS unit, a table listing –

19.1.6.1 locations of ATS units;

19.1.6.2 the aerodrome or airspace being serviced;

19.1.6.3 the services provided;

19.1.7 Details of the applicant's staffing structure for each ATS unit;

19.1.8 A document matrix detailing where the requirements of Chapters 2 thru 17 are contained within the organisations operational manuals; and

19.1.9 Procedures to control, amend and distribute the Constitutional Document.

19.1.10 If endorsed by the Authority to issue ATC licenses, the Document shall contain the procedures for issue, control and recording of licenses, as well as the certificate of insurance held for any licenses issued.

19.2 The applicant's Constitutional Document must be acceptable to the BCAA.

Chapter 20 ATS OPERATIONS MANUAL

20.1 The applicant for an air navigation service provider certificate shall provide an ATS operations manual containing the following:

20.1.1 The procedures required by 2.1.4 regarding the competency, qualifications, maintenance of current operating practice, and medical fitness of personnel;

20.1.2 The procedures required by 2.2 regarding the training and assessment of ATS personnel, and regarding the qualifications of ATS training personnel;

20.1.3 The procedures regarding shift administration required by 2.3;

20.1.4 A description of the display systems to be used in meeting the requirements of 2.4.3.5 (a) and 2.4.4.3 (a);

20.1.5 The information required by 2.5 regarding hours of service, the establishment of an air traffic service, and any transitional arrangements;

20.1.6 The procedures required by 2.6;

20.1.7 The contingency plan required by 2.7;

20.1.8 The procedures required by 2.8 regarding coordination requirements;

20.1.9 The procedures required by 2.9 regarding the notification of facility status;

20.1.10 The procedures required by 2.10 regarding the receipt of information requirements;

20.1.11 The procedures required by 2.11 regarding meteorological information and reporting;

20.1.12 Where applicable, the procedures required by Ch. 3 regarding the provision of area control and approach control services;

20.1.13 Where applicable, the procedures required by Ch. 4 regarding the provision of aerodrome control service;

20.1.14 The procedures required by Ch. 5 regarding the separation of controlled flights and special use airspace;

20.1.15 The procedures required by Ch. 6 regarding responsibility for control;

20.1.16 Where applicable, the procedures required by 5.3 regarding the application of priorities;

20.1.17 Where applicable, the procedures required by 5.4 regarding flow control;

20.1.18 The procedures required by 5.5 regarding ATC clearances;

20.1.19 The procedures required by 5.6 regarding deviations from an ATC clearance;

20.1.20 The procedures required by 5.7 regarding the allocation of cruising levels;

20.1.21 The procedures required by Ch. 6 regarding the provision of flight information service;

20.1.22 The procedures required by 6.16 regarding the provision of alerting service;

20.1.23 The procedures required by Ch. 7 regarding the processing of flight plans;

20.1.24 The procedures required by Ch. 8 regarding time;

20.1.25 The altimeter setting procedures required by Ch. 9;

20.1.26 The radio and telephone procedures required by Ch. 10;

20.1.27 The procedures required by Ch. 11 regarding the provision of surveillance services;

20.1.28 The procedures required by Ch. 12 regarding aircraft emergencies and irregular operations;

20.1.29 The procedures required by 12.4 regarding actions following an air safety incident or accident;

20.1.30 The procedures required by Ch. 13 regarding the gathering and management of records;

20.1.31 The procedures required by 13.8 regarding the keeping of logbooks and position logs;

20.1.32 Details of the programme required by Ch. 14 regarding security arrangements;

20.1.33 The procedures required by Ch. 15 regarding disruption to service;

20.1.34 The procedures and programmes required by Ch. 16 regarding the safety management system;

20.1.35 The procedures and programmes required by Ch. 17 regarding quality assurance; and

20.1.36 The procedures and programmes required by Ch. 18 regarding fatigue management and duty hour oversight.

20.2 The applicant's manual must be acceptable to the BCAA.

Chapter 21 CHANGES TO CERTIFICATE HOLDER'S ORGANISATION

21.1 The holder of an air navigation service provider certificate shall ensure that the holder's Constitutional Document is amended so as to remain a current description of the holder's organisation and services.

21.2 The holder of an air navigation service provider certificate shall ensure that any amendment to the holder's Constitutional Document –

21.2.1 Meets the applicable requirements of this Regulation; and

21.2.2 Complies with the amendment procedures contained in the holder's Constitutional Document.

21.3 The holder of an air navigation service provider certificates hall provide the BCAA with a copy of each amendment to the holder's Constitutional Document as soon as practicable after its incorporation into the Constitutional Document,

21.4 If the holder of an air navigation service provider certificate proposes to make any change to any of the following, prior notification to and acceptance by the BCAA is required –

21.4.1 The Accountable Manager;

21.4.2 The post holders shown in 2.1.1.2- 2.1.1.5 inclusive;

21.4.3 Any aspect of air traffic management that may have an adverse impact on air navigation services provided by a State responsible for adjacent airspace.

21.5 The BCAA may specify conditions under which the holder of an air navigation service provider certificate may operate during or following any of the changes specified in 21.4, and the holder shall comply with any conditions specified.

21.6 If any of the changes referred to in this rule require an amendment to the certificate, the holder of the air navigation service provider certificate shall forward the certificate to the BCAA as soon as practicable.

21.7 The holder of an air navigation service provider certificate shall make amendments to the holder's Constitutional Document as the BCAA considers necessary in the interests of aviation safety.

Chapter 22 WITHDRAWAL OR TRANSFER OF SERVICE

22.1 The holder of an air navigation service provider certificate who wishes to permanently withdraw or significantly reduce the hours of operation of an air navigation service shall give the BCAA at least 90 days' notice of the proposal and include in that notice a summary of factors considered in arriving at the decision to withdraw the service.

22.2 The holder of an air navigation service provider certificate who is the outgoing provider of an air navigation service shall not hinder the preparation and execution of the transitional arrangements required by 2.5.

APPENDIX 1. SEPARATION CRITERIA AND MINIMA

A.1.1. GENERAL

(a) Separation criteria shall be those contained in ICAO PANS-ATM and Regional Supplementary Procedures supplemented by the CARs below.

(b) Other separation minima may be established by the CAA.

(c) The procedures required by 3.1.2 and 4.1.2 shall specify that vertical, horizontal or composite separation shall be provided between –

1. All flights in class A and B airspace;

2. IFR flights in class C, D, and E airspace;

3. IFR flights and VFR flights in class C airspace;

4. IFR flights and special VFR flights in classes B, C and D control zones; and

5. Special VFR flights in classes B, C and D control zones when the flight visibility is reported to be less that 5 km.

A.1.2. SEPARATION INVOLVING MILITARY AIRCRAFT

(a) The separation criteria and minima prescribed in these rules shall be applied to military aircraft unless there is written agreement between the ATS provider, the CAA and the Bahrain Defense Force, or a military agency of a foreign state, authorising the use of reduced military separation when it is –

1. Between military aircraft;

2. Agreed to by the pilots of the aircraft involved; and

3. In accordance with the written agreement.

(b) Essential traffic information shall be passed to affected controlled flights whenever ATC is aware of unidentified or unknown operations, regardless of whether communication has been established with the unidentified traffic.

(c) Further guidance on Due Regard traffic shall be developed by the ANSP and approved by the CAA.

(d) MARSA procedures shall be developed by the ANSP and approved by the CAA.

A.1.3. FORMATION FLIGHTS

(a) Formation flights shall be treated as a single aircraft. Because of the distance allowed between formation aircraft and lead aircraft, additional separation is necessary to ensure the periphery of the formation is adequately separated

from other aircraft, adjacent airspace, or obstructions. Supplemental separation for formation flights shall be provided as follows:

1. Separate a standard formation (as defined by ICAO ANNEX 2) flight by adding 1 mile to the appropriate radar separation minima.

2. Separate a non-standard formation flight by applying the appropriate separation minima to the perimeter of the airspace encompassing the nonstandard formation or from the outermost aircraft of the nonstandard formation whichever applies.

A.1.4. SEPARATION FROM ACTIVE SPECIAL USE AIRSPACE (SUA)

(a) Controlled traffic shall be separated from special use airspace designated for aviation activities, excepting where the special use airspace forms an international boundary, by:

1. 1000 feet vertical separation up to FL290; or

2. 2000 feet vertical separation above FL290; or

3. 5NM radar separation from that area; or

4. Achieved by the use of minima or procedures designed by a procedure design organisation and approved by the Authority,

(b) Where the special use airspace forms a national boundary, the provisions of PANS-ATM 8.6.5.1 c) apply, such that an aircraft may be vectored to not closer than one-half of the applicable radar separation minimum to that boundary.

AREA AND APPROACH SEPARATION CRITERIA

A.1.5. LONGITUDINAL SEPARATION BY TIME

(a) Reserved

A.1.6. LONGITUDINAL SEPARATION BY DISTANCE

(a) Reserved

A.1.7. LATERAL SEPARATION

(a) Lateral separation may only be applied according to the criteria and minima contained in PANS-ATM, chapter 5 or where approved by the holder of a flight procedure design certificate issued by the CAA.

RADAR SEPARATION

A.1.8. RADAR SEPARATION

(a) Reserved

A.1.9. RADAR SEPARATION FROM HOLDING AIRCRAFT

(a) In airspace where the radar separation minima is 5nm or less, a minimum of 5nm shall be applied between an identified aircraft that is not holding, and other identified aircraft that are holding notwithstanding that individual identity of the holding aircraft may be lost.

(b) In airspace with a higher radar separation minimum, that minimum shall be used between holding and non-holding aircraft.

A.1.10 RADAR SEPARATION FOR AIRCRAFT ON RECIPROCAL TRACKS

(a) Reserved

AERODROME SEPARATION CRITERIA

A.1.11. SEPARATION OF SUCCESSIVE IFR DEPARTURES

(a) Reserved

A.1.12. REDUCED RUNWAY SEPARATION

(a) The CAA may authorise reduced separation between aircraft using the same runway in accordance with the requirements of PANS-ATM, chapter 7, paragraph 7.11.

(b) The ATS provider shall carry out a safety assessment which shall form part of the application to the CAA for reduced separation approval.

A.1.13. OPERATION ON PARALLEL RUNWAYS

(a) Reserved

A.1.14. HELICOPTER OPERATIONS

(a) The runway separations required by 4.1.3 may be waived or varied to take account of the particular operating characteristics of helicopters, provided safety is not jeopardised. Any such variation shall be approved by the CAA.

A.1.15. COMPOSITE VISUAL SEPARATION

(a) Reserved

APPENDIX 2: AIR TRAFFIC SERVICE TRAINING

A.2.1. ATC COURSE APPROVALS

(a) Courses detailed and described in a Unit Training and Assessment Plan (UTAP) do not require approval by the CAA. Only those courses not specifically mentioned in the unit training and assessment plan require approval by the CAA. This applies to all courses for any air traffic controller or student air traffic controller, who is proposed to attend a course leading to the issue of the following, related to the Bahrain licensing requirements:

1. Student Air Traffic Controller License to conduct training towards the issue of an ATC Rating

2. OJT Instructor (OJT) endorsement

3. Local Competency Examiner (LCE) endorsement

4. Air Traffic Control Examiner (EXM) endorsement

Note: The authority does approve Air Traffic Services Training Organizations (ATSTO), whose courses are approved under the operating approval of the ATSTO.

(b) Costs associated with the CAA's approval of courses shall be met in advance by the applicant.

(c) Training courses for ATS personnel shall:

1. take due regard of Human Factors requirements, as contained in ICAO Documents 9683 and 9758,

2. take due regard for Systemic Occurrence Analysis Methodology (SOAM),

3. include theoretical and practical training and assessment in Alerting Service.

(d) ATS units and ATSTOs requesting approval of an ATC course, not contained in UTAP or Operating authorisation, shall submit the following information to the CAA for review prior to commencing the course:

1. Rating, endorsement or qualification being addressed by the course.

2. Syllabus and Lesson Plans

3. Course schedule

4. List of Instructors and C.V.s

5. For courses leading to ATC Ratings requiring simulation, the following details shall be provided:

i. Minimum number of simulation exercises planned per student;

ii. Statement from ATS unit or ATSTO providing the course confirming that all simulation exercises shall be conducted with one simulation instructor teaching, monitoring and assessing a maximum of one student.

6. Statements from ATS unit or ATSTO providing the course confirming the following:

i. In order to attain the course certificate, the student shall attain a pass level in all theoretical examinations and simulation mastery assessments given during the course;

ii. On successful completion of the course the student shall be provided with an individual final course certificate;

iii. The student shall be provided with a final course report indicating areas of weaknesses and strengths, the levels of achievement attained and the number of simulation exercises completed; and

iv. Any amendment to the course provisions, including instructor change or reduction to the syllabus content, which may affect the quality of the instruction, shall be forwarded to the CAA for review.

(e) The minimum pass grade for each subject examination shall be seventy percent (70%). The student air traffic controller shall pass all subject examinations appropriate to the ATC course to be eligible to successfully pass the overall course.

(f) A student who fails a written, oral or practical examination may apply for retesting in the failed parts providing sufficient additional instruction has been given to the student prior to retesting.

(g) The minimum pass grade for re-examination in theoretical parts shall be eighty five percent (85%).

A.2.2. UNIT TRAINING AND ASSESSMENT PLANS (UTAP)

(a) ATS Units shall develop Unit Training and Assessment Plans (UTAPs) that will satisfy the licensing requirements, for all ATC training conducted within the unit.

ATS units shall submit their draft UTAP or proposed changes to the UTAP to the CAA for approval.

An UTAP shall adhere to Minimum Experience Requirements as described in Appendix A.2.9.

An UTAP shall include procedures for an Assessment of Previous Competence (APC).

An UTAP shall include the target training times and assessment schemes for Certificates of Competence (CoC) examinations towards issue of first or subsequent ratings. An UTAP shall indicate the amount of training, if any, that will be conducted on a simulator.

The CAA or the ATS unit may require an examination board to conduct any CoC examination. An examination board shall consist of an Air Traffic Inspector ATS and an ATC Examiner.

An UTAP shall include the following:

1. A description of the duties and qualification of the personnel designated as responsible for planning, performing and supervising the training;

2. Detailed descriptions of the courses to be conducted at the ATS unit;

3. Detailed descriptions of the competency assessment procedures; and

4. A description of the method used for the completion and retention of training records.

A.2.3. AIR TRAFFIC CONTROL EXAMINERS

(a) Examinations for the issue of Certificates of Competence (CoC) for first or subsequent ratings shall be carried out by a holder of a Bahrain ATC License with a valid ATC Examiner (EXM) endorsement, issued by the CAA.

(b) Examinations for the renewal of Certificates of Competence, including re-issues following suspensions or lapses of validations of less than 12 months, shall be carried out by a holder of a Bahrain ATC License with a valid ATC Examiner (EXM) endorsement, or valid Local Competency Examiner (LCE) endorsement, issued by the CAA. An Air Traffic Controller shall have been endorsed as an LCE for a period of not less than 1 year before receiving an EXM endorsement.

ATC Examiners and Local Competency Examiners shall only conduct examinations for sectors or operational positions for which they currently hold, and have held for a period of 5 years, a valid CoC, except where, in extenuating circumstances, an appropriately rated and endorsed OJT Instructor (OJT) is responsible during the examination, for a sector or position for which the Examiner does not hold a CoC. In such cases the OJT Instructor shall be responsible for the operation and safety of the sector or position, and shall sign the CoC under the lead examiner's signature.

(c) The lead examiner conducting the CoC assessment shall take accountability for the assessment result, which is indicated by the examiner signing the CoC.

(d) ATC Examiners and Local Competency Examiners shall conduct a minimum of 2 CoC examinations annually. Examiners who do not meet this requirement shall be required to conduct one 1 CoC examination under the supervision of an ATC Examiner, before conducting further examinations.

(e) ATS units shall employ an adequate number of ATC Examiners and Local Competency Examiners to permit coverage for vacation and sick leave.

(f) ATC Examiners and Local Competency Examiners shall be assessed annually for competence and suitability relative to their endorsements by an ATC Examiner, or the Head of ATC, or the STO or Head of Training, by a process documented in the UTAP.

(g) An examiner who is responsible for the conduct of a CoC examination shall ensure:

1. That the candidate is fully briefed on:

i. the schedule for the examination and its constituent parts;

ii. the persons involved and their roles in the examination;

iii. the right to appeal in respect of the conduct of the examination.

2. That the candidate and those involved in the examination are appropriately licensed;

3. That, during the theoretical element of the examination, the written and oral questions conform to the guidance in Appendix A.2.10;

4. That the candidate is fully debriefed following the examination with, if appropriate, the reasons for failure; and

5. That the necessary licensing documentation is completed.

A.2.4. AIR TRAFFIC CONTROL INSTRUCTORS

(a) Operational training of student air traffic controllers and air traffic controllers, for a specific ATC Rating Position, shall only be conducted by a holder of a Bahrain ATC License appropriately issued with a valid OJT Instructor (OJT) endorsement and current CoC for that specific ATC Rating Position.

(b) ATS units shall employ an adequate number of OJT Instructors to permit coverage for vacation and sick leave.

(c) ATS units shall have procedures in place to ensure that student air traffic controllers or air traffic controllers providing air traffic control services under supervision towards the issuance of an ATC rating hold a valid Student Air Traffic Controller License with a valid ATC Medical certificate.

(d) Air traffic controllers who are approved to instruct student air traffic controllers shall meet the following criteria:

1. For classroom training the air traffic controller shall hold a valid ATS Training Instructor certificate issued by the ATS unit having met the requirements stated in Appendix 3.11.(e)

2. For operational and simulator training, the air traffic controller shall hold a valid OJT Instructor endorsement having met the requirements stated in Appendix 3.8(d).3 and Appendix 3.8(i)

Note: In exceptional circumstances where an air traffic controller cannot fulfill the OJT Instructor requirements, the CAA, based upon a substantiated application, may approve a relaxation of requirements.

(e) The Head of ATS Training shall be responsible for:

1. The effective management of the OJT scheme including the allocation of OJT Instructors to student air traffic controllers and ensuring that individual training records are maintained; and

2. Monitoring the instructional performance of OJT Instructors and ATS Training Instructors at the unit for continued competent performance.

(f) The OJT Instructor supervising a student air traffic controller providing an ATC service shall be responsible to closely monitor the student air traffic controller and shall take control if:

1. loss of minimum separation has occurred or appears to be imminent,

2. any safety hazard becomes apparent

3. the OJTI considers inaction may lead to an unsafe situation, even though minimum separation may not be infringed.

(g) ATC units shall have procedures in place whereby:

1. OJT Instructors shall demonstrate competence in the conduct of operational and simulator training acceptable to the ATS unit Head of ATS Training at intervals not exceeding 24 months,

2. ATS Training Instructors shall demonstrate competence in the conduct of classroom and simulator training acceptable to the ATS unit Head of ATS Training at intervals not exceeding 24 months.

(h) On transfer to another ATS unit, an ATS Training Instructor certificate remains valid for the ATC rating for which training will be conducted.

A.2.5. ASSESSMENT OF PREVIOUS COMPETENCE (APC)

(a) Assessment of previous competence shall be carried out when:

1. Air traffic controllers wishing to commence On-the-Job training toward the issue of subsequent ratings, have not exercised the privileges of a particular rating for more than 5 years; or

2. Where an ATC license holder has previously completed substantial common elements of a course syllabus towards gaining a particular rating; or

3. Where a student air traffic controller or air traffic controller has not commenced On-the-Job training for a rating within 12 months of having completed an approved ATC course relative to that rating or, who having commenced On-the-Job training ceases that training for a period exceeding 12 months.

4. The 12 month limitation period referred to in Appendix 2.5(a).3 may be relaxed to an extent determined by the CAA provided that the student air traffic controller or air traffic controller:

i. has completed more than one approved ATC course of training associated with ratings, relevant to the unit, prior to commencing On-the-Job training towards the grant of an Air Traffic Controller License;

ii. shall commence On-the-Job training in at least one rating discipline within the 12 month period; and

iii. shall follow a training scheme where the ratings associated with the ATC courses will be gained at the same unit.

(b) The APC will be based on the air traffic controller's experience, the period of time elapsed since the air traffic controller exercised the privilege of the particular rating and the relevance of duties performed in the intervening period, or the period of time which has elapsed since a student air traffic controller completed an ATC course. The assessment is carried out to determine the amount of refresher training required to achieve a level of competence similar to that achieved through recently passing an approved course of training.

The person(s) to whom responsibility for this evaluation has been delegated, will decide on the requirement for refresher training.

A.2.6. TRAINING RECORDS

(a) Detailed training records shall be retained by the ATS unit to show that all UTAP and CAR licensing requirements have been met.

Training organisations shall maintain a system for recording the qualifications, training and assessment of instructional and examining staff.

Training records shall be retained by ATS units for 3 years after the completion of the training or until the air traffic controller ceases employment at an ATS unit, whichever is longer.

Training records for air traffic controllers holding OJT Instructor and/or Examiner endorsements shall be retained for a minimum period of 3 years after the air traffic controller ceases to perform the function for the training organisation or ceases employment at an ATS unit, whichever is longer.

Training Records shall be signed and dated by the student air traffic controller and the OJT Instructor.

A.2.7. CONTINUATION TRAINING REQUIREMENTS

(a) Continuation training (CT) shall comprise of Emergency Continuation Training (ECT), Fatigue Management (FM), Team Resource Management (TRM), unit investigation techniques, Safety Management Systems (SMS), stabilized approach, runway safety, wake vortex and any other operationally significant items based on the particular ATS unit. These may include, but are not limited to: new procedures, airspace changes, callsign confusion management, pending equipment introduction, reviewing both local and overseas incident and accident reports as a basis for evaluating both the ATS unit's procedures and individual practices in similar situations.

Simulation exercises, appropriate educational, informative and instructive videos and question and answer sessions are acceptable types of continuation training.

CT may be ATS unit specific.

Learning outcomes from incident investigations shall be included in CT.

As part of the initial issue of a CoC and annually thereafter, an air traffic controller shall be required to complete ECT, consisting of a minimum of two hours training annually. ECT outcomes shall be recorded in the air traffic controller's training record.

ATS units shall provide FM, SMS, and unit investigation techniques courses at intervals not exceeding 2 years per air traffic controller.

(b) ECT refers to those courses of training described and detailed in the UTAP or required by the Authority in the handling of aircraft subject to emergencies and unusual/abnormal situations.

Such courses shall be comprehensive in covering all aspects of the handling of aircraft subject to emergencies, relevant to the rating/s held by the air traffic controller. ECT courses at ATS units not described and detailed in the UTAP shall be submitted to the Authority for acceptance.

ECT may be conducted as part of an associated rating course or as a separate course.

ATS units should consult with Airline and General Aviation operators, as often as possible, to determine specific operator requirements that may impact on the handling of aircraft subject to emergencies. These requirements shall be incorporated into ECT course content.

Air Traffic Controllers observing pilot emergencies at pilot training flight simulators acceptable to the Authority may have this time credited toward the annual ECT requirement.

A holder of an Air Traffic Controller License shall not be entitled to exercise the privileges of a rating contained in that license unless the holder has demonstrated appropriate competence in the handling of aircraft subject to emergencies and unusual/abnormal situations. Failure to demonstrate the appropriate competence shall result in the Certificate of Competence being withdrawn for the applicable ATC Rating.

(c) ECT for all ATC ratings shall contain a requirement for the air traffic controller to interact with live or simulated emergency services for the purpose of passing emergency messages, and ensuring the Aerodrome Control rated air traffic controller can direct emergency vehicles to an accident/incident site. An operational turn out is not necessarily required.

(d) ECT courses shall include the following:

1. Sufficient instruction with regard to aircraft types, structures and systems to enable air traffic controllers to understand information provided by pilots which may have a bearing on the handling of emergencies;

2. A comprehensive range of emergency situations for the aircraft types and phases of flight handled by the unit;

3. Unexpected occurrences, and ATC errors, requiring avoiding action and the passing of traffic information, to prevent loss of separation, or to re-establish separation;

4. Failures of ATC equipment;

5. Interaction with emergency services;

6. Human Factors principles, in relation to communication between ATS units and aircraft subject to emergencies; and

7. Alerting Service requirements to adequately assess an ATS Officer's knowledge, understanding and ability to practically meet the phase declaration requirements.

(e) ECT shall be related to the type of service provided by the unit and air traffic controller and, where possible, components of the training shall be carried out in a simulator.

A.2.8 ENGLISH LANGUAGE PROFICIENCY (ELP) TRAINING

(a) ATS units shall provide aviation English language proficiency training to air traffic control assistants who demonstrate an ELP less than level 4.

(b) Air traffic control assistants, student air traffic controllers and air traffic controllers who have demonstrated an ELP level of less than the minimum required Operational Level (Level 4) shall be required to complete English Language training at an accredited English Language Institution, focusing on the area/s of weakness identified in the failed assessment, prior to being considered for reassessment by a formal aviation English language proficiency test center/facility approved by the Authority.

(c) On satisfactory completion of the course, the results of the course and subsequent re-assessment shall be forwarded to the CAA (ATMD) in the case of ATCA's, or to the Licensing Authority in the case of student air traffic controllers and air traffic controllers.

A.2.9. MINIMUM EXPERIENCE REQUIREMENTS

(a) Minimum Experience Requirement (MER) is defined as a minimum period of training under supervision, stated in Valid Training Hours.

Training Hours are defined as the total hours worked during a shift that provided operationally valuable training, which shall be determined by the OJT Instructor to ensure compliance with MER.

Training hours shall be recorded in the training summary report and a copy of the report shall be submitted to the CAA as evidence of having met the MER for a license or rating application.

(b) The MER for the issue of a CoC in a Rating not previously held is based on the:

1. Type of rating;

2. Student's previous experience in other ratings.

Note: Types of ratings are defined in Appendix 3.8(b)

(c) Before a student air traffic controller or air traffic controller may commence training toward a CoC leading to a grant of a Rating not previously held, he shall be required to complete a minimum consolidation period of 900 hours of operationally valid duty in the current Rating, unless the currently held rating was Approach, whereby 400 hours of operationally valid duty in the Approach Rating shall satisfy minimum consolidation.

Before a student air traffic controller or air traffic controller is issued a CoC leading to a grant of a Rating not previously held, he shall be required to complete:

1. The Minimum Experience Requirement (MER) as detailed in Appendix 2.9(d) uninterrupted by duties in a different Rating (unless currency is maintained in only 1 other Rating by (i) working not more than 2 shifts in any 6 consecutive days and (ii) the 2 shifts shall not be for the same shift period {a shift period being a morning, afternoon or night shift} in the previous Rating and (iii) only 1 Rating shall be exercised per shift and (iv) not more than 50% of total monthly hours worked are acquitted in the previous Rating and (v) neither the trainee nor the Head of Training nor License Issuer objects to maintenance of currency in the previous Rating and (vi) the standards department follows procedures to monitor the performance of the trainee in the previous Rating;

or an UTAP; and

2. The requirements for the issue of a CoC as detailed in Appendix 2.10(b).

(d) A student air traffic controller's Minimum Experience Requirement towards the issue of a CoC for a Rating not previously held for a particular operational position is stated in net Valid Training Hours and is tabulated below:

	MER (hours)
Area/Area Surveillance	300

Approach Surveillance	300
Tower	300

(e) No reduction in the MER shall be allowed for a student air traffic controller who has no previous rating experience.

(f) For a controller with at least 2 years previous experience in a different rating the Minimum Experience Requirement may be reduced by up to one half (50%) of the values tabulated above, provided:

1. The previous rating has been exercised within 90 days of commencing OJT for the new rating;

2. The previous rating has been exercised for not less than two years on full-time operational duties;

3. The new rating is in the same or lower Traffic Density environment, as determined by the BCAA, as the previous rating;

4. Area / Area Surveillance (Radar) students have previous Approach Surveillance (Radar) experience; and

5. Approach/Approach Surveillance students have previous Area/Area Surveillance experience.

(g) Before an air traffic controller is granted a CoC for a rating previously held, as accepted under Appendix 3.4(d).2 he shall be required to complete:

1. The Minimum Experience Requirement (MER) as detailed in Appendix 2.9(i); or

2. A UTAP; and

3. The requirements for the issue of a CoC as detailed in Appendix 2.10(b).

(h) The MER for the issue of a CoC in a Rating previously held is based on the type of rating and the Traffic Density environment, as determined by the BCAA, of the unit.

Note: Conditions for acceptance of previous experience are as detailed in Appendix (i) A controller's MER towards the issue of a CoC for a Rating previously held for a particular operational position is stated in net Training Hours and is as tabulated below:

MER (shifts/hours)	
Area/Area Surveillance	180
Approach Surveillance	180
Tower/Approach	180

(j) For an air traffic controller with previous experience the Minimum Experience Requirement may be reduced by substitution of up to 50% simulator training time, provided the simulation presents a valid representation of the airspace, traffic pattern, and operational environment in which the CoC is sought.

(k) Valid Training Hours shall be logged and a training summary report submitted to the CAA with the License or Rating Application as evidence of having met the MER.

A.2.10. COMPETENCE OF AIR TRAFFIC CONTROLLERS

a) ATS units shall ensure that the Air Traffic Control service being provided at a unit is being conducted in accordance with the requirements of CAR 003 and maintained at a satisfactory level by issuing and renewing Certificates of Competence (CoC) in accordance with the instructions in this section.

b) A CoC denotes that the holder has been certified by an approved examiner as being competent to provide an unsupervised air traffic control service at a specific operational position.

A CoC certifies that the holder has successfully completed:

1. Written, practical and oral examinations relevant to the operational position;

2. An Emergency Continuation Training course within the current or previous calendar year (except for an initial issue of a rating, where ECT shall be completed before the first issue of that rating); and

3. A Tape Review of live voice and surveillance data (For renewals only).

c) A current CoC shall:

1. Be held for each ATC control position on which an air traffic controller provides an unsupervised ATC service. A single CoC may be issued for multiple ATC control positions for which the air traffic controller has been assessed as competent to exercise the privileges of the ratings. All relevant ATC control positions shall be clearly stated on the CoC;

2. Only be issued to an air traffic controller who has demonstrated satisfactory competence in accordance with the examination, ECT and Tape Review requirements of this section;

3. Be valid for 12 months after the end of the Gregorian calendar month during which the certificate is issued subject to the air traffic controller maintaining the currency requirements of this section;

4. Act as a provisional license for the specific rating and ATC control position for a period of 90 days from the date of issue to allow time for the issue or update of the holders Air Traffic Controller License.

d) A CoC shall be signed and dated by the examiner(s) conducting the examination, the air traffic controller who was assessed and the Head of ATC or his designated representative. The names of the above persons shall be printed on the CoC form to allow for identification.

The ATS unit shall forward a copy of each CoC to the CAA (ATMD) within 5 working days.

A record of the current CoC shall be included in the holder's ATC License.

e) Examinations for the first issue of a CoC shall only be conducted by an authorised ATC examiner.

f) Examinations for the renewal of a CoC, or the re-issue or reinstatement following lapses of validation or suspension of a CoC, shall be conducted by an authorised ATC Examiner or Local Competency Examiner.

g) The ATS unit or the CAA may require CoC examinations to be carried out by an examination board. An examination board shall comprise of an Air Traffic Inspector (ATS) and an ATC Examiner.

h) A CoC shall automatically expire at 2359 local time on the last day of the Gregorian calendar month during which the license holder reaches the age of 68 years. This age restriction may be waived on an individual basis by making application to the Authority which may, at its discretion, extend the expiry date and impose restrictions such as; increased frequency of CoC renewal examinations and/or medical examinations. Such application and supporting materials must be lodged at least 60 days prior to the scheduled expiry of the CoC, and the decision of the Authority regarding extension shall be final.

i) As part of the CoC renewal requirements, not including a re-issue CoC required after remedial training, an air traffic controller shall be required to undergo a Tape Review of live voice and/or surveillance data related to the ratings for which competency is being evaluated, within the previous 12 month period.

A written assessment of the Annual Tape Review shall be dated and signed by either the EXM or LCE, and the air traffic controller, and filed by the ATS unit in the air traffic controller's license records.

j) An annual Tape Review shall encompass all voice and surveillance data related to the ratings for which competence is being evaluated.

The primary objectives of the Tape Review are to allow the air traffic controller to listen to the quality of the his speech including speed of delivery and clarity, and compliance with the requirement to use ICAO standard phraseology in all situations for which it has been specified. Only when standard phraseology cannot serve an intended transmission shall plain English be used in a clear and concise manner.

Examiners shall choose recordings that are recent, random and not connected to a particular shift or incident.

While air traffic controllers shall be informed of the requirement for these reviews, they shall not be advised of the periods being evaluated prior to the review.

Tape Reviews shall be conducted by an authorised ATC Examiner or Local Competency Examiner in the presence of the air traffic controller being assessed.

Prior to conducting an examination for the renewal of a CoC, the examiner shall require evidence that the air traffic controller has completed a Tape Review within the previous 12 month period.

k) Before a CoC is issued or renewed an air traffic controller shall demonstrate satisfactory competence in the following areas by completing a CoC examination.

1. Satisfactory knowledge in the following subjects:

i. air law,

ii. air traffic control equipment,

iii. general aviation knowledge,

iv. human factors, fatigue, and threat and error management relevant to Air Traffic Control including handling of an aircraft in an emergency,

v. English language proficiency including standard ICAO phraseology,

vi. SAR Alerting Service phraseologies and processes,

vii. meteorology,

viii. navigation,

ix. ICAO Standards and Recommended Practices including those in Doc 4444,

x. local Air Traffic Service Instructions (LATSI) and ATS unit operational procedures.

xi. SMS

2. Satisfactorily demonstrate compliance with the following areas:

i. ICAO Doc 9432 Radiotelephony Standards;

ii. the use of ICAO standardised phraseology in all situations for which it has been specified. Only when standardised phraseology cannot serve an intended transmission, shall plain English language be used;

iii. correctly adhering to ICAO Standards and Recommended Practices including those required in ICAO Doc 4444,

3. Correctly complying with LATSI and ATS Unit operational procedures.

l) Prior to conducting an examination for the issue or renewal of a CoC, not including the re-issue of a CoC required after remedial training, the examiner shall require evidence that the air traffic controller has completed an ECT course within the current or previous calendar year.

m) Before a candidate is examined for the issue of CoC, the ATS provider shall ensure that the candidate has met the MER as required in Appendix A.2.9, or completed an UTAP.

The above requirements do not apply to CoC renewals or re-issues following lapses of validation or suspensions.

A CoC examination shall consist of:

1. A written examination paper to be completed within the week prior to the practical examination;

2. A practical examination at the operational position or sector where an air traffic controller will be exercising the privileges of a rating; and

3. An oral examination to be conducted after the successful completion and review of the written and practical examinations.

n) The written examination shall include questions covering at least the following areas:

1. local ATS instructions

2. unit SMS;

3. current supplementary operating instructions;

4. temporary operating instructions and other relevant operational documentation;

5. relevant parts of CAR 003;

6. relevant parts of Annexes 2, 11 and Doc 4444;

7. relevant NOTAMs and AICs.

8. the operational aspects of equipment used at the relevant operational position; and

9. Scenario type questions relating to the handling of aircraft in emergencies.

o) The duration of the practical examination shall depend on the traffic situation at the time and shall not be less than 1 hour for renewals/re-issues or 2 hours for the first issue of CoC. A representative level of traffic intensity and complexity for that unit must be observed during the examination. Where the traffic requirements are not met the examination shall be rescheduled.

p) The examiner may also require the candidate to demonstrate the handling of a simulated emergency, a communications exercise, or a simulated practice call out of the Airport Rescue and Fire Fighting Service.

q) During the practical examination, the examiner should sit adjacent to the air traffic controller to observe any surveillance or data display being used and to monitor the frequency and telephones.

If there are overriding operational reasons, the examiner may assess an air traffic controller from a remote position. It is important in these circumstances that the air traffic controller is advised of the situation.

r) Following a practical examination, the examiner shall de-brief the air traffic controller and apprise him of his performance.

s) In circumstances where the traffic requirements of Appendix 2.10(o) cannot be met, it may not be possible to complete a renewal prior to the expiry date of a CoC. In such circumstances, the DATM may, at his discretion, grant an extension to the current CoC not exceeding 48 hours beyond midnight on the date of expiry, to allow the air traffic controller to continue to exercise the privileges of his license until a further practical examination can be conducted.

t) The oral examination shall follow the successful completion of the written and practical examinations and shall consist of:

1. Topics not covered during the written and practical examinations; and

2. Areas identified in the written examination where the candidate's knowledge is seen to be deficient or a wider understanding needs to be confirmed.

u) The written and oral examination pass mark for student air traffic controllers and air traffic controller shall be 70%.

The written and oral examination pass mark for license holders with endorsements as OJT Instructors, Local Competency Examiners and ATC Examiners, shall be 85%. License holders of these categories achieving 70 to 84% may retain their CoC, but shall have the appropriate endorsements withdrawn.

The written and oral examination pass mark for retaken examinations shall be 85%.

The written and oral examinations shall be conducted under supervision without reference to any document, maps, charts or any other material except where specified by the examiner.

v) A candidate failing an examination for the issue of a CoC shall be required to successfully complete an additional period of training before being permitted to retake the CoC examination. In such a case, the ATS Provider, in consultation with the license issuer, shall agree on the minimum additional training required.

w) If the examiner is not satisfied that the air traffic controller is competent, he will immediately inform the air traffic controller concerned. The air traffic controller shall not be permitted to exercise the privileges of the particular rating or ratings for which he has been found not competent.

x) Records of ATC Licenses, CoCs, examinations, tests and Tape Reviews shall be maintained in a file for each air traffic controller at the appropriate ATS unit. Such records shall be retained for a period of 3 years after the air traffic controller has ceased operational duties.

A.2.11. FAILURE TO MAINTAIN COMPETENCE

a) If, during the period between annual competence examinations, the ATS Provider becomes aware that the competence of an air traffic controller is in doubt, the air traffic controller shall promptly be removed from operational duties and his CoC shall be withdrawn. The ATS unit shall subsequently notify the CAA.

b) An air traffic controller whose CoC has been withdrawn shall not provide an air traffic control service associated with that rating except under the supervision of an OJT Instructor. Excluding cases where an air traffic controller's CoC has been withdrawn following relief from duty due to his involvement in an incident, he may continue to provide an unsupervised service for the ratings in which he remains competent.

c) An air traffic controller whose CoC has been withdrawn shall be required to undergo a period of training under supervision and successfully complete a CoC examination before a CoC is re-issued.

d) The period of training under supervision shall be determined by the ATS unit and acceptable to the CAA, and is a minimum period, which shall be extended in cases where an air traffic controller's ability to safely and professionally exercise the privileges of a particular rating is in doubt.

e) If following the acceptable period of remedial training the air traffic controller is assessed as not competent, the CAA shall be notified in writing and will subsequently amend the air traffic controller's license, which may result in revocation of the Air Traffic Controller License or any of its associated ratings. The CAA may elect to suspend or permanently revoke the air traffic controller's ATC License.

f) Air traffic controllers who have had their licenses suspended or permanently revoked shall forward their licenses to the CAA.

APPENDIX 3: AIR TRAFFIC CONTROL LICENSING

A.3.1 INTRODUCTION

(a) The Kingdom of Bahrain, as a member of the International Civil Aviation Organisation (ICAO) and signatory to the Chicago Convention complies, as far as is practicable, with the standards published in the Annexes to the Convention on International Civil Aviation. The Law no. 14 of 2013 with respect to the issuance of Civil Aviation Law, as supplemented by Executive Decree 6 of 2013, empowers the Civil Aviation Affairs (CAA) to implement the Chicago Convention and this chapter is the CAA's implementation of those parts of Annex 1, Licensing of Personnel, which relate to the licensing of air traffic controllers. The CAA is responsible for the licensing of air traffic controllers and students within Bahrain.

(b) Air traffic controller ratings in Bahrain shall comprise of the following categories:

1. Aerodrome control rating (ADC)

2. Approach control procedural rating (APP)

3. Approach control surveillance rating (APS)

4. Area control procedural rating (ACP)

5. Area control surveillance rating (ACS) *Note: The approach precision radar control rating is not applicable to Bahrain*.

6. Air Traffic Control Assistant (ATA) *Note: The grant of an ATA rating is not a validation of an Air Traffic Control License. It is a component of a Student Air Traffic Control License.*

A.3.2 APPLICABILITY

(a) The ATC licensing regulations as set out in this appendix are issued under the provisions of Article 18 of Law no. 14 of 2013 with respect to the issuance of Civil Aviation Law.

References to the masculine apply equally to the feminine.

(b) By a valid license the Authority means one that is sound and sufficient in law, and has been signed by Undersecretary for Civil Aviation of the CAA, or his designated representative.

(c) When receiving Air Traffic Controller Licenses and Student Air Traffic Controller Licenses from the Authority the ATS unit shall check that these have been signed by the Director of the Authority or his designated representative.

(d) The Authority may delegate the issuance, control, insuring of liability, and record keeping of Air Traffic Controller Licenses and Student Air Traffic Controller Licenses to a certified ANSP or other entity acceptable to the ASSD.

(e) An Air Traffic Controller License or Student Air Traffic Controller License shall not be issued unless there exists liability insurance, which is satisfactory to the Authority, against the risks arising from the exercise of that license.

A.3.3 LICENSING APPLICATION PROCEDURE

(a) Applications for Student Air Traffic Controller Licenses, Air Traffic Controller Licenses, ratings and endorsements, shall be made in accordance with the relevant requirements, Annexes and Attachments of CAR003.

Correspondence and enquiries regarding any of the requirements in this document, or general queries about ATC licensing, shall be directed to the Bahrain Civil Aviation Affairs Air Traffic Management Directorate.

The Head of ATC or his designated representative shall be responsible for making the licensing applications on behalf of the applicant. By signing the application the Head of ATC or his designated representative accepts accountability that the applicant shall be compliant with the CAR003 ATC training, assessment and licensing requirements.

(b) Applicants shall allow ten (10) working days for the processing of licensing applications. It is the applicant's responsibility to ensure that renewal applications, where required, are submitted at least 15 working days prior to the expiry date.

A person whose license has been lost or destroyed shall obtain a temporary copy, which shall be carried as proof of the license holder's status until the Air Traffic Controller License has been replaced.

(c) All applications for licenses shall be subject to the applicant holding a current medical certificate as per CAR003. The ATS unit shall arrange a booking for the ATC medical examination, with an approved Aero Medical Examiner from the list provided by BCAA.

(d) An Air Traffic Controller License is perpetually valid unless another period is specified by the issuer and approved by the BCAA, or is canceled by the Authority or the issuer.

Air Traffic Controller Licenses will automatically expire at 2359 local time on the last day of the Gregorian month during which the holder reaches the age of 68 years, unless a waiver has been granted in accordance with A.2.10 h).

(e) Applications for an Air Traffic Controller or Student Air Traffic Controller license may only be made by persons

(1) employed by the BCAA, or

(2) employed by certified air navigation service providers, or

(3) in receipt of written offers of employment by the BCAA or a certified ANSP, or

(4) others accepted by the BCAA as requiring such licenses in the normal performance of their duties.

A.3.4 STUDENT AIR TRAFFIC CONTROLLER LICENSE

(a) A person who provides an air traffic control service under supervision, towards the grant of an Air Traffic Controller License or an additional first or subsequent rating, shall be required to hold a Student Air Traffic Controller License under the requirements of this Regulation.

(b) Unless specifically hired to perform only Air Traffic Control Assistant duties, persons recruited to be trained as Air Traffic Control Officers shall obtain a Student Air Traffic Control License before obtaining the ATA rating. Persons hired to perform only Air Traffic Control Assistant duties shall be subject to licensing requirements determined by the Authority, and agreed by the DASS. Persons hired to perform only Air Traffic Control Assistant duties and who are subsequently offered positions as trainee Air Traffic Controllers shall obtain a Student Air Traffic Controller License prior to commencing any further training.

(c) To be granted a Student Air Traffic Controller License, the applicant shall satisfy the appropriate requirements for age, knowledge, experience, competence, skill, linguistic ability and physical and mental fitness as detailed in this section of the regulations.

Furthermore, the applicant shall only exercise the privileges of the Student Air Traffic Controller License at an air traffic service unit subject to the Bahrain Civil Aviation Regulations.

(d) Before the Authority will grant a Student Air Traffic Controller License to a person not holding a BCAA Air Traffic Controller License, it will require the applicant to meet the following requirements:

1. Be not greater than 65 years of age on application date; and

2. Successfully complete an ICAO ATC course, or equivalent, approved by the BCAA (ASSD) for the applicable rating for which the Student will undergo OJT; or

3. Have acted as a certified civilian air traffic controller performing full time operational duties for a minimum period of 3 years, in the applicable rating the Student will undergo OJT, at a civil air traffic facility under the jurisdiction of an authority, whose ATC licensing system has been deemed by the Authority as meeting the requirements laid down in these regulations; and

4. Demonstrate to the satisfaction of the Authority, through a test acceptable to the Authority, the ability to speak and understand the English language used for radiotelephony communications to the level specified in the ICAO language proficiency requirements in Appendix 3.9 and

5. Hold a current ATC Medical Certificate.

(e) Applicants seeking issue of ratings with reference to Appendix 3.4(c).3 shall:

1. Provide copies of their Air Traffic Controller License(s);

2. Provide a Verification Letter from the Civil Aviation Authority having issued their Air Traffic Controller License(s);

3. If required by the ATS unit, submit themselves for an Assessment of Previous Competence (APC) by an ATC Examiner; and

4. Undertake and complete that part of an approved course of training which the ATC Examiner has determined is necessary and which is approved by the BCAA (ASSD).

(f) The Authority will, at its discretion and subject to an evaluation of training plans and facilities, ATC systems, airspace structure, operating procedures, applied standards, safety management systems and general service level, identify States and ATS units, from whom civil ATC credentials will be accepted to meet the requirements of Appendix 3.4(c).3.

(g) The ATS unit shall provide the following evidence for the issue of a Student Air Traffic Controller License:

1. Proof of the applicant's age (valid passport copy);

2. Certification that the applicant has successfully completed an ICAO ATC course, or equivalent, approved by the Authority; or

3. Certification that the applicant has met the previous requirements stated in Appendix A3.4(c).3; and

4. Certification that the applicant has demonstrated at least the minimum operational English Level of Proficiency.

(h) It is the responsibility of the applicant to ensure that his license is valid, in that it is a current Student Air Traffic Controller License for the applicable rating and contains a current ATC medical certificate.

(i) OJT Instructors shall remain responsible at all times for the safety of the air traffic control service that the Student is providing under his supervision.

(j) A Student Air Traffic Controller License shall not be extended beyond a total duration of 2 years. In cases where training has been interrupted due to exceptional circumstances, the Authority may, at its discretion renew, extend or re-issue a Student Air Traffic Controller License.

(k) The holder of a Student Air Traffic Controller License who has not exercised the privileges of that license for a period of 1 year may only commence or continue OJT in that rating after assessment of previous competence as to whether the Student continues to satisfy the requirements relevant to that rating, and after satisfying any training requirements that result from this assessment.

(l) The Authority will not issue a Student Air Traffic Controller License valid for combined ratings, except when ATS units require combined training in two ratings, e.g. aerodrome control and approach control procedural.

A.3.5 AIR TRAFFIC CONTROLLER LICENSE

(a) A person shall not act as an air traffic controller in the Kingdom of Bahrain unless that person holds a valid Air Traffic Controller License issued by the Authority.

(b) To be granted an Air Traffic Controller License, the applicant shall satisfy the appropriate requirements for age, knowledge, experience, competence, skill, linguistic ability and physical and mental fitness as detailed in this section of the regulations.

(c) Furthermore, the applicant shall only exercise the privileges of the Air Traffic Controller License at an ATS unit (ATSU) subject to the Bahrain Civil Aviation Regulations.

(d) An applicant for initial issue of an Air Traffic Controller License shall meet the following requirements:

1. Be not less than 21 years of age and not greater than 65 years of age on application date;

2. Demonstrate to the satisfaction of the Authority, the ability to speak and understand the English language, used for radiotelephony communications, to the level specified in the ICAO language proficiency requirements in Appendix A.3.9;

3. Meet the applicable Minimum Experience Requirements (MER) for the entry qualifications, rating and unit as detailed in Appendix 2.9;

4. Be assessed as being competent (as defined in Appendix 2.10), to provide a specific category of air traffic control service at a particular ATSU; and

5. Hold a current ATC Medical Certificate from an approved Aero Medical Examiner;

6. Hold a current Student Air Traffic Controller License.

(e) The ATS unit shall provide the following evidence for the issue of an Air Traffic Controller License:

1. Certification that the applicant has successfully completed the relevant requirements of the Unit Training and Assessment Plan (UTAP); and

2. Certification that the applicant has met the Minimum Experience Requirement (MER); and

3. A valid Certificate of Competence (CoC) for the applicable rating.

A.3.6 REQUIRED KNOWLEDGE, SKILLS AND EXPERIENCE

(a) The knowledge required to be demonstrated by an air traffic controller or a student air traffic controller, shall be at an appropriate standard for a holder of an Air Traffic Controller License, and include at least the following subjects:

1. Air Law;

2. Air Traffic Control Equipment;

3. General Aviation Knowledge;

4. Human Factors, performance limitations, e.g. fatigue, relevant to ATC;

5. Threat and Error Management;

6. English Language Proficiency;

7. Meteorology;

8. Navigation;

9. Air Traffic Control Procedures; and

10. Safety Management System

(b) The experience required shall include:

1. Experience gained while controlling under the supervision of an OJT Instructor for a required minimum period of time, known as the Minimum Experience Requirement (MER), before a CoC is issued for a rating; or

2. Experience gained while training in accordance with an approved ATS unit training and assessment plan (UTAP); or

3. Experience previously gained by air traffic controllers from other States holding licenses accepted by the Authority as detailed in Appendices 3.4(c).3.

(c) The skill and competence required shall be demonstrated by:

1. Successful completion of an ICAO ATC training course, or equivalent, approved by the BCAA (ASSD); and

2. Being assessed as competent (as defined in Appendix 2.10), to provide a specific category of air traffic control service at a particular air traffic services unit (ATSU).

(f) The English language proficiency requirements as defined in Attachment 1 to Appendix 3.9, shall be met.

(g) The physical and mental fitness requirements shall be met by the issuance of a Bahrain ATC Medical Certificate.

(h) The Authority may grant a license subject to such conditions as deemed appropriate to a person to act as an Air Traffic Controller, or as a Student Air Traffic Controller, upon being satisfied that the applicant is a fit person to hold the license and is qualified by reasons of knowledge, experience, competence, skills, physical and mental fitness, and attitude to so act. For that purpose the applicant shall, at his expense, furnish such evidence and undergo such training, examinations and tests (including medical examinations) as the Authority may require.

Military experience and licenses are not recognised under the provisions of Appendices 3.4(c).3.

A.3.7 LICENSE AND CERTIFICATE MAINTENANCE AND RETURN

(a) A Student Air Traffic Controller License and an Air Traffic Controller License are valid for a period of 2 years, unless another period is specified by a license issuer and approved by the BCAA (ASSD).

For an Air Traffic Controller to take responsibility of an ATC operational position he shall:

1. Hold a valid Air Traffic Controller License for the relevant ATC rating;

2. Hold a valid Certificate of Competence (CoC) for the relevant rating and sector(s);

3. Hold a valid ATC Medical Certificate; and

4. Hold a valid English Language Proficiency Certificate of Level 4 or greater.

(b) For a Student Air Traffic Controller to undertake OJT in an ATC operational position, under the supervision of an OJT Instructor endorsed by the Authority, he shall:

1. Hold a valid Student Air Traffic Controller License for the relevant ATC rating;

2. Hold a valid ATC Medical Certificate; and

3. Hold a valid English Language Proficiency Certificate of Level 4 or greater.

(c) For an Air Traffic Controller to hold a valid Endorsement he shall hold a current Air Traffic Controller License.

(d) A holder of an Air Traffic Control License shall not be entitled to exercise the privileges of a rating contained in that license unless he holds a current CoC specific to the unit or sector, at which the air traffic control service is to be provided.

(e) For the Air Traffic Controller License or Student Air Traffic Controller License to remain current the holder shall advise the ATS unit of any conditions or limitations applicable to his Air Traffic Controller License including any conditions or limitations to his Medical certificate which may affect the air traffic controller's ability to perform his air traffic control duties safely and efficiently.

Note: Air Traffic Controllers are reminded that it is their responsibility, as Air Traffic Controller License holders, to ensure compliance with the requirements stated in Appendix A.3.7 (e).

(f) An air traffic controller who does not exercise the privileges of a rating, for which a CoC has been issued, for a period likely to impair his performance through lack of routine, shall not exercise the privileges of the rating in question until an agreed upon period of training under supervision has been completed.

(g) To remain current the air traffic controller shall perform the minimum number of hours of operational duty, as listed below, during the previous 30 days:

1. 12 hours for an air traffic controller holding currency in one rating discipline, including one or more ATC control positions classified as a group sector, related to that rating discipline; or

2. 12 hours for an air traffic controller holding currency in more than one rating discipline, where the rating disciplines are normally combined during low traffic periods; or

3. 8 hours for each rating discipline held, for air traffic controllers holding currency in more than one rating discipline, where the rating disciplines are not normally combined; or

4. 8 hours for each group sector held in one rating discipline, for air traffic controllers holding currency in more than one group sector.

These minimum total duty periods shall be conducted on ATC control positions appropriate to the rating and be performed without supervision and without OJT Instructor/Examiner duties. Where OJTI Instructor/Examiner duties are performed, those hours may contribute up to a maximum of 50% of the minimum hours required.

A Group sector is a combination of ATC control positions related to one ATC rating discipline, which are treated as a single sector rating, in regard to a CoC. The minimum hour rule above and the associated remedial measures stipulated in Appendices 3.7(h) and 3.7(i) represent the minimum direct exposure to handling of air traffic necessary to maintain adequate routine and currency. Individual needs for practice may be higher, owing to local conditions, personal traits, variability in traffic etc. The rules formulated to strike a balance between the need for frequent practice and ease of administration and application do not relieve the air traffic controller from duty of care with

respect to personal performance. ATS unit management shall have the option to institute higher minimum hour requirements.

(h) For air traffic controllers failing to satisfy the currency requirement stipulated in Appendix 3.7(g), competence may be ascertained by the following methods;

1. Perform a Currency Check under the supervision of an OJT Instructor endorsed by the Authority lasting not less than 2 hours under traffic conditions permitting an evaluation of performance, at the discretion of the ATS unit. The OJT Instructor conducting the supervision is the responsible air traffic controller; or

2. By a Certificate of Competence (CoC) examination, including the components of written, practical and oral examinations, conducted by a Local Competency Examiner (LCE) or ATC Examiner (EXM) endorsed by the Authority.

(i) Reserved.

(j) The ATS unit shall contact the Authority (Air Navigation section) to determine the amount of training required for cases not covered by Appendices 3.7(g), 3.7(h), and 3.7(i) or where doubt exist as to the proficiency status of the air traffic controller concerned.

Notwithstanding the alternative (remedial) actions detailed in Appendix 3.7(h), the Authority may require a complete CoC examination.

(k) The validity of a CoC shall lapse after an air traffic controller fails to exercise the operational privileges of an ATC rating for a period greater than 90 days, or after failing to satisfy the means of compliance in Appendices 3.7(g), 3.7(h) and 3.7(i).

Air traffic controllers failing to meet the requirements detailed above shall inform the ATS unit that his competence has lapsed.

(l) Where a CoC ceases to be valid for one rating, an air traffic controller may continue to exercise the privileges of any other rating for which he holds a valid CoC.

(m) Active simulator practice (not instructional duties) may be substituted for up to 50 percent of the minimum operational hours requirement.

Simulator hours which are credited towards minimum operational duty requirements, shall only include exercises which accurately represent the airspace, traffic pattern and operational environment of the operational position for which the hours are credited.

(n) ATS units shall have a process in place to ensure that Air Traffic Controller Licenses, Student Air Traffic Controller Licenses, Certificates of Competence and ATC Medical Certificates are signed by the holder and securely filed within the ATS unit.

(o) The ATS unit shall retain ATC Licenses and ATC Medical Certificates and have a process in place to monitor the renewal and currency requirements for each License and ATC Medical Certificate.

(p) An Air Traffic Controller License is not required by persons who pass instructions or advice on behalf of an air traffic controller by the use of radiotelephony (RTF) or telecommunication lines.

1. An ATS unit which wishes to utilize such persons shall:

2. Submit proposal to the Authority for approval;

3. Such proposal shall indicate the types of messages that will be passed and the safety implications of using such a procedure;

4. Submit training and assessments plans to ensure that those who will pass instructions and/or advice on the air traffic controller's behalf are competent to do so and are assessed annually to ensure they remain competent.

(q) An Air Traffic Controller License, complete with the Rating and Endorsement Record and the ATC Medical Certificate may be kept by the ATS unit or air traffic controller when the holder ceases operational duties permanently, unless the license has been revoked in which case it shall be returned to the Authority.

A.3.8 AIR TRAFFIC CONTROLLER RATINGS AND ENDORSEMENTS

(a) Ratings of the classes outlined below may be included in an Air Traffic Controller License subject to the provisions of these Regulations. The inclusion of a rating in a license shall confer the privileges as set out below.

(b) The following ratings, indicating the type of air traffic control service, which the holder is authorised to provide, shall be included in an Air Traffic Controller License:

1. Aerodrome Control (ADC).

To provide or to supervise the provision of aerodrome control service for the aerodrome for which the license holder is rated.

2. Approach Control Procedural (APP).

To provide or to supervise the provision of approach control service for the aerodrome or aerodromes for which the license holder is rated, within the airspace or portion thereof, under the jurisdiction of the unit providing approach control service.

3. Approach Control Surveillance (APS).

To provide or to supervise the provision of approach control service with the use of applicable ATS surveillance systems for the aerodrome or aerodromes for which the license holder is rated, within the airspace or portion thereof, under the jurisdiction of the unit providing approach control service.

4. Area Control Procedural (ACP).

To provide or to supervise the provision of area control service within the control area or portion thereof, for which the license holder is rated.

5. Area Control Surveillance (ACS).

To provide or to supervise the provision of area control service with the use of an ATS surveillance system, within the control area or portion thereof, for which the license holder is rated.

(c) An air traffic controller who has not exercised the privileges of a rating for a period of more than 3 years, who wishes to commence training towards the issue of a CoC in that rating, shall be required to demonstrate that he is competent to commence training under supervision.

The air traffic controller's suitability to commence training shall be assessed through an assessment of previous competence (APC) by the ATS unit at which he will commence On-the-Job training.

The level of competence to be demonstrated shall be equivalent to that expected of a Student having passed an approved course of training, prior to commencing On-the-Job training.

(d) Endorsements:

1. ATC Examiner (EXM)

The EXM endorsement shall entitle the holder of a license to conduct examinations for the issue and renewal of Certificates of Competence, at operational positions or sectors on which the holder is currently competent.

2. Local Competency Examiner (LCE)

The LCE endorsement shall entitle the holder of a license to conduct examinations for the renewal of Certificates of Competence, including re-issues following lapses of validation of less than 12 months or suspensions at operational positions or sectors on which the holder is currently competent.

3. OJT Instructor (OJT)

The OJT endorsement shall entitle the holder of a license to conduct On-the-Job training in simulators or at operational positions or sectors on which the holder is currently competent.

The Bahrain Air Traffic Controller License shall reflect the applicable rating(s) for which the endorsement is valid.

(e) The holder of a license shall not simultaneously perform the functions of more than one rating except at ATS units where it has been determined by the ATS unit through a safety assessment accepted by the Authority that this can be achieved safely for the following ratings:

1. The aerodrome control and approach control procedural ratings; or

2. The approach control procedural and the approach control surveillance ratings; or

3. The approach control procedural and the area control procedural ratings; or

4. The area control procedural and the area control surveillance ratings;

(f) ATS units shall ensure that the validation of ratings is conducted by an appropriate examiner approved by the Authority whose endorsement is recorded in his Air Traffic Controller License.

(g) An air traffic controller may be endorsed as an ATC Examiner at the discretion of the Authority, providing:

1. He currently holds a Local Competency Examiner endorsement which has been held for at least 1 year;

2. He holds and maintains Certificates of Competence for the sectors or operational positions for which examinations will be conducted; and

3. He has conducted at least 2 initial or subsequent issues of CoC examinations under the supervision of an ATC Examiner.

Note: The 1 year requirement in A.3.8.(g).1 may be reduced by the Authority after consideration of previous suitable ATC control and examination experience and following a submission from the ATS unit.

(h) An air traffic controller may be endorsed as a Local Competency Examiner at the discretion of the Authority providing:

1. He has at least 5 years full time operational ATC experience in the rating for which the examinations will be conducted;

2. He maintains and has held for a minimum period of 2 years, Certificates of Competence for the sectors or operational positions for which examinations will be conducted;

3. He currently holds an OJT Instructor endorsement, which has been held for at least 1 year, at the unit for which the examinations will be conducted;

4. He has completed an examiners course acceptable to the BCAA (ASSD); and

5. He has conducted at least 2 CoC renewal examinations under the supervision of an ATC Examiner.

Note: The time requirement in A.3.8.(h).2 and 3.8.(h).3 may be reduced by the Authority after consideration of previous suitable ATC control and examination experience and following a submission from the ATS unit.

(i) An air traffic controller may be endorsed as an OJT Instructor, at the discretion of the Authority, providing:

1. He has at least 2 years full time operational experience in the rating for which instruction will be conducted;

2. He maintains, and has held for a minimum period of 1 year, Certificates of Competence for the sectors or operational positions for which instruction will be conducted;

3. He has completed an OJT Instructor course acceptable to the BCAA (ASSD); and

4. He has completed unit specified training on the conduct of the UTAP scheme.

(j) The ATS unit shall provide the following evidence for the issue of a rating:

1. Certification that the applicant has successfully completed an approved ATC course for the applicable rating; or

2. Evidence that the applicant has acted as a certified civilian air traffic controller performing full time operational duties for a minimum period of 3 years, in the applicable rating, at a civilian air navigation facility under the jurisdiction of an authority, whose ATC licensing system has been deemed by the Authority as meeting the requirements laid down in these regulations; and

3. Certification that the applicant has met the Minimum Experience Requirements (MER) associated with that rating; or

4. Certification that the applicant has successfully completed the UTAP associated with that rating; and

5. A valid CoC for the applicable rating.

(k) Where the aerodrome control function is divided into specialist operational positions, an air traffic controller shall be competent on all positions, before a CoC relating to the Aerodrome Control rating will be issued.

A specialist operational position in aerodrome control refers to ground movement control, aerodrome control and planner etc.

ATS units shall seek advice from the Authority to determine if their air traffic controllers are required to hold both an approach control procedural rating and an approach control surveillance rating and, area control procedural rating and an area control surveillance rating.

(l) At units where ATS surveillance systems are the primary controlling aid, air traffic controllers may not be required to hold a separate procedural rating provided that:

1. Surveillance derived information is continuously available during the notified period of the provision of an ATS surveillance service;

2. Contingency measures and the procedures to be used in the event of a surveillance failure are published in the unit ATS Operations Manual, e.g. LATSI;

3. The surveillance used to provide the ATS surveillance service is surveillance radar;

4. The ATS unit provides such additional procedural training as is appropriate to unit procedures. This training may be undertaken either at the unit or at an ATS Training Organisation providing the training under a programme acceptable to the BCAA (ASSD);

5. Procedures for ATS surveillance service contingencies are assessed as part of CoC examinations.

A.3.9 ENGLISH LANGUAGE PROFICIENCY

(a) All air traffic controllers and student air traffic controllers, shall be required to demonstrate an English language proficiency at the operational level, (level 4) or greater. See Attachment 1.

Air traffic controllers or student air traffic controllers shall be assessed, by means of a test acceptable to the Authority, for English language proficiency.

(b) Air traffic controllers and student air traffic controllers, who demonstrate an English language proficiency at the Expert Level (Level 6), are normally not required to undergo further evaluation unless doubt is raised at a later date, by unit management or the Authority, as to the English proficiency level of the person.

(c) Air traffic controllers and student air traffic controllers, who demonstrate English language proficiency below the Expert Level (Level 6), shall be formally evaluated at time intervals as follows:

1. Those demonstrating English language proficiency at the Operational Level (Level 4) shall be formally evaluated at least once every 3 years;

2. Those demonstrating language proficiency at the Extended Level (Level 5) shall be formally evaluated at least once every 6 years.

(d) Prior to the issue of a Student Air Traffic Controller License for the issue of an ATC Rating, the applicant shall demonstrate an English language proficiency at the Operational Level (Level 4), or greater.

(e) When a formal English language proficiency assessment is required, the assessment shall be conducted at an English testing facility approved by the Authority.

(f) Instructors conducting approved ATC courses shall demonstrate English language proficiency at the Extended Level (Level 5).

A.3.10 MEDICAL REQUIREMENTS

(a) Air traffic controllers and student air traffic controllers shall be subject to the relevant ATC medical requirements, which are detailed in Appendix 6.

(b) Air traffic controllers and student air traffic controllers, who will exercise the privileges of the ATC Rating with or without supervision, shall hold a valid ATC Medical Certificate.

(c) The ATC Medical Certificate shall, without prejudice to other sections of these Regulations, be valid for such period as is specified therein, and shall be deemed to form part of the license.

(d) ATC medical examinations shall be conducted by an Aero Medical Examiner approved by the Authority, or at such other medical facilities as required by the Authority.

(e) The validity of an ATC Medical Certificate is four years until the age of 40, then two years until age 50, then after age 50 it is 1 year, unless endorsed as being for a shorter period by an Aero Medical Examiner.

(f) The ATS unit shall have procedures in place to ensure the following:

1. Holders of ATC Medical Certificates are given an initial notification 2 months prior, and a verification check 1 week prior to the date of expiry of the current ATC Medical Certificate, to ensure the required examination has been completed in a timely manner;

2. ATC operational duties or ATC operational training shall not be conducted in the event of the air traffic controller or student air traffic controller not holding a valid Medical Certificate.

(g) The license holder remains responsible for ensuring that his ATC Medical Certificate is renewed and that examinations and tests are completed when required. The license holder is also responsible for notifying the ATS unit if he is prescribed medication or if his medical fitness is in question.

(h) An air traffic controller or student air traffic controller who fails to meet the ATC Medical standard at a medical examination shall not exercise the privileges of his license.

(i) An air traffic controller or student air traffic controller who fails to meet the ATC standard at a medical examination shall surrender his current ATC Medical Certificate to the Aero Medical Examiner or forward the certificate to the Authority.

(j) ATS units who require advice on the medical aspects of limitations imposed on licenses should contact the appropriate Aero Medical Examiner and the Authority. ATS units who require advice on the operational aspects of any limitation imposed, should contact the Authority.

A.3.11 CERTIFICATION OF SPECIAL AIR TRAFFIC CONTROL RELATED FUNCTIONS

(a) ATS Supervisors, ATS Safety Investigators and ATS Training Instructors (previously known as ATS Instructors or ATSIs) are required to be certified by the ATS unit prior to commencing duties related to these job functions.

(b) The ATS unit shall ensure that procedures and processes are established for the certification of ATS Supervisors, ATS Safety Investigators and ATS Training Instructors, which shall meet the following qualifications, experience and competency requirements:

(c) ATS Supervisor.

1. Hold or have held an ATC License in a rating where supervision will be conducted for a minimum of;

(i) 5 years, of which 2 years have been at the ATS Unit, for an FIC position; or

(ii) 3 years, of which 3 years have been in the Tower being supervised, for a Tower position.

2. Possess good skills in leadership, decision making, team work and overall ATC knowledge;

3. Possess a high level of written and verbal English communications skills;

4. Have successfully completed a supervisory management course or similar;

5. Have demonstrated the competency to conduct supervisory duties to the satisfaction of the ATS unit Head of ATC Training;

6. The ATS Supervisor shall maintain competency at LCE level.

(d) ATS Safety Investigator.

1. Hold or have held an ATC rating in which investigation will be conducted for a minimum of 5 years,

2. Possess a high level of written and verbal English communications skills;

3. Have successfully completed an Incident Investigation course acceptable to the Authority;

4. Have demonstrated to the satisfaction of the Safety Management post holder the competency to conduct Investigator duties to the expected ATS Unit standard.

(e) ATC Training Instructor

1. Hold or have held an ATC License in a rating for which unit ATC theoretical rating training or academic ATC theoretical and simulator training will be conducted, for a minimum of 5 years;

2. Hold or have held an OJT Instructor endorsement for minimum 1 year in a rating for which training will be conducted;

3. For unit training, hold or have held a Certificate of Competence for a minimum of 2 years at the ATS unit in a rating for which unit ATC theoretical rating training will be conducted;

4. Possess a high level of written and verbal English communications skills (ICAO level 5 or higher);

5. Have successfully completed a classroom/presentation instructional techniques course acceptable to the BCAA (ASSD), and maintain currency of that qualification;

6. Have successfully demonstrated competence in the conduct of classroom instruction acceptable to the ATS unit Head of ATC Training or Academy Manager of an ATS Training Organisation.

Attachment 1 ICAO LANGUAGE PROFICIENCY RATING SCALE

LEVEL	PRONUNCIATION	STRUCTURE	VOCABULARY	FLUENCY	COMPREHENSION	INTERACTIONS
	Assumes a dialect and/or accent intelligible to the aeronautical community.	Relevant grammatical structures and sentence patterns are determined by language functions appropriate to the task.				
Expert 6	Pronunciation, stress, rhythm, and intonation, though possibly influenced by the first language or regional variation, almost never interfere with ease of understanding.	Both basic and complex grammatical structures and sentence patterns are consistently well controlled.	Vocabulary range and accuracy are sufficient to communicate effectively on a wide variety of familiar and unfamiliar topics. Vocabulary is idiomatic, nuanced and sensitive to register	Able to speak at length with a natural, effortless flow. Varies speech flow for stylistic effect, e.g. to emphasize a point. Uses appropriate discourse markers and connectors spontaneously.	Comprehension is consistently accurate in nearly all contexts and includes comprehension of linguistic and cultural subtleties.	Interacts with ease in nearly all situations. Is sensitive to verbal and non-verbal cues and responds to them appropriately.

Extended 5	Pronunciation, stress, rhythm and intonation, though influenced by the first language or regional variation rarely interfere with ease of understanding.	Basic grammatical structures and sentence patterns are consistently well controlled. Complex structures are attempted but with errors which sometimes interfere with meaning	Vocabulary range and accuracy are sufficient to communicate effectively on a common, concrete and work related topics. Paraphrases consistently and successfully. Vocabulary is sometimes idiomatic.	Able to speak at length with relative ease on familiar topics but may not vary speech flow as a stylistic device. Can make use of appropriate discourse markers or connectors.	Comprehension is accurate on common, concrete and work related topics and mostly accurate when the speaker is confronted with a linguistic or situational complication or an unexpected turn of events. Is able to comprehend a range of speech varieties (dialect and/or accent) or registers	Responses are immediate, appropriate and informative. Manages the speaker/listener relationship effectively.
Operational 4	Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation but only sometimes interfere with ease of understanding.	Basic grammatical structures and sentence patterns are used creatively and are usually well controlled. Errors may occur, particularly in unusual or unexpected circumstances, but rarely interfere with meaning.	Vocabulary range and accuracy are usually sufficient to communicate effectively on common, concrete and work related topics. Can often paraphrase successfully when lacking vocabulary in unusual or unexpected circumstances.	Produces stretches of language at an appropriate tempo. There may occasional loss of fluency on transition from rehearsed or formulaic speech to spontaneous interaction, but this does not prevent effective communication. Can make limited use of discourse markers or connectors. Fillers are not distracting.	Comprehension is mostly accurate on common, concrete and work related topics, when the accent or variety used is sufficiently intelligible for an international community of users. When the speaker is confronted with a linguistic or situational complication or an unexpected turn of events, comprehension may be a slower or require clarification strategies.	Responses are usually immediate, appropriate and informative. Initiates and maintains exchanges even when dealing with an unexpected turn of events. Deals adequately with apparent misunderstandings by checking, confirming or clarifying.
Pre-Operational 3	Pronunciation, stress, rhythm and intonation are influenced by the first language or regional variation and frequently interfere with ease of understanding.	Basic grammatical structures and sentence patterns associated with predictable situations are not always well controlled. Errors frequently	Vocabulary range and accuracy are often sufficient to communicate on common, concrete or work related topics, but range is limited and the word choice often	Produces stretches of language, but phrasing and pausing are often inappropriate. Hesitations or slowness in language processing may prevent	Comprehension is often accurate on common, concrete and work related topics when the accent or variety used is sufficiently intelligible for an international community of users. May fail to understand a	Responses are sometimes immediate, appropriate and informative. Can initiate and maintain exchanges with reasonable ease on familiar an in predictable situations.

		interfere with meaning.	inappropriate. Is often unable to paraphrase successfully when lacking vocabulary.	effective communication. Fillers are sometimes distracting.	linguistic or situational complication or an unexpected turn of events.	Generally inadequate when dealing with an unexpected turn of events.
Elementary 2	Pronunciation, stress, rhythm and intonation are heavily influenced by the first language or regional variation and usually interfere with ease of understanding	Shows a limited control of a few simple memorized grammatical structures and sentence patterns	Limited vocabulary range consisting only of isolate words and memorized phrases.	Can produce very short, isolated, memorized utterances with frequent pausing and a distracting use of fillers to search for expressions and to articulate less familiar words	Comprehension is limited to isolated, memorized phrases when they are carefully and slowly articulated.	Response time is slow and often inappropriate. Interaction is limited to simple routine exchanges.
Pre-Elementary 1	Performs at a level below the elementary level.	Performs at a level below the elementary level.	Performs at a level below the elementary level.	Performs at a level below the elementary level.	Performs at a level below the elementary level.	Performs at a level below the elementary level.

APPENDIX 4: ATS OCCURRENCE REPORTING

A.4.1 ATS OCCURRENCE REPORTING

(a) An applicant for an air traffic service certificate shall establish internal procedures for reporting of and investigating ATS occurrences as required in this appendix.

(b) In the event of an accident, unlawful interference or serious incident in Bahrain Airspace the relevant unit shall make an initial notification via the promulgated reporting process approved by the Authority, as a priority as soon as practicable after the event, containing as much of the following information as possible:

1. Emergency Phase (if declared) (DETRESFA/ALERFA/INCERFA)

2. Aircraft identification (callsign and/or registration);

3. Aircraft type;

4. POB;

5. Nature of accident/occurrence;

6. Time of accident/occurrence;

7. Site of accident or location of occurrence;

8. Broad indication of casualties;

9. Broad indication of damage to airframe(s); and

10. Impact on other traffic, and estimated duration.

Information not immediately available shall be forwarded to the Duty Investigator immediately on receipt.

Following an accident, unlawful interference or serious incident an initial written report shall be submitted within 24 hours of the event.

(c) A report for ATS occurrences other than those in A.4.1 (b) shall be submitted within 30 calendar days of the event.

(d) Controllers or supervisors submitting a report shall ensure that information given is accurate, unambiguous and complete and shall sign the report to signify so.

(e) Guidance for units as to what ATS occurrences shall be reported via the Q Pulse system is contained in Attachment A.

(f) If an ATS unit becomes aware of an AIRPROX which occurred in an adjacent FIR, the ATS unit shall ensure that the relevant ATS unit in that FIR is notified of the AIRPROX by Supervisor to Supervisor co-ordination. The Bahrain ATS unit shall also make a log entry.

(g) The Bahrain ATS unit should expect a reply from the CAA that the report has been received, unless the report is submitted electronically. The reply may include requests for information to be included in the subsequent investigation.

(h) In the event that notification by other than electronic means is not received, the ATS unit shall communicate with the CAA to confirm receipt.

(i) The CAA (ASSD) may elect to further investigate any event without recourse to the ATS Unit.

A.4.2. ATS OCCURRENCE INVESTIGATION

(a) It is the ATS unit's responsibility to initiate and conduct an investigation of ATS Occurrences, excepting for accidents or serious incidents, in accordance with ICAO Document 9426, Part 2, Section 1, Chapter 3, using the principles of just culture. The ATS unit shall preserve/quarantine any relevant data as soon as possible after any accident or serious incident. For any other occurrence, the final report and any requested data is due within 30 calendar days. Any report shall be submitted via a channel nominated by the CAA (ASSD). ATS units shall contact the CAA (ASSD) in writing should an extension be needed, which may be granted provided that an extension request is submitted by the Safety Management post holder with a justifiable reason prior to the deadline.

(b) ATS units shall cooperate fully with any requests from the Aviation Safety & Security Directorate regarding determined or potential Annex 13 investigations.

(c) ATS units shall ensure that sufficient appropriately trained and experienced investigators are available to fulfill these investigation requirements.

(d) The ATS unit investigation shall be conducted by an impartial person. Personnel potentially involved in an ATS occurrence shall not be involved in the conduct of the investigation.

(e) The CAA (ASSD) may require an Inspector to assist unit investigators, or conduct investigations independently of unit investigators. All Voluntary Reports pertaining to an ANSP shall be investigated by the CAA (ASSD), unless the DASS elects to refer the report to an ATS unit for internal investigation prior to CAA (ASSD) review.

(f) The CAA (ASSD) shall review the unit investigation findings, conclusions and actions and may require further or amended actions to be taken by the unit. All incidents involving Loss of Separation Standards (LoSS) shall require the formation of a Board of Enquiry (BoE). A BoE shall as a minimum be comprised of

(i) the ANSP's Investigator who undertook the investigation of the incident, and

(ii) the Safety Management Post holder or other representative of the ANSP acceptable to the BCAA, and

(iii) a representative of the BCAA (ASSD), and

(iv)any other person considered appropriate, as determined by the BCAA (ASSD).

(g) The BCAA Aviation Safety & Security Directorate has the final decision on required remedial actions and incident classification.

(h) In the event of an Accident, AIRPROX or serious incident, where an Inspector or Investigator considers that an interview of the persons involved should be conducted, the following procedure shall be followed:

1. The person being interviewed shall be given the option to review recorded audio and/or surveillance data prior to the interview;

2. The CAA (ASSD) may require its representative to be present during the interview;

3. The person being interviewed shall be given the option of having an impartial witness present at the interview; and

4. Transcripts of the interview (when required) shall be documented and signed by the interviewee and the transcriber.

(i)The CAA (ASSD) may require the interview to be recorded, with such notification to all present. In this circumstance, the recording of the interview shall be retained with the investigation report. All interviews should be recorded.

(j) The CAA (ASSD) may require additional information to assist in reviewing the unit investigation. This shall be provided in full.

(k) The following investigative data shall be included, where relevant or when requested by the CAA (ASSD), in a Unit Investigation Report:

1. Written statement/s from ATCO/s involved. *See note below;

2. Written statement from supervisor;

3. Voice recordings and/or tape transcript;

4. Surveillance data, video recordings and/or radar display screen shots. Surveillance recordings and screen shots shall illustrate the exact same environment, as seen by the controller,

5. Aircraft details;

6. Meteorological information;

7. Summary of interviews of ATCO/s and Supervisor/s involved;

8. Excerpt of any relevant unit procedures or references to unit procedures;

9. Traffic level, density (light, moderate, heavy) and complexity (low, medium, high) at the time of the incident;

10. Operational status of equipment;

11. The shift roster and monthly roster of the ATCO/s involved;

12. Rostered and actual staffing of all operational positions;

13. Details of the ATCO/s involved

i. ATC License number and date of first issue;

ii. Dates of last Certificate of Competence, Emergency Continuation Training and Tape Review;

iii. Hours on position within last 30 days;

iv. Duration on position when the occurrence took place;

v. Shift breaks prior to occurrence;

vi. Off duty rest and sleep obtained prior to shift;

14. Identification of similar incidents within last 12 months.

15. Unit findings, causal factors, contributing factors (including organizational factors/absent or failed barriers), human factors/limitations, conclusions, safety recommendations, incident classification and category, lesson learnt;

16. Evidence of the Corrective and/or Preventive actions taken as a result of the investigation;

17. A statement verifying the accuracy of recorded time stamps;

18. Any other items relevant to the investigation.

Note: For any accident, AIRPROX, serious incident, or any occurrence classification with an established safety performance target, a written statement of the events and circumstances of the occurrence shall be completed by all involved controllers and the shift supervisor (or other person acting in the capacity of a supervisor) prior to the end of the shift.

(l) ATS transcripts shall be compiled in compliance with the following requirements:

1. The text shall be clear, legible and in a format suitable for sending by email or facsimile;

2. All transcript spoken entries shall be written using letters;

3. All transcript spoken entries shall be written as they are pronounced on the ATS recording. For example, the word “NINER” should be written when the correct pronunciation is heard on the recording or “NINE” if that pronunciation is heard;

4. Each transcript entry shall include the time indicated on the recording when that transmission was made;

5. Times shall be in the format (HH:MM:SS);

6. Checks shall be made to determine any discrepancies that exist between the recording times and the actual time. Whenever a discrepancy is found it shall be documented in the title section of the ATS transcript report;

7. Each transcript entry shall include the transmitter’s ATS Unit, Ground Unit or Aircraft Callsign identity, and frequency if relevant;

8. In the event that the investigator determines that there are irrelevant segments on the recording that do not need to be transcribed, then a chronological entry shall be made on the transcript indicating the missing transmission, and the title of the ATS transcript shall indicate **“Excerpt of ATS Recording.”**

The person taking responsibility for the accuracy of the ATS transcript shall clearly enter his name and title and sign the document, indicating that the ATS transcript is an accurate reflection of the ATS recording.

(m) The completed ATS unit investigation report shall be signed by the person taking responsibility, confirming that the investigation contents, findings, conclusions are complete, correct and accurate and that any unit safety or staff remedial action proposed is appropriate and agreed by the License Issuer.

(n) Learning outcomes from incident investigations shall be provided to front-line operational staff.

(o) For the purposes of investigation and auditing, CAA Inspectors shall be granted unrestricted access to ANSP facilities under all conditions. CAA Inspectors shall be permitted to carry laptop computers, digital cameras and audio recording devices under all conditions.

(p) ATS Units shall provide all necessary assistance in the application process for airport security passes and equipment approvals for nominated CAA Inspectors.

A.4.3. RELIEF FROM DUTY

(a) On all occasions, regardless of whether an air traffic controller's actions may have been a contributing factor in an ATS occurrence such as an accident, AIRPROX, serious incident, loss of separation, or hazardous situation where in the opinion of the Shift Supervisor the safety of an aircraft was or may have been jeopardized, he shall be relieved as soon as reasonably practicable from all operational duties pending a unit investigation. This includes an ATCO performing planner tasks.

There shall be no partial removal from duty.

Where ATC Licensing is delegated to a third party, that party shall be the arbiter of relief from duty.

(b) The controller's relief from duty should not be taken as a suspicion of guilt but purely to protect the controller and the unit in the following ways:

1. To ensure a potentially unsettled controller does not make post occurrence errors;

2. To allow the controller to be available to write a statement and assist in the initial investigation;

3. To allow the controller time for recovery and be offered post-incident stress counseling, i.e. critical incident stress management (CISM); and

4. To give the unit protection if in fact some actions are required to raise the controller's competence to the required standard.

(c) Following an accident or serious incident, an ATCO relieved from duty shall not be returned to operational duties without approval from the CAA (Air Traffic Management Directorate). Where ATC Licensing is delegated to a third party, that party shall be the arbiter of return to duty.

(d) If during or after the ATS unit investigation of an ATS occurrence other than an accident or serious incident, it is found that the controller's actions were correct and did not contribute to the occurrence, an ATS unit may return the

controller to operational duties. The ATS unit shall notify the CAA (Air Traffic Management Directorate) and where ATC Licensing is delegated to a third party, that party, accordingly.

(e) If during or after the ATS unit investigation of an ATS occurrence other than an accident or serious incident, it is found that the controller's actions did or may have contributed to the occurrence, the controller shall remain relieved of all operational duties until successfully completing remedial actions to the satisfaction of the Head of ATC, except where ATC Licensing is delegated to a third party, in which case the third party shall be the arbiter.

(f) The Head of ATC, or other accountable manager acceptable to the CAA (ASSD), shall determine, after consultation with ATC operational management (and where ATC Licensing is delegated to a third party, that party), the remedial actions required to ensure that a controller relieved of duty has the required knowledge and competence to return to duty. The remedial actions shall be documented, dated and signed by all parties and kept on the concerned controller's file for a minimum 3 years after the occurrence. Where ATC Licensing is delegated to a third party, the third party shall be the arbiter of such decisions.

(g) Where it is determined that remedial training is required, the controller's CoC for the affected rating/s shall be suspended and the CAA (Air Traffic Management Directorate), (except where ATC Licensing is delegated to a third party, that party) be notified. A CoC shall only be re-issued after the successful completion of a full CoC examination (written, practical and oral examination) and the CAA (Air Traffic Management Directorate) is to be informed when the CoC has been re-activated. Where ATC Licensing is delegated to a third party, the third party shall be the arbiter of such decisions.

(h) When ATS remedial training is required, the controller involved shall first be counseled with the objective of ensuring that they understand what errors were made, accepts ownership of their actions, and will be receptive to training. This shall be documented, dated and signed by all parties and kept on the concerned controller's file for a minimum 3 years after the occurrence.

In cases where remedial training is required a training needs analysis shall be carried out by the ATS unit and documented to determine specific training requirements.

A.4.4. ATS OCCURRENCE RECORDS

(a) An ATS unit shall retain the unit's occurrence investigation records required by CAR003 13.3.1.7 for the period specified in CAR003 13.6.1.4.

A.4.5. INCIDENTS INVOLVING AIRLINE OPERATORS

(a) Following an aviation incident, controllers shall ensure that pilots involved in the incident are aware that the incident has occurred and that reporting action is being taken.

(b) In the event of a serious incident, the pilot involved shall, when possible, be interviewed by an ATS Investigator or Inspector to ascertain relevant details, which may assist in the unit investigation. The interview shall be conducted at an appropriate time, and if not in person, on an appropriate recorded private frequency or communication line. The interview shall be documented for inclusion in the ATS unit investigation.

ATTACHMENT A to Appendix 4 Reportable Events

This attachment provides guidance material and acceptable means of compliance for the defining and reporting of occurrences, and their risk classification. This list is in no way exhaustive and any occurrence which is believed to be a flight safety issue shall be reported.

1. Definitions and acronyms used in this Attachment:

ACAS Event: An incident where a resolution advisory event (RA) occurred (or may have occurred), and there was no LoSS.

Accident: An occurrence meeting the definition of an accident contained in ANTR Volume I Part VI.

Aircraft Emergency: An occurrence, excluding an accident, where a pilot declares an emergency, Mayday or Pan.

AIRPROX: A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft (or between an aircraft and another object) as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised. Airprox shall be further divided into LoSS and No-LoSS. Airprox involving LoSS shall be classified according to risk as follows;

-Category A: Risk of Collision; aircraft proximity in which serious risk of collision has existed.

-Category B: Safety not assured; aircraft proximity in which the safety of the aircraft may have been compromised.

-Category C: No risk of collision; aircraft proximity in which no risk of collision has existed.

-Category D: Risk not determined: The risk classification of an aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

Airspace Penetration (CTA/CTR/SUA): An occurrence where an aircraft enters civil or military controlled airspace or SUA without clearance or proper authorisation. Penetrations involving aircraft operating under an ATC clearance shall be classified as LoSS'.

ATC Co-ordination Error: An incident where the coordination between ATC Sectors or units is not completed correctly, where the ATC coordination failure affected flight safety.

ATC Operational Issue: An incident, not resulting in any other category, where incorrect ATCO actions or ATC procedures affected, or may have affected, flight safety.

ATC-contribution: An element of an occurrence where the actions/inactions of any part of the ANSPs services contributed as a causal factor to the occurrence.

ATS/Aerodrome Equipment failure: An incident where there is a failure or irregularity of ATS or Aerodrome communication, navigation or surveillance systems or any other safety-significant systems or equipment which could adversely affect the safety or efficiency of flight operations and/or the provision of an air traffic control service.

BoE: Board of Enquiry; A committee chaired by the Authority for the purpose of reviewing the investigation process and assigning risk classifications to occurrences.

BWE: Bird Strike or Wildlife event; An event where birds or other wildlife strike an aircraft or affect operations.

Callsign confusion: An event, not resulting in a LoSS, where there is sufficient evidence that an aircraft acted on an instruction intended for a different aircraft.

Communications failure: An incident where an aircraft experiences a total or partial communications failure not due to ATS communications failure.

Deviations from ATC Clearance (not including a level bust): An incident where an aircraft fails to comply with any component of an ATC clearance, excluding a cleared altitude or flight level.

Go-Around Event: Any go- around event, except where an aircraft intentionally goes around for training purposes. Go-Around events shall be investigated to determine whether there exists ATC-contribution.

Level Bust: An occurrence where an aircraft deviates from an assigned level by more than 200', and there was no LoSS.

LoSS: Loss of Standard Separation; Any occurrence where a Standard used to separate an aircraft from another aircraft/object/SUA/the ground has been infringed. LoSS' shall be classified for risk by a BoE.

LSALT/Terrain event: An occurrence where an IFR aircraft is flown below a Lowest Safe Altitude (LSALT) or an ATC Minimum Radar Vectoring Altitude (MRVA), without an ATC clearance or instruction to do so.

LVP Violations: An incident where an aircraft conducts an operation when RVR, Met visibility and/or cloudbase conditions are below the required approach minima or the aerodrome operator minima.

Maneuvering Area Excursion: An occurrence in which an aircraft has an excursion from a runway improperly– i.e. overruns, excursion off the side of the runway – resulting in no damage to the aircraft or other objects.

Military due regard event: An occurrence where actions of a military aircraft operating under Due Regard results in a situation where the safety of flight in controlled airspace is, or may have been, compromised.

Operator complaint or operational issue (not resulting in any other category): An occurrence involving

-1. A direct operational related complaint or query received from an operator or State; or
-2. An ATC issue with an operator.

Risk: The effect of uncertainty on objectives.

Risk classification: In this guidance, it is the assignment of a grade (A, B, C, or D) to a particular event.

Runway incursion: The incorrect presence of a vehicle, person or aircraft on the protected area of a surface designated for the landing and take-off of aircraft.

Safety Performance Indicator (SPI): An indicator agreed between the ANSP and the Authority for the purpose of measuring safety.

Security event: An incident involving a security event relating to an aircraft, which may adversely affect flight safety, such as a Hijack, Unlawful Interference, Bomb Warning or an unruly passenger, which results in a request for a priority diversion or landing, or the attendance to an aircraft by security personnel.

Taxiway operation incident: An incident, excluding an actual or attempted take-off or landing on a taxiway, where an aircraft, vehicle or person operates on a taxiway in a manner where operational safety was or may have been affected, including taxiway incursion.

Wake turbulence event: An occurrence relating to a pilot's report of turbulence, or its effects, from another aircraft's wake, excluding an infringement of required wake turbulence separation.

2. Guidance on Risk Classification.

The purpose of these guidelines is to promote consistency when recording events and measuring safety. Determination of risk should not entertain speculation. It should be based on the facts as presented, and not what might have transpired.

Cat A: Defined as; Aircraft proximity in which serious risk of collision has existed.

Descriptor; Situations that stop short of an actual collision, where separation is reduced to an absolute minimum and/or where chance played a major part in events.

Word picture; Providence- situations where separation was reduced to the bare minimum and which only stopped short of an actual collision because chance played a major part in events; the pilots were either unaware of the other aircraft or the ATCO not make any inputs that materially improved matters.

Cat B: Defined as; Safety not assured- aircraft proximity in which the safety of the aircraft may have been compromised.

Descriptor; Those situations where avoiding action may have been taken to prevent a collision, but still resulted in safety margins being reduced well below the normal.

Word picture; Safety much reduced. Situations where aircraft proximity resulted in safety margins being much reduced below the normal with a collision averted either due to serendipity, inaction, or emergency avoiding action taken at the last minute.

Cat C: Defined as; No risk of collision- aircraft proximity in which no risk of collision has existed.

Descriptor; By far the most common outcome, where effective and timely actions were taken to prevent a collision.

Word picture; Safety degraded. Situations where safety was reduced from normal but either fortuitous circumstances or early enough sighting/action allowed one or both of the pilots or the ATCO to either monitor the situation or take controlled avoiding action to avert the aircraft from coming into close proximity, or where radar separation is being applied, more than 2.5nm between the centre of the targets was maintained.

Cat D: Defined as; Risk not determined- aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

Descriptor; Insufficient information to render a useful finding.

Word picture; Non-assessable. Situations where insufficient information was available to determine the risk involved, or inconclusive/conflicting evidence precluded such determination.

APPENDIX 5: LOW VISIBILITY OPERATIONS

A.5.1. INTRODUCTION

(a) The Low Visibility Regulations contained herein address the safety and regulatory issues related to:

1. Approaches and landings in Category II and Category III meteorological conditions;

2. Take offs in RVR less than 550 metres;

3. Control of surface movements in meteorological conditions not permitting ATS to be carried out with visual reference.

(b) These regulations prescribe the circumstances in which Low Visibility Procedures (LVP) are required as well as the requirements to be addressed by these procedures.

The additional measures required to support safe operations at an airport in Low Visibility Conditions (LVC) shall be specified in local procedures as "Low Visibility Procedures" (LVP)

LVPs shall be established to:

1. Prevent collisions between aircraft on the ground;

2. Prevent collisions between aircraft and vehicles;

3. Prevent runway incursions;

4. Protect and extend the integrity of ground based navigation equipment;

5. Extend protection from obstacles and confusing lighting effects;

6. Maintain continuity of service of visual and non-visual aids;

7. Extend ability to give adequate guidance to rescue and firefighting services;

8. Extend meteorological services; and

9. Provide reporting for enforcement and monitoring of safety levels.

A.5.2. DEFINITIONS AND ACRONYMS

(a) Definitions and acronyms are contained in 1.2.

A.5.3. AIR TRAFFIC MANAGEMENT PROCEDURES

(a) The actual LVP required at an airport will depend on the type of operations conducted. The types of operations requiring LVP approval are listed in 5.1.(a).

The general provisions in ICAO Doc 4444, Pans ATM shall apply.

(b) Local ATS Instructions (LATSI) shall specify types of approved LVO along with associated procedures.

The LATSI shall contain detailed procedures for the following:

1. The RVR values at which the LVP shall be implemented;

2. Minimum ILS equipment requirements for Category II/III operations;

3. Other facilities and aids, such as lighting, required for category II/III operations;

4. Criteria for and circumstances under which ILS equipment requirements from category II/III operations capability shall be made;

5. Runway holding positions to be used;

6. Minimum spacing between an arriving and a departing aircraft to ensure protection of the sensitive and critical areas;

7. Minimum spacing between successive approaching aircraft;

8. Procedures to verify that aircraft and vehicles have vacated the runway and sensitive areas for ILS components;

9. Procedures applicable to separation of aircraft on the manoeuvring area;

10. Procedures applicable to separation of aircraft and vehicles;

11. Low visibility taxi routes;

12. Staffing of operational positions.

A formal agreement between ATC and the Apron Management Service, where provided, shall define the LVP to be used and clearly state the tasks and responsibilities of each party in LVC, in particular including provisions for the movement of vehicles on the apron.

Except as required for essential operational reasons, vehicles shall not be permitted on the manoeuvring area in LVC.

A.5.4. INITIATION / CANCELLATION OF ATS LOW VISIBILITY PROCEDURES

(a) The conduct of LVO depends on the existence of suitable runway protection measures, surface movement guidance and control, emergency procedures and apron management.

(b) LVO shall be initiated by the aerodrome control tower, once the aerodrome operator has advised that all measures required to protect aircraft operations in poor weather conditions are in place.

(c) The aerodrome control tower shall inform the approach control unit concerned when procedures for

precision approach category II/III and low visibility operations will be applied and also when such procedures are discontinued.

(d) The aerodrome control tower shall inform the approach control unit concerned when procedures for precision approach category II/III and low visibility operations will be applied and also when such procedures are discontinued.

(e) Criteria for Category II/III status shall be clearly established. Procedures shall be established to manage full or partial failure of the overall system, to enable one of the following to occur:

1. Downgrade LVO for all aircraft movements;

2. Continue LVO for specified types/categories of movements;

3. Continue LVO without restrictions.

(f) Based on the defined and approved criteria, ATC shall communicate the low visibility status of the airport / runway to pilots.

A.5.5. RUNWAY RESTRICTIONS AND PROTECTION

(a) The following shall not be permitted in LVC:

1. Intersection take-offs;

2. Use of operational runways as taxi routes.

(b) Critical and Sensitive areas shall be clearly identified to the aerodrome controller(s) on radar maps or charts on display.

(c) For Category II and III operations, the sensitive areas shall be protected when aircraft are close to the runways during take-off and landing operations.

(d) When take-off is carried out on a runway with a radiating localizer, the critical and sensitive areas for the localizer shall be kept clear of all vehicles, aircraft or mobile objects.

(e) A Surface Movement Guidance and Control System (SMGCS) or Advanced Surface Movement Guidance and Control System (ASMGCS) required for operations in LVC shall be used to assist in prevention of incursions of aircraft and vehicles on active runways and associated critical and sensitive areas for ILS components.

A.5.6. LOW VISIBILITY TAXI ROUTES

(a) LVP taxi routes shall be established and enforced in LVC to facilitate traffic, reduce traffic complexity and minimise risk of runway incursions.

(b) LVP taxi routes shall minimise manoeuvring between runway and apron.

(c) SMGCS and signs shall support standard LVP taxi routes.

(d) LVP taxi routes shall be indicated on charts.

A.5.7 SURFACE MOVEMENT SURVEILLANCE

(a) A Surface Movement Surveillance system shall be provided for the manoeuvring area:

1. At airports intended for use in RVR conditions less than 300 metres;

2. Where airport layout is complex and/or visual guidance makes surveillance required to protect the runway/s and sensitive areas from incursions;

3. Where traffic density and operating conditions are such that regularity of traffic flow cannot be maintained by alternative procedures and facilities.

(b) Surveillance can be used for:

1. Confirmation that the runway and associated critical and sensitive areas are clear of aircraft, vehicles and other obstructions prior to a departure or landing;

2. Ensuring that a departing aircraft is lined up on the correct runway;

3. Ascertaining that a departing aircraft has commenced take-off run;

4. Guiding and monitor aircraft and vehicles on the manoeuvring area as required;

5. Expediting surface traffic flows by directing along optimum routings;

6. Providing guidance to emergency vehicles;

7. Ensuring pushback will not conflict with traffic on the manoeuvring area.

A.5.8 LVO CONTINGENCY PROCEDURES

(a) Detailed LVO contingency procedures shall be established to address failures of essential components of the SMGCS.

(b) These contingency procedures shall be in compliance with the aerodrome fallback procedures required by CAR 001.

A.5.9 AIR TRAFFIC FLOW MANAGEMENT (ATFM)

(a) Impact on airport / runway capacity shall be reflected in procedures to be established between the aerodrome control tower and the unit providing approach control service.

(b) Spacing between successive aircraft on final shall be determined and included in local instructions

for the aerodrome control tower and the unit providing approach control service.

(c) The requirement for ATFM measures shall be determined and included in a Letter of Agreement with Bahrain FIC. Traffic acceptance rates shall be established for CAT II and III conditions and these shall be provided to the Bahrain FIC.

A.5.10. TRAINING

(a) ATS staff involved in LVO shall be trained in knowledge and application of the approved procedures. Understanding and skills shall be demonstrated as part of periodic competency checking.

(b) The training syllabus shall include handling of failures and emergency situations.

A.5.11 AUTOMATIC TERMINAL INFORMATION SERVICE (ATIS)

(a) Availability of low visibility facilities shall be communicated to pilots by means of the ATIS broadcast, where available, except for short notice changes which shall be passed by radio.

(b) The following standard phraseology shall be used in ATIS broadcasts:

"Low Visibility Procedures (CAT II or III) in operation"

(c) Additionally, when local conditions require specific holding positions to be used the following message shall be used if necessary:

"Use Category XX Holding Positions"

Where XX is replaced by the relevant category of operation (II or III) as appropriate.

(d) When LVP are terminated, the ATIS shall be updated by removing the **"Low Visibility Procedure (CAT II or CAT III) in operation"** message.

A.5.12. EQUIPMENT

(a) Requirements for Radiotelephony (RTF)

1. In addition to RTF redundancy requirement elsewhere in Subpart 4, a battery powered emergency transceiver shall be available and selectable to any frequency used by aerodrome control.

(b) Secondary Power Supply

1. Secondary power supply shall be provided to maintain continuity of communications services during

LVP.

2. The following facilities shall be supplied with secondary power:

i. RTF equipment;

ii. Telephone equipment;

iii. Any data link equipment used in support of LVO.

(c) Meteorological Displays

1. RVR measurements shall be continuously displayed for the controller/s providing ATS for aircraft taking off and for approaching aircraft within eight nautical miles from the runway.

2. Multi-site RVR measurements shall be made for low visibility take-offs.

3. Measurements of ceiling/cloud height shall be continuously displayed for the controller/s providing ATS for approaching aircraft within eight nautical miles from the runway.

A.5.13. REPORTS

(a) Excerpts from the airport movement log for periods when LVP have been implemented shall be forwarded to the Flight Operations Department of the CAA at the end of every week during which operations in conditions below normal CAT I minima have occurred

(b) Reporting shall be made in the following format:

1. Aircraft callsign;

2. Type of movement (ARR/DEP).

Appendix 6. ATC Medical Standards and Certificates.

This Appendix details the requirements, and the acceptable means of compliance with the medical standard for Air Traffic Control Officers in the Kingdom of Bahrain. It contains guidance for both Medical Examiners and ATCO's. It is based on ICAO Annex 1 and EASA Class 3 Medical requirements.

6.0 ATC MEDICAL PROVISIONS FOR LICENSING

6.1 GENERAL

6.1.1 The CAA shall designate Aeromedical Examiners, qualified and licensed in the practice of medicine, to conduct medical assessments of applicants in accordance with provisions of ICAO Annex 1 and these Regulations for the issue or renewal of the licenses or ratings specified in these Regulations.

6.1.2 Medical examiners shall, before receiving approval as an Aeromedical Examiner for the CAA, have had training in Aviation Medicine and shall receive refresher training at regular intervals. Before designation, medical examiners shall demonstrate adequate competency in aviation medicine.

6.1.3 The CAA shall ensure the Aeromedical Examiner has adequate facilities, including all required testing equipment in current calibration and good working condition, to support the conduct of aeromedical assessments.

6.1.4 The Aeromedical Examiner shall maintain a record of each medical assessment administered including a copy of the medical report, for at least five years.

6.1.5 The Aeromedical Examiner shall forward to the CAA the original signed copy of the medical assessment for each applicant together with a copy of the medical certificate issued to the applicant. The AME shall detail the result of the examination and evaluate the medical fitness of the applicant.

6.1.6 The CAA reserves the right to suspend, revoke or deny the Aeromedical Designation of any medical examiner.

6.1.7 The CAA shall review the findings of the Medical Assessment and shall reserve the right to suspend, deny or revoke any medical assessment for which there is evidence to give clause to believe the applicant or holder of said medical assessment does not meet the standards of this Section.

6.1.8 Aeromedical Examiners authorized by the CAA shall, as a responsibility of that authorization, participate as a member of the Aeromedical Review Board convened by the CAA for the purpose of reviewing medical assessments to determine the applicant's or holder's medical qualification.

6.1.9 Any false declaration to a Medical Examiner made by an applicant shall be reported to the CAA for such action as may be considered appropriate.

6.2 MEDICAL ASSESSMENTS GENERAL

6.2.1. Classes of Medical Assessment.

ATC Medical Assessment applies to applicants for and holders of the following licenses:

- Air Traffic Control Officer

6.2.1.1 The applicant for a Medical Assessment shall provide the medical examiner with a personally certified statement of medical facts concerning his/her personal, familial and hereditary history. The applicant shall be made aware of the necessity for giving a statement that is as complete and accurate as his/her knowledge permits, and any false statement shall be referred to the CAA.

6.2.1.2 The medical examiner shall report to the CAA any individual case where, in his/her judgment, an applicant's failure to meet any requirement, whether numerical or otherwise, is such that exercise of the privileges of the license being applied for, or held, is not likely to jeopardise flight safety.

6.2.1.3 The requirements to be met for the renewal of a Medical Assessment are the same as those for the initial assessment except where otherwise specifically stated.

6.2.1.4 Aeromedical Examiners shall be responsible for the conduct of all medical assessments and the completion of the medical certificate.

6.3 REQUIREMENTS FOR MEDICAL ASSESSMENTS

6.3.1. General

An applicant for a Medical Assessment issued in accordance with the terms of paragraph 6.2.1 above, shall undergo a medical examination based on the following requirements:

(a) physical and mental

(b) visual and colour perception; and

(c) hearing.

6.3.2 Physical and Mental Requirements

An applicant for any class of Medical Assessment shall be required to be free from:

(a) any abnormality, congenital or acquired, or

(b) any active, latent, acute or chronic disability, or

(c) any disturbance of consciousness without satisfactory medical explanation of cause - such as would entail a degree of functional incapacity, which is likely to interfere with the safe operation of an aircraft or with the safe performance of his/her duties.

(d) Any wound, injury or sequelae from operation, or

(e) Any effect or side-effect of any prescribed or non-prescribed therapeutic or preventative medication taken; such as would entail a degree of functional incapacity which is likely to interfere with the safe operation of an aircraft or with the safe performance of duties.

6.3.3 Visual Acuity Test Requirements

The CAA require Aeromedical Examiners to ensure that the methods in use for the measurement of visual acuity ensure equivalence in the methods of evaluation obtained. The following should be adopted for tests of visual acuity:

(a) Visual acuity tests should be conducted in an environment with a level of illumination which corresponds to ordinary office illumination (30-60 cd/m2)

(b) A visual acuity should be measured by means of a series of Landolt rings or similar optotypes, placed at a distance from the applicant appropriate to the method of testing adopted.

6.3.4 Colour Perception Requirements

6.3.4.1 The Aeromedical Examiner shall use such methods of examination as will guarantee reliable testing of colour perception.

6.3.4.2 The applicant shall be required to demonstrate his/her ability to perceive readily those colours the perception of which is necessary for the safe performance of his/her duties.

6.3.4.3 The applicant shall be tested for his/her ability to correctly identify a series of pseudoisochromatic plates in daylight or in artificial light of the same colour temperature such as that provided by CIE standard illuminants C or D65 as specified by the International Commission on Illumination (CIE).

6.3.4.4 An applicant obtaining a satisfactory result as prescribed by the CAA shall be assessed as fit. An applicant failing to obtain a satisfactory result in such a test shall be assessed as unfit unless able to readily distinguish the colours used in air traffic and correctly identify aviation coloured lights.

6.3.5 Hearing Requirements

6.3.5.1 The AME shall use such methods of examination as will guarantee reliable testing of hearing.

6.3.5.2 Applicants shall be required to demonstrate a hearing performance sufficient for the safe exercise of their license and rating privileges.

6.3.5.3 The applicant shall be required to be free from any hearing defect, which would interfere with the safe performance of his/her duties in exercising the privileges of his/her license

6.3.5.4 Applicants for ATC Medical Assessments shall be tested by pure-tone audiometry at first issue of the Assessment, not less than once every four years up to the age of 40 years, and thereafter not less than once every two years.

6.3.6 Drug Screening

A drug screening test may be conducted as part of the medical assessment for the initial issue of all CAA licenses and as required by the CAA. The screening should consist of a urine sample taken by an Aeromedical Examiner or Inspector or authorized testing entity and analyzed by an authorised laboratory for amphetamines, barbiturates, benzodiazepines, cannabis, opiates and other psychoactive substances.

6.4 Reserved

6.5 Reserved

6.6 ATC MEDICAL ASSESSMENT

6.6.1 Assessment

Issue and Renewal: An applicant for an Air Traffic Controller license shall undergo an initial medical examination for the issue of an ATC Medical Assessment.

6.6.1.2 Except where otherwise stated in this section, holders of air traffic controller licenses shall have their ATC Medical Assessments renewed at intervals not exceeding those specified in 1.6

6.6.1.3 When the CAA is satisfied that the requirements of this section and the general provisions of 6.1 and 6.2 have been met, an ATC Medical Assessment shall be issued to the applicant.

6.6.2 Physical and mental requirements

6.6.2.1 The applicant shall not suffer from any disease or disability which could render that applicant likely to become suddenly unable to perform duties safely.

6.6.2.2 The applicant shall have no established medical history or clinical diagnosis of:

a) an organic mental disorder;

b) a mental or behavioural disorder due to psychoactive substance use; this includes dependence syndrome induced by alcohol or other psychoactive substances;

c) schizophrenia or a schizotypal or delusional disorder;

d) a mood (affective) disorder;

e) a neurotic, stress-related or somatoform disorder;

f) a behavioural syndrome associated with physiological disturbances or physical factors;

g) a disorder of adult personality or behaviour, particularly if manifested by repeated overt acts;

h) mental retardation;

i) a disorder of psychological development;

j) a behavioral or emotional disorder, with onset in childhood or adolescence; or

k) a mental disorder not otherwise specified; such as might render the applicant unable to safely exercise the privileges of the license applied for or held.

6.6.2.3 The applicant shall have no established medical history or clinical diagnosis of any of the following:

a) a progressive or non-progressive disease of the nervous system, the effects of which are likely to interfere with the safe exercise of the applicant's license and rating privileges;

b) epilepsy; or

c) any disturbance of consciousness without satisfactory medical explanation of cause.

6.6.2.4 The applicant shall not have suffered any head injury, the effects of which are likely to interfere with the safe exercise of the applicant's license and rating privileges.

6.6.2.5 The applicant shall not possess any abnormality of the heart, congenital or acquired, which is likely to interfere with the safe exercise of the applicant's license and rating privileges.

6.6.2.5.1 An applicant who has undergone coronary bypass grafting or angioplasty (with or without stenting) or other cardiac intervention or who has a history of myocardial infarction or who suffers from any other potentially incapacitating cardiac condition shall be assessed as unfit unless the applicant's cardiac condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's license and rating privileges.

6.6.2.5.2 An applicant with an abnormal cardiac rhythm shall be assessed as unfit unless the cardiac arrhythmia has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's license and rating privileges.

6.6.2.6. Electrocardiography shall form part of the heart examination for the first issue of a Medical Assessment, and shall be repeated at the age of 40

6.6.2.6.1 Electrocardiography shall be included in re-examinations of applicants after the age of 40 to be repeated every two years.

6.6.2.7 The systolic and diastolic blood pressures shall be within normal limits.

6.6.2.7.1 The use of drugs for control of high blood pressure shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's license and rating privileges. The initiation of drug therapy shall require a period of temporary suspension of the medical certificate to establish the absence of significant side effects.

6.6.2.7.2 Applicants with symptomatic hypotension shall be assessed as unfit.

6.6.2.8 There shall be no significant functional nor structural abnormality of the circulatory system

6.6.2.9 There shall be neither disability of the lungs nor any active disease of the structures of the lungs, mediastinum or pleurae likely to result in incapacitating symptoms.

6.6.2.10 Radiography should form a part of the initial chest examination and it may be required at renewal examinations when indicated in cases where asymptomatic pulmonary disease can be expected.

6.6.2.11 Pulmonary function tests are required at the initial examination and on clinical indication. Applicants with significant impairment of pulmonary function shall be assessed as unfit.

6.6.2.12 Applicants with chronic obstructive pulmonary disease shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's license or rating privileges.

6.6.2.13 Applicants with asthma causing significant symptoms or likely to cause incapacitating symptoms shall be assessed as unfit.

6.6.2.13.1 The use of drugs for control of asthma shall be disqualifying except for those drugs, the use of which is compatible with the safe exercise of the applicant's license and rating privileges

6.6.2.14 Applicants with active pulmonary tuberculosis shall be assessed as unfit; cases of quiescent or healed lesions, known to be tuberculous or presumably tuberculous in origin, may be assessed as fit.

6.6.2.15 Cases of disabling disease with important impairment of function of the gastrointestinal tract or its adnexa shall be assessed as unfit.

6.6.2.16 The applicant shall be required to be completely free from those hernias that might give rise to incapacitating symptoms.

6.6.2.17 Any sequelae of disease or surgical intervention on any part of the digestive tract or it adnexa, liable to cause incapacity, in particular any obstructions due to stricture or compression, shall be assessed as unfit.

6.6.2.17.1 An applicant who has undergone a major surgical operation on the biliary passages or the digestive tract or its adnexa, with a total or partial excision or a diversion of any of these organs should be assessed as unfit until such time as the CAA having access to the details of the operation concerned, considers that the effects of the operation are not likely to cause incapacitation.

6.6.2.18 Cases of metabolic, nutritional or endocrine disorders likely to interfere with the safe exercise of the applicant's license and rating privileges shall be assessed as unfit.

6.6.2.19 Applicants with insulin-treated diabetes mellitus shall be assessed as unfit, unless insulin detemir (long acting) is used and the applicant has no history of hypoglycemia.

6.6.2.19.1 Applicants with non-insulin-treated diabetes shall be assessed as unfit unless the condition is shown to be satisfactorily controlled by diet alone or by diet combined with oral anti-diabetic medication, the use of which is compatible with the safe exercise of the applicant's license and rating privileges.

6.6.2.20 Applicants with diseases of the blood and/or the lymphatic system shall be assessed as unfit, unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their license and rating privileges.

6.6.2.21 Applicants with renal or genito-urinary disease shall be assessed as unfit unless adequately investigated and their condition found unlikely to interfere with the safe exercise of their license and rating privileges.

6.6.2.21.1 Urine examination shall form part of the medical examination and abnormalities shall be adequately investigated.

6.6.2.22 Applicants with sequelae of disease of, or surgical procedures on the kidneys or the genito-urinary tract, in particular obstructions due to stricture or compression, shall be assessed as unfit unless the applicant's condition has been investigated and evaluated in accordance with best medical practice and is assessed not likely to interfere with the safe exercise of the applicant's license or rating privileges. Applicants who have undergone nephrectomy shall be assessed as unfit unless the condition is well compensated.

6.6.2.23 An applicant for the first issue of a license who has a personal history of syphilis shall be required to furnish evidence, satisfactory to the medical examiner, that the applicant has undergone adequate treatment.

6.6.2.24 Applicants with acquired immunodeficiency syndrome (AIDS) shall be assessed as unfit.

6.6.2.25 Applicants with gynaecological disorders that are likely to interfere with the safe exercise of their license and rating privileges shall be assessed as unfit.

6.6.2.26 Applicants who are pregnant shall be assessed as unfit unless obstetrical evaluation and continued medical supervision indicate a low-risk uncomplicated pregnancy.

6.6.2.26.1 During the gestational period, precautions should be taken for the timely relief of an air traffic controller in the event of early onset of labour or other complications.

6.6.2.26.2 For applicants with a low-risk uncomplicated pregnancy, evaluated and supervised in accordance with 6.6.2.26, the fit assessment should be limited to the period until the end of the 34th week of gestation.

6.6.2.27 Following confinement or termination of pregnancy the applicant shall not be permitted to exercise the privileges of her license until she has undergone re-evaluation and has been assessed as fit and able to safely exercise the privileges of her license and ratings.

6.6.2.28 The applicant shall not possess any abnormality of the bones, joints, muscles, tendons or related structures which is likely to interfere with the safe exercise of the applicant's license and rating privileges.

Note. Any sequelae after lesions affecting the bones, joints, muscles or tendons, and certain anatomical defects will normally require functional assessment to determine fitness.

6.6.2.29 There shall be:

a) no disturbance of vestibular function;

b) no significant dysfunction of the Eustachian tubes; and

c) no unhealed perforation of the tympanic membranes.

6.6.2.29.1 A single dry perforation of the tympanic membrane need not render the applicant unfit.

6.6.2.30 There shall be:

a) no nasal obstruction; and

b) no malformation nor any disease of the buccal cavity or upper respiratory tract which is likely to interfere with the safe exercise of the applicant's license and rating privileges.

6.6.2.31 Applicants with stuttering or other speech defects sufficiently severe to cause impairment of speech communication shall be assessed as unfit.

6.6.3 Visual Requirements

The medical examination shall be based on the following requirements:

6.6.3.1 The function of the eyes and their adnexa shall be normal. There shall be no active pathological condition, acute or chronic, nor any sequalea of surgery or trauma of the eyes or their adnexa likely to reduce proper visual function to an extent that would interfere with the safe exercise of the applicant's license and rating privileges.

6.6.3.2 Distant visual acuity with or without correction shall be 6/9 or better in each eye separately and binocular visual acuity shall be 6/6 or better. No limits apply to uncorrected visual acuity. Where this standard of visual acuity can be obtained only with correcting lenses the applicant may be assessed as fit provided that;

(a) such correcting lenses are worn during the exercise of the privileges of the license or rating applied for or held; and

(b) in addition, a pair of suitable correcting spectacles is kept readily available during the exercise of the privileges of the applicant's license.

Note: An applicant accepted as meeting these provisions is deemed to continue to do so unless there is reason to suspect otherwise, in which case an ophthalmic report is required at the discretion of the CAA. Both uncorrected and corrected visual acuity are normally measured and recorded at the each re-examination. Conditions which indicate a need to obtain an ophthalmic report include: a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity, and the occurrence of eye disease, eye injury or eye surgery.

6.6.3.2.1 Applicants may use contact lenses to meet this requirement provided that:

(a) the lenses are monofocal and non tinted;

(b) the lenses are well tolerated; and

(c) a pair of suitable correcting spectacles is kept readily available during the exercise of the license privileges.

Note. Applicants who use contact lenses may not need to have their uncorrected visual acuity measured at each reexamination provided the history of their contact lens prescription is known.

6.6.3.2.2 Applicants with a large refractive error shall use contact lenses or high index spectacle lenses.

6.6.3.2.3 Applicants whose uncorrected distant visual acuity in either eye is worse than 6/60 shall be required to provide a full ophthalmic report prior to initial Medical Assessment and every five years thereafter.

6.6.3.3 Applicants who have undergone surgery affecting the refractive status of the eye shall be assessed as unfit unless they are free from those sequelae, which are likely to interfere with the safe exercise of their license and rating privilege.

6.6.3.4 The applicant shall be required to have the ability to read, while wearing the correcting lenses, if any, required by paragraph 6.6.3.2, the N5 chart or its equivalent at a distance selected by him in the range of 30 to 50 centimetres (12 to 20 inches) and the ability to read the N14 chart or its equivalent at a distance of 100 cm (39 inches). If this

requirement is met only by the use of near correction, the applicant may be assessed as fit provided that this near correction is added to the spectacle correction already prescribed in accordance with paragraph 6.6.3.2; if no such correction is prescribed, a pair of spectacles for near use shall be kept readily available during the exercise of the privilege of the license. When near correction is required, the applicant shall demonstrate that one pair of spectacles is sufficient to meet both distant and near visual requirements.

Note 1. An applicant (tower ATCO) who needs near correction to meet this requirement will require "look-over", bifocal or perhaps multifocal lenses in order to read the instruments and a chart or manual held in the hand, and also to make use of distant vision, through the windows, without removing the lenses. Single-vision near correction (full lenses of one power only, appropriate for reading) significantly reduces distant visual acuity and is therefore not acceptable.

6.6.3.4.1 When near correction is required in accordance with this paragraph, a second pair of near correction spectacles shall be kept available for immediate use.

6.6.3.5 The applicant shall be required to have normal fields of vision. The applicant shall be required to have normal binocular vision.

6.6.3.6 Reduced stereopsis, abnormal convergence not interfering with near vision, and ocular misalignment where the fusional reserves are sufficient to prevent asthenopia and diplopia need not be disqualifying.

6.6.4 Hearing Requirements

The medical examination shall be based on the following requirements:

6.6.4.1 The applicant, tested on a pure-tone audiometer at first issue of license, not less than once every four years up to the age of 40 years, and thereafter not less than once every two years.

6.6.4.2 The applicant, when tested on a pure –tone audiometer shall not have a hearing loss, in either ear separately, of more than 35dB at any of the frequencies 500, 1,000 or 2,000 Hz, or more than 50 db at 3000 Hz.

6.6.4.2.1 An applicant with a hearing loss greater than the above may be declared fit provided that the applicant has normal hearing performance against a background noise that reproduces or simulates that experienced in a typical air traffic control working environment.

Note 1: the frequency composition of the background noise is defined only to the extent that the frequency range 600 to 4800 Hz (speech frequency range) is adequately represented.

Note 2: In the speech material for discrimination testing, both aviation-relevant phrases and phonetically balanced words are normally used.

6.6.4.2.2 Alternatively, a practical hearing test conducted in air traffic control environment representative of the one for which the applicant's license and ratings are valid may be used.

Acceptable Means of Compliance.

1. Obligations of AME

(a) If the aero-medical examination is carried out by two or more AMEs, only one of them should be responsible for coordinating the results of the examination, evaluating the findings with regard to medical fitness and signing the report.

(b) The applicant should be made aware that the associated medical certificate may be suspended or revoked if the applicant provides incomplete, inaccurate or false statements on their medical history to the AME or AeMC.

(c) The AME should give advice to the applicant on treatment and preventive measures if, during the course of the examination, medical conditions which may endanger the medical fitness of the applicant in the future are found.

2. GUIDELINES FOR THE AME CONDUCTING THE AERO-MEDICAL EXAMINATIONS AND ASSESSMENTS FOR ATC MEDICAL CERTIFICATES

(a) Before performing the aero-medical examination, the AME should:

(1) verify the applicant's identity by checking their identity card, passport, driving license or other official document containing a photograph of the applicant;

(2) obtain details of the applicant's license from the applicant's licensing authority if they do not have their license with them;

(3) obtain details of the applicant's most recent medical certificate from the applicant's licensing authority if they do not have their certificate with them;

(4) in the case of a specific medical examination (SIC) on the existing medical certificate, obtain details of the specific medical condition and any associated instructions from the applicant's licensing authority. This could include, for example, a requirement to undergo a specific examination or test;

(5) except for initial applicants, ascertain, from the previous medical certificate, which routine medical test(s) should be conducted, for example electrocardiogram (ECG);

(6) provide the applicant with the application form for a medical certificate and the instructions for its completion and ask the applicant to complete the form but not to sign it yet;

(7) go through the form with the applicant and give information to help the applicant understand the significance of the entries and ask any questions which might help the applicant to recall important historical medical data; and

(8) verify that the form is complete and legible, ask the applicant to sign and date the form and then sign it as well. If the applicant declines to complete the application form fully or declines to sign the declaration consent to the release of medical information, inform the applicant that it may not be possible to issue a medical certificate regardless of the outcome of the clinical examination.

(b) Once all the items in (a) have been addressed, the AME should:

(1) perform the aero-medical examination of the applicant in accordance with the applicable rules;

(2) arrange for additional specialist medical examinations, such as otorhinolaryngology or ophthalmology, to be conducted as applicable and obtain the associated report forms or reports;

(3) complete the aero-medical examination report form in accordance with the associated instructions for completion; and

(4) ensure that all of the report forms are complete, accurate and legible.

(c) Once all the actions in (b) have been carried out, the AME should review the report forms and:

(1) if satisfied that the applicant meets the applicable medical requirements as set out in this Part, issue a medical certificate, with limitations if necessary. The applicant should sign the certificate once signed by the AME; or

(2) if the applicant does not meet the applicable medical requirements or if the fitness of the applicant is in doubt:

(i) refer the decision on medical fitness to the CAA; or

(ii) deny issuance of a medical certificate, explain the reason(s) for denial to the applicant and inform them of their right of a review according to the procedures of the CAA.

(d) The AME should send the documents as required 2 (b) above to the CAA within five days from the date of the aero-medical examination. If a medical certificate has been denied or the decision has been referred, the documents should be sent to the CAA on the same day that the denial or referral decision is reached.

SECTION 2 REQUIREMENTS FOR MEDICAL CERTIFICATES

Application for a medical certificate

Except for initial applicants, when applicants do not present the most recent medical certificate to the AME prior to the relevant examinations, the AME should not issue the medical certificate unless relevant information is received from the CAA.

SUBPART B — SPECIFIC REQUIREMENTS FOR ATC MEDICAL CERTIFICATES

SECTION 1 GENERAL

Limitations to medical certificates

(a) An AME may refer the decision on fitness of an applicant to the CAA in borderline cases or where fitness is in doubt.

(b) In cases where a fit assessment may only be considered with a limitation, the AME or the CAA should evaluate the medical condition of the applicant with appropriate personnel from the air navigation service provider and other experts, if necessary.

(c) Entry of limitations

(1) Limitations TML, VDL, VML, VNL, CCL, HAL, RXO may be imposed by an AME.

(2) Limitations VXL and VXN should be imposed with advice of the air navigation service provider.

(3) Limitations SIC and SSL should only be imposed by the CAA.

(d) Removal of limitations

All limitations should only be removed by the CAA.

LIMITATION CODES

(a) The following abbreviations for limitations should be used on the medical certificate as applicable:

Code	Limitation
TML	Restriction of the period of validity of the medical certificate
VDL	Wear correction for defective distant vision and carry spare set of spectacles
VXL	Correction for defective distant vision depending on the working environment
VML	Wear correction for defective distant, intermediate and near vision and carry spare set of spectacles
VNL	Have correction available for defective near vision and carry spare set of spectacles
VXN	Correction for defective near vision; correction for defective distant vision depending on the working environment
RXO	Specialist ophthalmological examinations
CCL	Correction by means of contact lenses
HAL	Valid only when hearing aids are worn
SIC	Specific medical examination(s)
SSL	Special restrictions as specified

(b) The abbreviations for the limitation codes should be explained to the holder of a medical certificate as follows:

(1) TML — Time limitation

The period of validity of the medical certificate is limited to the duration as shown on the medical certificate. This period of validity commences on the date of the aero-medical examination. Any period of validity remaining on the previous medical certificate is no longer valid. The holder of a medical certificate should present him/herself for reassessment or examination when advised and should follow any medical recommendations.

(2) VDL — Wear corrective lenses and carry a spare set of spectacles

Correction for defective distant vision: whilst exercising the privileges of the license, the holder of a medical certificate should wear spectacles or contact lenses that correct for defective distant vision as examined and approved by the AME. Contact lenses may not be worn until cleared to do so by an AME. A spare set of spectacles, approved by the or AME, should be readily available.

(3) VXL — Correction for defective distant vision depending on the working environment

Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant visual acuity requirement but meet the visual acuity requirement for intermediate and near vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) may work without corrective lenses.

(4) VML — Wear multifocal spectacles and carry a spare set of spectacles

Correction for defective distant, intermediate and near vision: whilst exercising the privileges of the license, the holder of a medical certificate should wear spectacles that correct for defective distant, intermediate and near vision as examined and approved by the AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(5) VNL — Have available corrective spectacles and a spare set of spectacles

Correction for defective near vision: whilst exercising the privileges of the license, the holder of a medical certificate should have readily available spectacles that correct for defective near vision as examined and approved by the AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(6) VXN — Have available corrective spectacles and a spare set of spectacles; correction for defective distant vision depending on the working environment.

Correction for defective distant vision does not have to be worn if the air traffic controller's visual working environment is in the area of up to 100 cm. Applicants who do not meet the uncorrected distant and uncorrected near

visual acuity requirements, but meet the visual acuity requirement for intermediate vision without correction and whose visual working environment is only the intermediate and near vision area (up to 100 cm) should have readily available spectacles and a spare set that correct for defective near vision as examined and approved by the AME. Contact lenses or full-frame spectacles, when either correct for near vision only, may not be worn.

(7) CCL — Wear contact lenses that correct for defective vision

Correction for defective distant vision: whilst exercising the privileges of the license, the holder of a medical certificate should wear contact lenses that correct for defective distant vision, as examined and approved by the AME. A spare set of similarly correcting spectacles shall be readily available for immediate use whilst exercising the privileges of the license.

(8) RXO — Specialist ophthalmological examination(s)

Specialist ophthalmological examination(s), other than the examinations stipulated in this Part, are required for a significant reason.

(9) HAL — Hearing aid(s)

Whilst exercising the privileges of the license, the holder of the medical certificate should use hearing aid(s) that compensate(s) for defective hearing as examined and approved by the AME. A spare set of batteries should be available.

(10) SIC — Specific medical examination(s)

This limitation requires the AME to contact the CAA before embarking upon renewal or revalidation aero-medical assessment. It is likely to concern a medical history of which the AME should be aware prior to undertaking the aero-medical assessment.

(11) SSL — Special restrictions as specified

This limitation may be considered when an individually specified limitation, not defined in this paragraph, is appropriate to mitigate an increased level of risk to the safe exercise of the privileges of the license; for example, a limitation that the ATCO should not work in an environment where he is the sole person licensed to perform a particular function, similar to a multi-pilot restriction. The description of the SSL should be entered on the medical certificate or in a separate document to be carried with the medical certificate.

SECTION 2 SPECIFIC REQUIREMENTS FOR ATC MEDICAL CERTIFICATES

Cardiovascular system 1

(a) Electrocardiography

(1) An exercise electrocardiogram (ECG) when required as part of a cardiovascular assessment should be symptom-limited and completed to a minimum of Bruce Stage IV or equivalent.

(2) Reporting of resting and exercise ECGs should be carried out by the AME or an appropriate specialist.

(b) General

(1) Cardiovascular risk factor assessment

(i) Serum/plasma lipid estimation is case finding and significant abnormalities should require investigation and management under the supervision of the AME in consultation with the licensing authority if necessary.

(ii) An accumulation of risk factors (smoking, family history, lipid abnormalities, hypertension, etc.) should require cardiovascular evaluation by the AME in consultation with the licensing authority if necessary.

(2) Extended cardiovascular assessment

(i) The extended cardiovascular assessment should be undertaken at an AME or by a cardiologist.

(ii) The extended cardiovascular assessment should include an exercise ECG or other test that will provide equivalent information.

(c) Peripheral arterial disease

Applicants with peripheral arterial disease, before or after surgery, should undergo satisfactory cardiological evaluation including an exercise ECG and 2D echocardiography. Further tests may be required which should show no evidence of myocardial ischaemia or significant coronary artery stenosis. A fit assessment may be considered provided:

(1) the exercise ECG is satisfactory; and

(2) there is no sign of significant coronary artery disease or evidence of significant atheroma elsewhere, and no functional impairment of the end organ supplied.

(d) Aortic aneurysm

(1) Applicants with an aneurysm of the infra-renal abdominal aorta may be assessed as fit following a satisfactory cardiological evaluation.

(2) Applicants may be assessed as fit after surgery for an aneurysm of the thoracic or abdominal aorta if the blood pressure and cardiovascular evaluation are satisfactory. Regular evaluations by a cardiologist should be carried out.

(e) Cardiac valvular abnormalities

(1) Applicants with previously unrecognised cardiac murmurs should require cardiological evaluation. If considered significant, further investigation should include at least 2D Doppler echocardiography.

(2) Applicants with minor cardiac valvular abnormalities may be assessed as fit by the licensing authority. Applicants with significant abnormality of any of the heart valves should be assessed as unfit.

(3) Aortic valve disease

(i) Applicants with bicuspid aortic valve may be assessed as fit if no other cardiac or aortic abnormality is demonstrated. Regular cardiological follow-up, including 2D Doppler echocardiography, may be required.

(ii) Applicants with mild aortic stenosis may be assessed as fit. Annual cardiological follow-up may be required and should include 2D Doppler echocardiography.

(iii) Applicants with aortic regurgitation may be assessed as fit only if regurgitation is minor and there is no evidence of volume overload. There should be no demonstrable abnormality of the ascending aorta on 2D Doppler echocardiography. Cardiological follow-up including 2D Doppler echocardiography may be required.

(4) Mitral valve disease

(i) Applicants with rheumatic mitral stenosis may only be assessed as fit in favourable cases after cardiological evaluation including 2D echocardiography.

(ii) Applicants with uncomplicated minor regurgitation may be assessed as fit. Regular cardiological follow-up including 2D echocardiography may be required.

(iii) Applicants with mitral valve prolapse and mild mitral regurgitation may be assessed as fit.

(iv) Applicants with evidence of volume overloading of the left ventricle demonstrated by increased left ventricular end-diastolic diameter should be assessed as unfit.

(f) Valvular surgery

Applicants with cardiac valve replacement/repair should be assessed as unfit. After a satisfactory cardiological evaluation, fit assessment may be considered.

(1) Asymptomatic applicants may be assessed as fit by the licensing authority six months after valvular surgery subject to:

(i) normal valvular and ventricular function as judged by 2D Doppler echocardiography;

(ii) satisfactory symptom-limited exercise ECG or equivalent;

(iii) demonstrated absence of coronary artery disease unless this has been satisfactorily treated by re-vascularisation;

(iv) no cardioactive medication is required;

(v) annual cardiological follow-up to include an exercise ECG and 2D Doppler echocardiography. Longer periods may be acceptable once a stable condition has been confirmed by cardiological evaluations.

(2) Applicants with implanted mechanical valves may be assessed as fit subject to documented exemplary control of their anti-coagulant therapy. Age factors should form part of the risk assessment.

(g) Thromboembolic disorders

Applicants with arterial or venous thrombosis or pulmonary embolism should be assessed as unfit during the first six months of anticoagulation. A fit assessment, with a limitation if necessary, may be considered by the licensing authority after six months of stable anticoagulation. Anticoagulation should be considered stable if, within the last six months, at least five international normalised ratio (INR) values are documented, of which at least four are within the INR target range and the haemorrhagic risk is acceptable. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months. Applicants with pulmonary embolism should also be evaluated by a cardiologist. Following cessation of anticoagulant therapy, for any indication, applicants should undergo a reassessment by the licensing authority.

(h) Other cardiac disorders

(1) Applicants with a primary or secondary abnormality of the pericardium, myocardium or endocardium should be assessed as unfit. A fit assessment may be considered following complete resolution and satisfactory cardiological evaluation which may include 2D Doppler echocardiography, exercise ECG, 24-hour ambulatory ECG, and/or myocardial perfusion scan or equivalent test. Coronary angiography may be indicated. Regular cardiological follow-up may be required.

(2) Applicants with a congenital abnormality of the heart should be assessed as unfit. Applicants following surgical correction or with minor abnormalities that are functionally unimportant may be assessed as fit following cardiological assessment. No cardioactive medication is acceptable. Investigations may include 2D Doppler echocardiography, exercise ECG and 24-hour ambulatory ECG. Regular cardiological follow-up may be required.

(i) Syncope

(1) Applicants with a history of recurrent episodes of syncope should be assessed as unfit. A fit assessment may be considered after a sufficient period of time without recurrence provided cardiological evaluation is satisfactory.

(2) A cardiological evaluation should include:

(i) a satisfactory symptom exercise ECG. If the exercise ECG is abnormal, a myocardial perfusion scan or equivalent test should be required;

(ii) a 2D Doppler echocardiogram showing neither significant selective chamber enlargement nor structural or functional abnormality of the heart, valves or myocardium;

(iii) a 24-hour ambulatory ECG recording showing no conduction disturbance, complex or sustained rhythm disturbance or evidence of myocardial ischaemia;

(iv) a tilt test carried out to a standard protocol showing no evidence of vasomotor instability.

(3) Neurological review should be required.

(j) Blood pressure

(1) Anti-hypertensive treatment should be agreed by the licensing authority. Medication may include:

(i) non-loop diuretic agents;

(ii) Angiotensin Converting Enzyme (ACE) inhibitors;

(iii) angiotensin II receptor blocking agents;

(iv) long-acting slow channel calcium blocking agents;

(v) certain (generally hydrophilic) beta-blocking agents.

(2) Following initiation of medication for the control of blood pressure, applicants should be re-assessed to verify that the treatment is compatible with the safe exercise of the privileges of the license.

(k) Coronary artery disease

(1) Applicants with chest pain of an uncertain cause should undergo a full investigation before a fit assessment may be considered. Applicants with angina pectoris should be assessed as unfit, whether or not it is abolished by medication.

(2) Applicants with suspected asymptomatic coronary artery disease should undergo a cardiological evaluation including exercise ECG. Further tests (myocardial perfusion scanning, stress echocardiography, coronary angiography or equivalent) may be required, which should show no evidence of myocardial ischaemia or significant coronary artery stenosis.

(3) After an ischaemic cardiac event, including revascularisation, applicants without symptoms should have reduced any vascular risk factors to an appropriate level. Medication alone, when used to control cardiac symptoms, is not acceptable. All applicants should be on acceptable secondary prevention treatment.

(i) A coronary angiogram obtained around the time of, or during, the ischaemic myocardial event and a complete, detailed clinical report of the ischaemic event and of any operative procedures should be available.

(A) there should be no stenosis more than 50 % in any major untreated vessel, in any vein or artery graft or at the site of an angioplasty/stent, except in a vessel subtending a myocardial infarction;

(B) the whole coronary vascular tree should be assessed as satisfactory by a cardiologist, and particular attention should be paid to multiple stenoses and/or multiple revascularisations;

(C) an untreated stenosis greater than 30 % in the left main or proximal left anterior descending coronary artery should not be acceptable.

(ii) At least six months from the ischaemic myocardial event, including revascularisation, the following investigations should be completed:

(A) an exercise ECG showing neither evidence of myocardial ischaemia nor rhythm or conduction disturbance;

(B) an echocardiogram or equivalent test showing satisfactory left ventricular function with no important abnormality of wall motion (such as dyskinesia or akinesia) and a left ventricular ejection fraction of 50 % or more;

(C) in cases of angioplasty/stenting, a myocardial perfusion scan or equivalent test, which should show no evidence of reversible myocardial ischaemia. If there is any doubt about myocardial perfusion, in other cases (infarction or bypass grafting), a perfusion scan should also be required;

(D) further investigations, such as a 24-hour ECG, may be necessary to assess the risk of any significant rhythm disturbance.

(iii) Follow-up should be conducted annually (or more frequently, if necessary) to ensure that there is no deterioration of the cardiovascular status. It should include a cardiological evaluation, exercise ECG and cardiovascular risk assessment. Additional investigations may be required.

(iv) After coronary artery vein bypass grafting, a myocardial perfusion scan or equivalent test should be performed on clinical indication, and in all cases within five years from the procedure.

(v) In all cases, coronary angiography, or an equivalent test, should be considered at any time if symptoms, signs or non-invasive tests indicate myocardial ischaemia.

(vi) Applicants may be assessed as fit after successful completion of the three-month or subsequent review.

(l) Rhythm and conduction disturbances

(1) Applicants with any significant rhythm or conduction disturbance may be assessed as fit after cardiological evaluation and with appropriate follow-up. Such evaluation should include:

(i) exercise ECG which should show no significant abnormality of rhythm or conduction, and no evidence of myocardial ischaemia. Withdrawal of cardioactive medication prior to the test should be required;

(ii) 24-hour ambulatory ECG which should demonstrate no significant rhythm or conduction disturbance;

(iii) 2D Doppler echocardiogram which should show no significant selective chamber enlargement or significant structural or functional abnormality, and a left ventricular ejection fraction of at least 50 %.

Further evaluation may include:

(iv) 24-hour ECG recording repeated as necessary;

(v) electrophysiological study;

(vi) myocardial perfusion imaging or equivalent test;

(vii) cardiac magnetic resonance imaging (MRI) or equivalent test;

(viii) coronary angiogram or equivalent test.

(2) Applicants with supraventricular or ventricular ectopic complexes on a resting ECG may require no further evaluation, provided the frequency can be shown to be no greater than one per minute, for example on an extended ECG strip.

Applicants with asymptomatic isolated uniform ventricular ectopic complexes may be assessed as fit, but frequent or complex forms require full cardiological evaluation.

(3) Where anticoagulation is needed for a rhythm disturbance, a fit assessment may be considered if the haemorrhagic risk is acceptable and the anticoagulation is stable. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment with an appropriate limitation may be considered after review by the licensing authority after a period of three months.

(4) Ablation

(i) Applicants who have undergone ablation therapy should be assessed as unfit for a minimum period of two months.

(ii) A fit assessment may be considered following successful catheter ablation provided an electrophysiological study (EPS) demonstrates satisfactory control has been achieved.

(iii) Where EPS is not performed, longer periods of unfitness and cardiological follow-up

(iv) Follow-up should include a cardiological review.

(5) Supraventricular arrhythmias

Applicants with significant disturbance of supraventricular rhythm, including sinoatrial dysfunction, whether intermittent or established, should be assessed as unfit. A fit assessment may be considered if cardiological evaluation is satisfactory.

(i) For initial applicants with atrial fibrillation/flutter, a fit assessment should be limited to those with a single episode of arrhythmia which is considered to be unlikely to recur.

(ii) For revalidation, applicants may be assessed as fit if cardiological evaluation is satisfactory and the stroke risk is sufficiently low. A fit assessment may be considered after a period of stable anticoagulation as prophylaxis, after review by the licensing authority. Anticoagulation should be considered stable if, within the last six months, at least five INR values are documented, of which at least four are within the INR target range. In cases of anticoagulation medication not requiring INR monitoring, a fit assessment may be considered after review by the licensing authority after a period of three months.

(iii) Applicants with asymptomatic sinus pauses up to 2.5 seconds on a resting ECG may be assessed as fit if exercise ECG, 2D echocardiography and 24-hour ambulatory ECG are satisfactory.

(iv) Applicants with symptomatic sino-atrial disease should be assessed as unfit.

(6) Mobitz type 2 atrio-ventricular block

Applicants with Mobitz type 2 AV block may be assessed as fit after a full cardiological evaluation confirms the absence of distal conducting tissue disease.

(7) Complete right bundle branch block

Applicants with complete right bundle branch block should require cardiological evaluation on first presentation.

(8) Complete left bundle branch block

A fit assessment may be considered as follows:

(i) Initial applicants may be assessed as fit after full cardiological evaluation showing no pathology. Depending on the clinical situation, a period of stability may be required.

(ii) Applicants for revalidation or renewal of a medical certificate with a de-novo left bundle branch block may be assessed as fit after cardiological evaluation showing no pathology. A period of stability may be required.

(iii) A cardiological evaluation should be required after 12 months in all cases.

(9) Ventricular pre-excitation

Applicants with pre-excitation may be assessed as fit if they are asymptomatic, and an electrophysiological study, including an adequate drug-induced autonomic stimulation protocol, reveals no inducible re-entry tachycardia and the existence of multiple pathways is excluded. Cardiological follow-up should be required including a 24-hour ambulatory ECG recording showing no tendency to symptomatic or asymptomatic tachy-arrhythmia.

(10) Pacemaker

Applicants with a subendocardial pacemaker may be assessed as fit three months after insertion provided:

(i) there is no other disqualifying condition;

(ii) bipolar lead systems programmed in bipolar mode without automatic mode change have been used;

(iii) that the applicant is not pacemaker dependent;

(iv) regular cardiological follow-up should include a symptom-limited exercise ECG that shows no abnormality or evidence of myocardial ischaemia.

(11) QT prolongation

Applicants with asymptomatic QT-prolongation may be assessed as fit subject to a satisfactory cardiological evaluation.

(12) Brugada pattern on electrocardiography

Applicants with a Brugada pattern Type 1 should be assessed as unfit. Applicants with Type 2 or Type 3 may be assessed as fit, with limitations as appropriate, subject to satisfactory cardiological evaluation.

Cardiovascular system 2

MITRAL VALVE DISEASE

(a) Minor regurgitation should have evidence of no thickened leaflets or flail chordae and left atrial internal diameter of less than or equal to 4.0 cm.

(b) The following may indicate severe regurgitation:

(1) LV internal diameter (diastole) > 6.0 cm; or

(2) LV internal diameter (systole) > 4.1 cm; or

(3) Left atrial internal diameter > 4.5 cm.

(c) Doppler indices, such as width of jet, backwards extension and whether there is flow reversal in the pulmonary veins may be helpful in assessing severity of regurgitation.

Cardiovascular system 3

VENTRICULAR PRE-EXCITATION

(a) Asymptomatic applicants with pre-excitation may be assessed as fit at revalidation with a Multi-ATCO Limitation (SSL) if they meet the following criteria:

(1) no inducible re-entry;

(2) refractory period > 300 ms;

(3) no induced atrial fibrillation.

(b) There should be no evidence of multiple accessory pathways.

Cardiovascular system 4

COMPLETE LEFT BUNDLE BRANCH BLOCK

Left bundle branch block is more commonly associated with coronary artery disease and, thus, requires more in-depth investigation, which may be invasive.

Cardiovascular system 5

PACEMAKER

(a) Scintigraphy may be helpful in the presence of conduction disturbance/paced complexes in the resting ECG.

(b) Experience has shown that any failures of pacemakers are most likely to occur in the first three months after being fitted. Therefore, a fit assessment should not be considered before this period has elapsed.

(c) It is known that certain operational equipment may interfere with the performance of the pacemaker. The type of pacemaker used, therefore, should have been tested to ensure it does not suffer from interference in the operational environment. Supporting data and a performance statement to this effect should be available from the supplier.

Cardiovascular system 6

ANTICOAGULATION

Applicants and license holders taking anticoagulant medication which requires monitoring with INR testing, should measure their INR on a ‘near patient’ testing system within 12 hours prior to starting a shift pattern and then at least

every three days during the shift pattern. The privileges of the license should only be exercised if the INR is within the target range. The INR result should be recorded and the results should be reviewed at each aero-medical assessment.

Respiratory system

(a) Examination

(1) Spirometric examination is required for initial examination. An FEV1/FVC ratio less than 70 % should require evaluation by a specialist in respiratory disease before a fit assessment can be considered.

(2) Posterior/anterior chest radiography may be required at initial, revalidation or renewal examinations when indicated on clinical or epidemiological grounds.

(b) Chronic obstructive airways disease

Applicants with chronic obstructive airways disease should be assessed as unfit. Applicants with only minor impairment of their pulmonary function may be assessed as fit after specialist respiratory evaluation. Applicants with pulmonary emphysema may be assessed as fit following specialist evaluation showing that the condition is stable and not causing significant symptoms.

(c) Asthma

Applicants with asthma requiring medication or experiencing recurrent attacks of asthma may be assessed as fit if the asthma is considered stable with satisfactory pulmonary function tests and medication is compatible with the safe execution of the privileges of the license. Use of low dose systemic steroids may be acceptable.

(d) Inflammatory disease

(1) For applicants with active inflammatory disease of the respiratory system, a fit assessment may be considered when the condition has resolved without sequelae and no medication is required.

(2) Applicants with chronic inflammatory diseases may be assessed as fit following specialist evaluation showing mild disease with acceptable pulmonary function test and medication compatible with the safe execution of the privileges of the license.

(e) Sarcoidosis

(1) Applicants with active sarcoidosis should be assessed as unfit. Specialist evaluation should be undertaken with respect to the possibility of systemic, particularly cardiac, involvement. A fit assessment may be considered if no medication is required, and the disease is limited to hilar lymphadenopathy and inactive. Use of low dose systemic steroids may be acceptable.

(2) Applicants with cardiac or neurological sarcoid should be assessed as unfit.

(f) Pneumothorax

Applicants with a spontaneous pneumothorax should be assessed as unfit. A fit assessment may be considered:

(1) six weeks after the event provided full recovery from a single event has been confirmed in a full respiratory evaluation including a CT scan or equivalent;

(2) following surgical intervention in the case of a recurrent pneumothorax provided there is satisfactory recovery.

(g) Thoracic surgery

(1) Applicants requiring thoracic surgery should be assessed as unfit until such time as the effects of the operation are no longer likely to interfere with the safe exercise of the privileges of the license.

(2) A fit assessment may be considered after satisfactory recovery and full respiratory evaluation including a CT scan or equivalent. The underlying pathology which necessitated the surgery should be considered in the aero-medical assessment.

(h) Sleep apnoea syndrome/sleep disorder

(1) Applicants with unsatisfactorily treated sleep apnoea syndrome and suffering from excessive daytime sleepiness should be assessed as unfit.

(2) A fit assessment may be considered subject to the extent of symptoms, including vigilance, and satisfactory treatment. ATCO operational experience, sleep apnoea syndrome/sleep disorder education and work place considerations are essential components of the aero-medical assessment.

Digestive system

(a) Oesophageal varices

Applicants with oesophageal varices should be assessed as unfit.

(b) Pancreatitis

(1) Applicants with pancreatitis should be assessed as unfit. A fit assessment may be considered if the cause (e.g. gallstone, other obstruction, medication) is removed.

(2) Alcohol may be a cause of dyspepsia and pancreatitis. If considered appropriate, a full evaluation of its use or misuse should be undertaken.

(c) Gallstones

(1) Applicants with a single large gallstone may be assessed as fit after evaluation.

(2) Applicants with multiple gallstones may be assessed as fit while awaiting treatment provided the symptoms are unlikely to interfere with the safe exercise of the privileges of the license.

(d) Inflammatory bowel disease

Applicants with an established diagnosis or history of chronic inflammatory bowel disease may be assessed as fit if the disease is in established stable remission, and only minimal, if any, medication is being taken. Regular follow-up should be required.

(e) Dyspepsia

Applicants with recurrent dyspepsia requiring medication should be investigated by internal examination including radiologic or endoscopic examination. Laboratory testing should include haemoglobin assessment and faecal examination. Any demonstrated ulceration or significant inflammation requires evidence of recovery before a fit assessment may be considered.

(f) Digestive tract and abdominal surgery

Applicants who have undergone a surgical operation on the digestive tract or its adnexa, including a total or partial excision or a diversion of any of these organs, should be assessed as unfit. A fit assessment may be considered if recovery is complete, the applicant is asymptomatic and the risk of secondary complication or recurrence is minimal.

Metabolic and endocrine system

(a) Metabolic, nutritional or endocrine dysfunction

Applicants with metabolic, nutritional or endocrine dysfunction may be assessed as fit if the condition is asymptomatic, clinically compensated and stable with or without replacement therapy, and regularly reviewed by an appropriate specialist.

(b) Obesity

(1) Applicants with a Body Mass Index 35 may be assessed as fit only if the excess weight is not likely to interfere with the safe exercise of the privileges of the license and a satisfactory cardiovascular risk review and evaluation of the possibility of sleep apnoea syndrome has been undertaken.

(2) Functional testing in the working environment may be necessary before a fit assessment may be considered.

(c) Thyroid dysfunction

Applicants with hyperthyroidism or hypothyroidism should attain a stable euthyroid state before a fit assessment may be considered.

(d) Abnormal glucose metabolism

Glycosuria and abnormal blood glucose levels require investigation. A fit assessment may be considered if normal glucose tolerance is demonstrated (low renal threshold) or impaired glucose tolerance without diabetic pathology is fully controlled by diet and regularly reviewed.

(e) Diabetes mellitus

(1) The following medication, alone and in combination, may be acceptable for control of type 2 diabetes:

(i) alpha-glucosidase inhibitors;

(ii) medication that acts on the incretin pathway;

(iii) biguanides;

(iv) insulin detemir, provided no evidence of hypoglycemia;

(v) any other medications considered suitable by the Aero Medical Examiner.

(2) A fit assessment may be considered after evaluation of the operational environment, including means of glucose monitoring/management whilst performing rated duties, and with demonstrated exemplary glycaemic control.

(3) Annual follow-up by a specialist should be required including demonstration of absence of complications, good glycaemic control demonstrated by six-monthly HbA1c measurements, and a normal exercise tolerance test.

Haematology 1

(a) Anaemia

(1) Anaemia demonstrated by a reduced haemoglobin level should require investigation. A fit assessment may be considered in cases where the primary cause has been treated (e.g. iron or B12 deficiency) and the haemoglobin or haematocrit has stabilised at a satisfactory level. The recommended range of the haemoglobin level is 11–17 g/dl.

(2) Anaemia which is unamenable to treatment should be disqualifying.

(b) Haemoglobinopathy

Applicants with a haemoglobinopathy should be assessed as unfit. A fit assessment may be considered where minor thalassaemia, sickle cell disease or other haemoglobinopathy is diagnosed without a history of crises and where full functional capability is demonstrated.

(c) Coagulation disorders

(1) Significant coagulation disorders require investigation. A fit assessment may be considered if there is no history of significant bleeding or clotting episodes and the haematological data indicate that it is safe to do so.

(2) If anticoagulant therapy is prescribed, Cardiovascular 6 should be followed.

(d) Disorders of the lymphatic system

Lymphatic enlargement requires investigation. A fit assessment may be considered in cases of an acute infectious process which is fully recovered, or Hodgkin's lymphoma, or other lymphoid malignancy which has been treated and is in full remission, or that requires minimal or no treatment.

(e) Leukaemia

(1) Applicants with acute leukaemia should be assessed as unfit. Once in established remission, applicants may be assessed as fit.

(2) Applicants with chronic leukaemia should be assessed as unfit. A fit assessment may be considered after remission and a period of demonstrated stability.

(3) Applicants with a history of leukaemia should have no history of central nervous system involvement and no continuing side effects from treatment which are likely to interfere with the safe exercise of the privileges of the license. Haemoglobin and platelet levels should be satisfactory.

(4) Regular follow-up is required in all cases of leukaemia.

(f) Splenomegaly

Splenomegaly requires investigation. A fit assessment may be considered if the enlargement is minimal, stable and no associated pathology is demonstrated, or if the enlargement is minimal and associated with another acceptable condition.

Haematology 2

HODGKIN'S LYMPHOMA

Due to potential side effects of specific chemotherapeutic agents, the precise regime utilised should be taken into account.

Haematology 3

CHRONIC LEUKAEMIA

A fit assessment may be considered if the chronic leukaemia has been diagnosed as:

(a) lymphatic at stages 0, I, and possibly II without anaemia and minimal treatment; or

(b) stable 'hairy cell' leukaemia with normal haemoglobin and platelets.

Haematology 4

SPLENOMEGALY

(a) Splenomegaly should not preclude a fit assessment, but should be assessed on an individual basis.

(b) Associated pathology of splenomegaly is e.g. treated chronic malaria.

(c) An acceptable condition associated with splenomegaly is e.g. Hodgkin's lymphoma in remission.

Genitourinary system

(a) Abnormal urinalysis

Any abnormal finding on urinalysis requires investigation. This investigation should include proteinuria, haematuria and glycosuria.

(b) Renal disease

(1) Applicants presenting with any signs of renal disease should be assessed as unfit. A fit assessment may be considered if blood pressure is satisfactory and renal function is acceptable.

(2) Applicants requiring dialysis should be assessed as unfit.

(c) Urinary calculi

(1) Applicants with an asymptomatic calculus or a history of renal colic require investigation. A fit assessment may be considered after successful treatment for a calculus and with appropriate follow-up.

(2) Residual calculi should be disqualifying unless they are in a location where they are unlikely to move and give rise to symptoms.

(d) Renal and urological surgery

(1) Applicants who have undergone a major surgical operation on the genitourinary system or its adnexa involving a total or partial excision or a diversion of any of its organs should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications is minimal.

(2) Applicants with compensated nephrectomy without hypertension or uraemia may be assessed as fit.

(3) Applicants who have undergone renal transplantation may be considered for a fit assessment if it is fully compensated and tolerated with only minimal immuno-suppressive therapy after at least 12 months.

(4) Applicants who have undergone total cystectomy may be considered for a fit assessment if there is satisfactory urinary function, no infection and no recurrence of primary pathology.

Infectious disease 1

(a) Infectious disease — General

In cases of infectious disease, consideration should be given to a history of, or clinical signs indicating, underlying impairment of the immune system.

(b) Tuberculosis

(1) Applicants with active tuberculosis should be assessed as unfit. A fit assessment may be considered following completion of therapy.

(2) Applicants with quiescent or healed lesions may be assessed as fit. Specialist evaluation should consider the extent of the disease, the treatment required and possible side effects of medication.

(c) Syphilis

Applicants with acute syphilis should be assessed as unfit. A fit assessment may be considered in the case of those fully treated and recovered from the primary and secondary stages.

(d) HIV positivity

(1) Applicants who are HIV positive may be assessed as fit if a full investigation provides no evidence of HIV associated diseases that might give rise to incapacitating symptoms. Frequent review of the immunological status and neurological evaluation by an appropriate specialist should be carried out. A cardiological review may also be required depending on medication.

(2) Applicants with an AIDS defining condition should be assessed as unfit except in individual cases for revalidation of a medical certificate after complete recovery and dependent on the review.

(3) The aero-medical assessment of individual cases under (1) and (2) should be dependent on the absence of symptoms or signs of the disease and the acceptability of serological markers. Treatment should be evaluated by a specialist on an individual basis for its appropriateness and any side effects.

(e) Infectious hepatitis

Applicants with infectious hepatitis should be assessed as unfit. A fit assessment may be considered once the applicant has become asymptomatic after treatment and specialist evaluation. Regular review of the liver function should be carried out.

Infectious disease 2

HIV INFECTION

(a) There is no requirement for routine testing of HIV status, but testing may be carried out on clinical indication.

(b) If HIV positivity has been confirmed, a process of rigorous aero-medical assessment and follow-up should be introduced to enable individuals to continue working provided their ability to exercise their licensed privileges to the required level of safety is not impaired. The operational environment should be considered in the decision-making.

Obstetrics and gynaecology

(a) Gynaecological surgery

Applicants who have undergone a major gynaecological operation should be assessed as unfit until recovery is complete, the applicant is asymptomatic and the risk of secondary complications or recurrence is minimal.

(b) Pregnancy

(1) A pregnant license holder may be assessed as fit during the first 34 weeks of gestation provided obstetric evaluation continuously indicates a normal pregnancy.

(2) The AME or the licensing authority should provide written advice to the applicant and the supervising physician regarding potentially significant complications of pregnancy which may negatively influence the safe exercise of the privileges of the license.

Musculoskeletal system

(a) Applicants with any significant sequelae from disease, injury or congenital abnormality affecting the bones, joints, muscles or tendons with or without surgery require full evaluation prior to a fit assessment.

(b) Abnormal physique, including obesity, or muscular weakness may require aero-medical assessment and particular attention should be paid to an aero-medical assessment in the working environment.

(c) Locomotor dysfunction, amputations, malformations, loss of function and progressive osteoarthritic disorders should be assessed on an individual basis in conjunction with the appropriate operational expert with a knowledge of the complexity of the tasks of the applicant.

(d) Applicants with inflammatory, infiltrative or degenerative disease of the musculoskeletal system may be assessed as fit provided the condition is in remission and the medication is acceptable.

Psychiatry

(a) Disorders due to alcohol or other substance use

(1) A fit assessment may be considered after successful treatment, a period of documented sobriety or freedom from substance use, and review by a psychiatric specialist. The licensing authority, with the advice of the psychiatric specialist, should determine the duration of the period to be observed before a medical certificate can be issued.

(2) Depending on the individual case, treatment may include in-patient treatment of some weeks.

(3) Continuous follow-up, including blood testing and peer reports, may be required indefinitely.

(b) Mood disorder

Applicants with an established mood disorder should be assessed as unfit. After full recovery and after full consideration of an individual case, a fit assessment may be considered depending on the characteristics and gravity of the mood disorder. If stability on maintenance psychotropic medication is confirmed, a fit assessment with an appropriate limitation may be considered. If the dosage of the medication is changed, a further period of unfit assessment should be required. Regular specialist supervision should be required.

(c) Psychotic disorder

Applicants with a history, or the occurrence, of a functional psychotic disorder should be assessed as unfit. A fit assessment may be considered if a cause can be unequivocally identified as one which is transient, has ceased and the risk of recurrence is minimal.

(d) Deliberate self-harm

Applicants who have carried out a single self-destructive action or repeated acts of deliberate self-harm should be assessed as unfit. A fit assessment may be considered after full consideration of an individual case which may require psychiatric or psychological evaluation. Neuropsychological evaluation may also be required.

Psychology

(a) If a psychological evaluation is indicated, it should be carried out by a psychologist taking into account the ATC environment and the associated risks.

(b) Where there is established evidence that an applicant may have a psychological disorder, the applicant should be referred for psychological opinion and advice.

(c) Established evidence should be verifiable information from an identifiable source related to the mental fitness or personality of a particular individual. Sources for this information can be accidents or incidents, problems in training or competence assessments, behaviour or knowledge relevant to the safe exercise of the privileges of the license.

(d) The psychological evaluation may include a collection of biographical data, the administration of aptitude, as well as personality tests and psychological interview.

(e) The psychologist should submit a written report to the AME or licensing authority as appropriate, detailing his/her opinion and recommendation.

Neurology

(a) Electroencephalography (EEG)

(1) EEG should be carried out when indicated by the applicant's history or on clinical grounds.

(2) Epileptiform paroxysmal EEG abnormalities and focal slow waves should be disqualifying. A fit assessment may be considered after further evaluation.

(b) Epilepsy

(1) Applicants who have experienced one or more convulsive episodes after the age of five should be assessed as unfit.

(2) A fit assessment may be considered if:

(i) the applicant is seizure free and off medication for a period of at least 10 years;

(ii) full neurological evaluation shows that a seizure was caused by a specific non-recurrent cause, such as trauma or toxin.

(3) Applicants who have experienced an episode of benign Rolandic seizure may be assessed as fit provided the seizure has been clearly diagnosed including a properly documented history and typical EEG result and the applicant has been free of symptoms and off treatment for at least 10 years.

(c) Neurological disease

Applicants with any stationary or progressive disease of the nervous system which has caused or is likely to cause a significant disability should be assessed as unfit. A fit assessment may be considered after full neurological evaluation in cases of minor functional losses associated with stationary disease.

(d) Disturbance of consciousness

Applicants with a history of one or more episodes of disturbed consciousness may be assessed as fit if the condition can be satisfactorily explained by a non-recurrent cause. A full neurological evaluation is required.

(e) Head injury

Applicants with a head injury which was severe enough to cause loss of consciousness or is associated with penetrating brain injury should be evaluated by a consultant neurologist. A fit assessment may be considered if there has been a full recovery and the risk of epilepsy is sufficiently low. Behavioural and cognitive aspects should be taken into account.

Visual system 1

(a) Eye examination

(1) At each aero-medical revalidation examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology.

(2) All abnormal and doubtful cases should be referred to an ophthalmologist. Conditions which indicate ophthalmological examination include but are not limited to a substantial decrease in the uncorrected visual acuity, any decrease in best corrected visual acuity and/or the occurrence of eye disease, eye injury or eye surgery.

(3) Where ophthalmological examinations are required for any significant reason, this should be imposed as a limitation on the medical certificate.

(4) The effect of multiple eye conditions should be evaluated by an ophthalmologist with regard to possible cumulative effects. Functional testing in the working environment may be necessary to consider a fit assessment.

(5) Visual acuity should be tested using Snellen charts, or equivalent, under appropriate illumination. Where clinical evidence suggests that Snellen may not be appropriate, Landolt 'C' may be used.

(b) Comprehensive eye examination

A comprehensive eye examination by an eye specialist is required at the initial examination. All abnormal and doubtful cases should be referred to an ophthalmologist. The examination should include:

(1) history;

(2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;

(3) objective refraction — hyperopic initial applicants with a hyperopia of more than +2 dioptres and under the age of 25 in cycloplegia;

(4) ocular motility and binocular vision;

(5) colour vision;

(6) visual fields;

(7) tonometry;

(8) examination of the external eye, anatomy, media (slit lamp) and fundoscopy;

(9) assessment of contrast and glare sensitivity.

(c) Routine eye examination

At each revalidation or renewal examination, the visual fitness should be assessed and the eyes should be examined with regard to possible pathology. All abnormal and doubtful cases should be referred to an ophthalmologist. This routine eye examination should include:

(1) history;

(2) visual acuities — near, intermediate and distant vision; uncorrected and with best optical correction if needed;

(3) morphology by ophthalmoscopy;

(4) further examination on clinical indication.

(d) Refractive error

(1) Applicants with a refractive error between +5.0/-6.0 dioptres may be assessed as fit provided optimal correction has been considered and no significant pathology is demonstrated. If the refractive error exceeds +3.0/-3.0 dioptres, a four-yearly follow-up by an eye specialist should be required.

(2) Applicants with:

(i) a refractive error exceeding -6 dioptres;

(ii) an astigmatic component exceeding 3 dioptres; or

(iii) anisometropia exceeding 3 dioptres;

may be considered for a fit assessment if:

(A) no significant pathology can be demonstrated;

(B) optimal correction has been considered;

(C) visual acuity is at least 6/6 (1.0) in each eye separately with normal visual fields while wearing the optimal spectacle correction;

(D) two-yearly follow-up is undertaken by an eye specialist.

(3) Applicants with hypermetropia exceeding +5.0 dioptres may be assessed as fit subject to a satisfactory ophthalmological evaluation provided there are adequate fusional reserves, normal intraocular pressures and anterior angles and no significant pathology has been demonstrated. Corrected visual acuity in each eye shall be 6/6 or better.

(4) Applicants with a large refractive error shall use contact lenses or high-index spectacle lenses.

(e) Convergence

Applicants with convergence outside the normal range may be assessed as fit provided it does not interfere with near vision (30–50 cm) or intermediate vision (100 cm) with or without correction.

(f) Substandard vision

(1) Applicants with reduced central vision in one eye may be assessed as fit for a revalidation or renewal of a medical certificate if the binocular visual field is normal and the underlying pathology is acceptable according to ophthalmological evaluation. Testing should include functional testing in the appropriate working environment.

(2) Applicants with acquired substandard vision in one eye (monocularity, functional monocular vision including eye muscle imbalance) may be assessed as fit for revalidation or renewal if the ophthalmological examination confirms that:

(i) the better eye achieves distant visual acuity of 1.0 (6/6), corrected or uncorrected;

(ii) the better eye achieves intermediate and near visual acuity of 0.7 (6/9), corrected or uncorrected;

(iii) there is no significant ocular pathology;

(iv) a functional test in the working environment is satisfactory; and

(v) in the case of acute loss of vision in one eye, a period of adaptation time has passed from the known point of visual loss, during which the applicant is assessed as unfit.

(3) An applicant with a monocular visual field defect may be assessed as fit if the binocular visual fields are normal.

(g) Keratoconus

Applicants with keratoconus may be considered for a fit assessment if the visual requirements are met with the use of corrective lenses and periodic review is undertaken by an ophthalmologist.

(h) Heterophoria

Applicants with heterophoria (imbalance of the ocular muscles) exceeding when measured with optimal correction, if prescribed:

(1) at six metres:

2.0 prism dioptres in hyperphoria,

10.0 prism dioptres in esophoria,

8.0 prism dioptres in exophoria

and

(2) at 33 centimetres:

1.0 prism dioptre in hyperphoria,

8.0 prism dioptres in esophoria,

12.0 prism dioptres in exophoria

may be assessed as fit provided that orthoptic evaluation demonstrates that the fusional reserves are sufficient to prevent asthenopia and diplopia. The Netherlands Optical Society (TNO) testing or equivalent should be carried out to demonstrate fusion.

(i) Eye surgery

(1) After refractive surgery or surgery of the cornea including cross linking, a fit assessment may be considered, provided:

(i) satisfactory stability of refraction has been achieved (less than 0.75 dioptres variation diurnally);

(ii) examination of the eye shows no post-operative complications;

(iii) glare sensitivity is normal;

(iv) mesopic contrast sensitivity is not impaired;

(v) evaluation is undertaken by an ophthalmologist.

(2) Cataract surgery

Following intraocular lens surgery, including cataract surgery, a fit assessment may be considered once recovery is complete and the visual requirements are met with or without correction. Intraocular lenses should be monofocal and should not impair colour vision.

(3) Retinal surgery/retinal laser therapy

(i) After successful retinal surgery, applicants may be assessed as fit once the recovery is complete. Annual ophthalmological follow-up may be necessary. Longer periods may be acceptable after two years on recommendation of the ophthalmologist.

(ii) After successful retinal laser therapy, applicants may be assessed as fit provided an ophthalmological evaluation shows stability.

(4) Glaucoma surgery

A fit assessment may be considered six months after successful glaucoma surgery, or earlier if recovery is complete. Six-monthly ophthalmological examinations to follow up secondary complications caused by the glaucoma may be necessary.

(5) Extraocular muscle surgery

A fit assessment may be considered not less than six months after surgery and after a satisfactory ophthalmological evaluation.

(j) Visual correction

Spectacles should permit the license holder to meet the visual requirements at all distances.

Colour vision 1

(a) Pseudoisochromatic plate testing alone is not sufficient.

(b) Colour vision should be assessed using means to demonstrate normal trichromacy.

Colour vision 2

The means to demonstrate normal trichromacy include:

(a) anomaloscopy (Nagel or equivalent). This test is considered passed if the colour match is trichromatic and the matching range is four scale units or less;

(b) Colour Assessment and Diagnosis (CAD) test.

Otorhinolaryngology

(a) Examination

(1) An otorhinolaryngological examination includes:

(i) history;

(ii) clinical examination including otoscopy, rhinoscopy and examination of the mouth and throat;

(iii) clinical examination of the vestibular system.

(2) Ear, nose and throat (ENT) specialists involved in the aero-medical assessment of air traffic controllers should have an understanding of the functionality required by air traffic controllers whilst exercising the privileges of their license(s).

(3) Where a full aero-medical assessment and functional check are needed, due regard should be paid to the operational environment in which the operational functions are undertaken.

(b) Hearing

(1) The follow-up of an applicant with hypoacusis should be decided by the licensing authority. If at the next annual test there is no indication of further deterioration, the normal frequency of testing may be resumed.

(2) An appropriate prosthetic aid may be a special headset with individual earpiece volume controls. Full functional and environmental assessments should be carried out with the chosen prosthetic equipment in use.

(c) Ear conditions

An applicant with a single dry perforation of non-infectious origin and which does not interfere with the normal function of the ear may be considered for a fit assessment.

(d) Vestibular disturbance

The presence of vestibular disturbance and spontaneous or positional nystagmus requires complete vestibular evaluation by a specialist. Significant abnormal caloric or rotational vestibular responses are disqualifying. At revalidation and renewal aero-medical examinations, abnormal vestibular responses should be assessed in their clinical context.

(e) Speech disorder

Applicants with a speech disorder should be assessed with due regard to the operational environment in which the operational functions are undertaken. Applicants with significant disorder of speech or voice should be assessed as unfit.

Otorhinolaryngology

HEARING

(a) Speech discrimination test: discriminating speech against other noise including other sources of verbal communication and ambient noise in the working environment, but not against engine noise.

(b) Functional hearing test: the objective of this test is to evaluate the controller's ability to hear the full range of communications that occur in an operational environment and not just through a headset or speaker.

(c) Prosthetic aid: the functional hearing test to be carried out with the prosthetic aid in use is to ensure that the individual is able to perform the functions of his/her license and that the equipment is not adversely affected by interference from headsets or other factors.

(d) Pure-tone audiometry: testing at frequencies at or above 4 000 Hz will aid the early diagnosis of acoustic neuroma, noise-induced hearing loss (NIH) and other disorders of hearing. Particular attention should be paid in cases where there is a significant difference between thresholds of the left and right ear.

Dermatology

(a) Referral to the CAA should be made if doubt exists about the fitness of an applicant with eczema (exogenous and endogenous), severe psoriasis, chronic infections, drug-induced or bullous eruptions or urticaria.

(b) Systemic effects of radiation or pharmacological treatment for a dermatological condition should be evaluated before a fit assessment may be considered.

(c) An applicant with a skin condition that causes pain, discomfort, irritation or itching may only be assessed as fit if the condition can be controlled and does not interfere with the safe exercise of the privileges of the license.

(d) In cases where a dermatological condition is associated with a systemic illness, full consideration should be given to the underlying illness before a fit assessment may be considered.

Oncology

(a) Applicants who have been diagnosed with a malignant disease may be assessed as fit provided:

(1) after primary treatment there is no evidence of residual malignant disease likely to interfere with the safe exercise of the privileges of the license;

(2) time appropriate to the type of tumour has elapsed since the end of primary treatment;

(3) the risk of incapacitation from a recurrence or metastasis is sufficiently low;

(4) there is no evidence of short- or long-term sequelae from treatment. Special attention should be paid to applicants who have received anthracycline chemotherapy;

(5) satisfactory oncology follow-up reports are provided to the licensing authority.

(b) Applicants receiving ongoing chemotherapy or radiation treatment should be assessed as unfit.

(c) Applicants with a benign intracerebral tumour may be assessed as fit after satisfactory specialist and neurological evaluation and the condition does not compromise the safe exercise of the privileges of the license.

(d) Applicants with pre-malignant conditions may be assessed as fit if treated or excised as necessary and there is a regular follow-up.

Decrease in medical fitness:

Holders of medical certificates shall not exercise the privileges of their licenses, related ratings or authorisations at any time when they are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges.

MEDICATION — GUIDANCE FOR AIR TRAFFIC CONTROLLERS

(a) Any medication can cause side effects, some of which may impair the safe exercise of the privileges of the license. Equally, symptoms of colds, sore throats, diarrhoea and other abdominal upsets may cause little or no problem whilst not exercising the privileges of the license, but may distract the air traffic controller and degrade their performance whilst on duty. Therefore, one issue with medication and the safe exercise of the privileges of the license is the underlying condition and, in addition, the symptoms may be compounded by the side effects of the medication prescribed or bought over the counter for treatment. This guidance material provides some help to air traffic controllers in deciding whether expert aero-medical advice by an AME, or Medical Assessor is needed.

(b) Before taking any medication and exercising the privileges of the license, the following three basic questions should be satisfactorily answered:

(1) Do I feel fit to control?

(2) Do I really need to take medication at all?

(3) Have I given this particular medication a personal trial whilst not exercising the privileges of my license to ensure that it will not have any adverse effects on my ability to exercise the privileges of my license?

(c) Confirming the absence of adverse effects may well need expert aero-medical advice.

(d) The following are some widely used medicines with a description of their compatibility with the safe exercise of the privileges of the license:

(1) Antibiotics. Antibiotics may have short-term or delayed side effects which can affect the performance of the air traffic controller. More significantly, however, their use usually indicates that an infection is present and, thus, the effects of this infection may mean that an air traffic controller is not fit to control and should obtain expert aero-medical advice.

(2) Anti-malaria drugs. The decision on the need for anti-malaria drugs depends on the geographical areas to be visited, and the risk that the air traffic controller has of being exposed to mosquitoes and of developing malaria. An expert medical opinion should be obtained to establish whether anti-malaria drugs are needed and what kind of drugs should be used. Most of the anti-malaria drugs (atovaquone plus proguanil, chloroquine, doxycycline) are compatible with the safe exercise of the privileges of the license. However, adverse effects associated with mefloquine include

insomnia, strange dreams, mood changes, nausea, diarrhoea and headaches. In addition, mefloquine may cause spatial disorientation and lack of fine coordination and is, therefore, not compatible with the safe exercise of the privileges of the license.

(3) Antihistamines. Antihistamines can cause drowsiness. They are widely used in 'cold cures' and in treatment of hay fever, asthma and allergic rashes. They may be in tablet form or a constituent of nose drops or sprays. In many cases, the condition itself may preclude the safe exercise of the privileges of the license, so that, if treatment is necessary, expert aero-medical advice should be sought so that so-called non-sedative antihistamines, which do not degrade human performance, can be prescribed.

(4) Cough medicines. Antitussives often contain codeine, dextromethorfan or pseudo-ephedrine which are not compatible with the safe exercise of the privileges of the license. However, mucolytic agents (e.g. carbocysteine) are well tolerated and are compatible with the safe exercise of the privileges of the license.

(5) Decongestants. Nasal decongestants with no effect on alertness may be compatible with the safe exercise of the privileges of the license.

(6) Nasal corticosteroids are commonly used to treat hay fever, and are compatible with the safe exercise of the privileges of the license.

(7) (i) Common pain killers and antifebrile drugs. Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) and paracetamol, commonly used to treat pain, fever or headaches, may be compatible with the safe exercise of the privileges of the license. However, the air traffic controller should give affirmative answers to the three basic questions in paragraph (b) before using the medication and exercising the privileges of the license.

(ii) Strong analgesics. The more potent analgesics including codeine are opiate derivatives, and may produce a significant decrement in human performance and, therefore, are not compatible with the safe exercise of the privileges of the license.

(8) Anti-ulcer medicines. Gastric secretion inhibitors such as H2 antagonists (e.g. ranitidine, cimetidine) or proton pump inhibitors (e.g. omeprazole) may be acceptable after diagnosis of the pathological condition. It is important to seek for the medical diagnosis and not to only treat the dyspeptic symptoms.

(9) Anti-diarrhoeal drugs. Loperamide is one of the more common anti-diarrhoeal drugs and is usually safe to take whilst exercising the privileges of the license. However, the diarrhoea itself often makes the air traffic controller unable to exercise the privileges of the license.

(10) Hormonal contraceptives and hormone replacement therapy usually have no adverse effects and are compatible with the safe exercise of the privileges of the license.

(11) Erectile dysfunction medication. This medication may cause disturbances in colour vision and dizziness. There should be at least six hours between taking sildenafil and exercising the privileges of the license; and 36 hours between taking vardenafil or tadalafil and exercising the privileges of the license.

(12) Smoking cessation. Nicotine replacement therapy may be acceptable. However, other medication affecting the central nervous system (buproprion, varenicline) is not acceptable for air traffic controllers.

(13) High blood pressure medication. Most anti-hypertensive drugs are compatible with the safe exercise of the privileges of the license. However, if the level of blood pressure is such that drug therapy is required, the air traffic controller should be monitored for any side effects before exercising the privileges of the license. Therefore, consultation with the AME, or Medical Assessor as applicable, is needed.

(14) Asthma medication. Asthma has to be clinically stable before an air traffic controller can return to exercising the privileges of the license. The use of respiratory aerosols or powders, such as corticosteroids, beta-2-agonists or chromoglycic acid may be compatible with the safe exercise of the privileges of the license. However, the use of oral steroids or theophylline derivatives is usually incompatible with the safe exercise of the privileges of the license. Air traffic controllers using medication for asthma should consult an AME, AeMC, or Medical Assessor, as applicable.

(15) Tranquillisers, anti-depressants and sedatives. The inability to react, due to the use of this group of medicines, together with the underlying condition for which these medications have been prescribed, will almost certainly mean that the mental state of an air traffic controller is not compatible with the safe exercise of the privileges of the license. Air traffic controllers using tranquillisers, anti-depressants and sedatives should consult an AME, AeMC, or Medical Assessor, as applicable.

(16) Sleeping tablets. Sleeping tablets dull the senses, may cause confusion and slow reaction times. The duration of effect may vary from individual to individual and may be unduly prolonged. Air traffic controllers using sleeping tablets should consult an AME, AeMC, or Medical Assessor, as applicable.

(17) Melatonin. Melatonin is a hormone that is involved with the regulation of the circadian rhythm. In some countries it is a prescription medicine, whereas in most other countries it is regarded as a 'dietary supplement' and can be bought without any prescription. The results from the efficiency of melatonin in treatment of jet lag or sleep disorders have been contradictory. Air traffic controllers using melatonin should consult an AME, AeMC, or Medical Assessor, as applicable.

(18) Coffee and other caffeinated drinks may be acceptable, but excessive coffee drinking may have harmful effects, including disturbance of the heart's rhythm. Other stimulants including caffeine pills, amphetamines, etc. (often known as 'pep' pills) used to maintain wakefulness or suppress appetite can be habit forming. Susceptibility to different stimulants varies from one individual to another, and all may cause dangerous overconfidence. Overdosage causes headaches, dizziness and mental disturbance. These other stimulants should not be used.

(19) Anaesthetics. Following local, general, dental and other anaesthetics, a period of time should elapse before returning to exercising the privileges of the license. The period will vary considerably from individual to individual, but an air traffic controller should not exercise the privileges of the license for at least 12 hours after a local anaesthetic, and for at least 48 hours after a general, spinal or epidural anaesthetic.

(e) Many preparations on the market nowadays contain a combination of medicines. It is, therefore, essential that if there is any new medication or dosage, however slight, the effect should be observed by the air traffic controller whilst not exercising the privileges of the license. It should be noted that medication which would not normally affect air traffic controller performance may do so in individuals who are 'oversensitive' to a particular preparation. Individuals are, therefore, advised not to take any medicines before or whilst exercising the privileges of their license

unless they are completely familiar with their effects on their own bodies. In cases of doubt, air traffic controllers should consult an AME, AeMC, or Medical Assessor, as applicable.

(f) Other treatments

Alternative or complementary medicine, such as acupuncture, homeopathy, hypnotherapy and several other disciplines, is developing and gaining greater credibility. Such treatments are more acceptable in some States than others. There is a need to ensure that 'other treatments', as well as the underlying condition, are declared and considered by the AME, AeMC, or Medical Assessor, as applicable, for assessing fitness.